SOLICITATION, OFFER, AND AWARD *(Construction, Alteration, or Repair)*	1. SOLICITATION NO. F22600-02-R-0013	2. TYPE OF SOLICITATION [ ] SEALED BID (IFB) [X] NEGOTIATED *(RFP)*	3. DATE ISSUED 24-Sep-2002	PAGE OF PAGES 1 OF 38

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

4. CONTRACT NO. F22600-02-D-0013	5. REQUISITION/PURCHASE REQUEST NO.	6. PROJECT NO. MAHG 02-2200

7. ISSUED BY CODE FA3010	8. ADDRESS OFFER TO *(If Other Than Item 7)* CODE
81ST CONTRACTING SQUADRON TRACY O'CONNOR 310 M STREET, RM 102 KEESLER AFB MS 39534-2147 TEL:228-377-1823 FAX: 228-377-3298	**See Item 7** TEL: FAX:

9. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE NO. *(Include area code) (NO COLLECT CALLS)*
	MARGARET T. O'CONNOR	228-377-1823

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):*

IDQ SCREEN WALLS, FENCES AND ENCLOSURES

1. SEE SCHEDULE
2. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS (IDQ REQUIREMENTS FOR SCREEN WALLS, FENCES AND ENCLOSURES FOR A BASIC YEAR AND THREE OPTION PERIODS FOR KEESLER AFB, MS.
3. THIS ACQUISITION IS BEING ISSUED ON A SECTION 8(a) SOLE SOURCE BASIS. ENTER PRICES IN "SECTION B" USING TYPEWRITER OR BLACK INK.
4. YOUR ATTENTION IS DIRECTED TO "PART I, SECTION G, CONTRACT CLAUSE 5352.232-9000", WITH REFERENCE TO "REMITTANCE ADDRESS".
5. YOUR ATTENTION IS DIRECTED TO "PART I, SECTION I, CONTRACT CLAUSE 52.211-10", WITH REFERENCE TO "COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK".
6. NOTE: ALL AMENDMENTS TO THIS SOLICITATION (IF ANY) MUST BE ACKNOWLEDGED.
7. IN CLAUSE 52.232-27, PROMOPT PAYMENT FOR CONSTRUCTION CONRACTS - NOTE: FOR THE PURPOSE OF THIS CLAUSE, THE FOLLOWING PARAGRAPHS ARE AMENDED AS FOLLOWS: (a)(1)(i)(A)-30; (a)(4)(i)-14.

11. The Contractor shall begin performance within _____ calendar days and complete it within _____ calendar days after receiving

[ ] award, [X] notice to proceed. This performance period is [X] mandatory, [ ] negotiable. *(See* FAR 52.211-10 *.)*

12 A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? *(If "YES," indicate within how many calendar days after award in Item 12B.)* [X] YES [ ] NO	12B. CALENDAR DAYS 10

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and 1 copies to perform the work required are due at the place specified in Item 8 by 03:30:00 *(hour)* local time 08/25/2002 *(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 [X] 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.

SOLICITATION, OFFER, AND AWARD (Continued)

(Construction, Alteration, or Repair)

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

14. NAME AND ADDRESS OF OFFEROR *(Include ZIP Code)*	15. TELEPHONE NO. *(Include area code)*
CHAMPION HOWARD HOLLEY 679 #1 DENTON BLVD FORT WALTON BEACH FL 32547-5130	850-302-0234
	16. REMITTANCE ADDRESS *(Include only if different than Item 14)* **See Item 14**
CODE 0TRZ0 / 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 requirements stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)*

AMOUNTS	SEE SCHEDULE OF PRICES

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:

SEE SCHEDULE

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA
$555,632.50	

24. SUBMIT INVOICES TO ADDRESS SHOWN IN *(4 copies unless otherwise specified)*	**ITEM**	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO
1	Block 26	☐ 10 U.S.C. 2304(c) ☐ 41 U.S.C. 253(c)

26. ADMINISTERED BY	CODE	27. PAYMENT WILL BE MADE BY	CODE
81ST CONTRACTING SQUADRON TRACY O'CONNOR 310 M STREET, RM 102 KEESLER AFB MS 39534-2147	FA3010	DFAS-SAV\FVD (1-888-478-5636) 500 MCCULLOUGH AVE SAN ANTONIO TX 78215-2100	F60700

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☒ 28. NEGOTIATED AGREEMENT *(Contractor is required to sign this document and return 1 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 or 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)* ROBERT F. WINLAND / FLIGHT A, TEAM A LEADER
30B. SIGNATURE / 30C. DATE	31B. UNITED STATES OF AMERICA BY / 31C. AWARD DATE 27-Sep-2002

SECTION B Supplies or Services and Prices

BID SCHEDULE
BASIC YEAR

Contractor shall furnish all plant, labor, materials, and equipment to perform all work in strict accordance with the terms and conditions set forth in the contract specifications for screen walls, fences, and enclosures, at Keesler Air Force Base, Mississippi.

ITEM NO	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTALS
0001	BRICK FENCE	LF	100		
0002	BRICK COLUMS W/BOARD ON BOARD WOOD FENCE- 6FT	LF	100		
0003	BRICK COLUMS W/BOARD ON BOARD METAL FENCE- 6FT	LF	100		
0004	BOARD ON BOARD WOOD FENCING -6FT	LF	250		
0005	BOARD ON BOARD METAL FENCING -6FT	LF	2000		
0006	BOARD ON BOARD METAL FENCING -8FT	LF	650		
0007	PRECAST AGGREGATE CONCRETE PANEL FENCING	LF	100		
0008	PRECAST AGGREGATE CONCRETE PANEL BOARD ON B. METAL	LF	100		
0009	BRICK COLUMNS WITH STUCCO PANELS	LF	100		
0010	REMOVE CONCRETE PAVEMENT	SY	300		
0011	REMOVE ASPHALT PAVEMENT	SY	300		
0012	REPLACE CONCRETE PAVEMENT	SY	800		
0013	REPLACE ASPHALT PAVEMENT	LF	70		
0014	BOARD ON BOARD METAL GATES -6FT	LF	150		
0015	BOARD ON BOARD METAL GATES -8FT	LF	32		
0016	REMOVE EXISTING WOODEN/CHAIN-LINK FENCING	LF	4000		
0017	BRICK COLUMS W/BOARD ON BOARD WOOD FENCE- 8FT	LF	100		
0018	BRICK COLUMS W/BOARD ON BOARD METAL FENCE- 8FT	LF	400		

0019	CHAIN- LINK FENCE 6FT	LF	100
0020	CHAIN- LINK FENCE 7FT W/3STRAND BARB WIRE MAX 8FT	LF	100
0021	GATES 5FT HIGH	LF	20
0022	GATES 6FT HIGH	LF	20
0023	GATES 7FT HIGH W/3 STRAND BARB WIRE MAX 8FT	LF	10
0024	CHAIN- LINK FENCE 5FT VINYL COATED	LF	100
0025	CHAIN- LINK FENCE 6FT VINYL COATED	LF	100
0026	GATES VINYL COATED 5FT HIGH X 10FT WIDE	EA	1
0027	GATES VINYL COATED 6FT HIGH X 10FT WIDE	EA	1
0028	DEMO BRICK FENCE 6FT HIGH	LF	50
0029	DEMO BRICK FENCE 7FT HIGH	LF	50
0030	DEMO BRICK FENCE 8FT HIGH	LF	150
0031	24" ADDITIONAL HEIGHT OF BRICK COLUMNS	EA	50
0032	DOUBLE RALLED WOOD FENCE 4FT HIGH	LF	500
0033	DOUBLE RALLED WOOD GATE 3FT WIDE BY 4FT HIGH	EA	8
0034	DOUBLE RALLED SPLIT RAILED WOOD FENCE 4FT HIGH	LF	400
0035	DOUBLE RALLED SPLIT RAILED WOOD GATE 3FT WIDE BY 4FT HIGH	EA	1
0036	6' HIGH 9 GA CHAIN LINK FENCE W/3 STRANDS BARB WIRE	LF	100
0037	18' HIGH CHAIN LINK FENCE W/ 3 STRANDS BARB WIRE	LF	350
0038	9' HIGH X 6' WIDE CHAIN LINK ROLL GATE	LF	60
0039	9' HIGH X 4' WIDE CHAIN LINK GATE	LF	10
0040	6' ELECTRIC SLIDE GATE SYSTEM W/ MOTORIZED OPERATORS (BRONZE ORNAMENTAL)	LF	78
0041	6' ELECTRIC SLIDE GATE SYSTEM W/ MOTORIZED OPERATORS (ALUM FRAME W/BARBED ARMS)	LF	78

0042	6' ELECTRIC SLIDE GATE SYSTEM W/ MOTORIZED OPERATORS (VINYL COATED FRAME W/ BROWN CHAIN LINK AND 3 STRANDS OF BARBED WIRE)	LF	78
0043	AIRFIELD BLAST FENCE FACTOR FOR DIFFICULTY AND LABOR INTENSITY FOR CHAIN LINK FENCE INSTALLATION	LF	100
0044	DEMO BOARD ON BOARD METAL	LF	100
0045	DEMO OUTRIGGERS	EA	100
0046	DEMO DAMAGED/BROKEN BARBWIRE	EA	1000
0047	REPLACE/INSTALL NEW OUTRIGGERS ON EXISTING FENCE	EA	100
0047-A	REPLACE/INSTALL NEW OUTRIGGERS ON EXISTING FENCE W/ TOP RAIL	EA	100
0048	REPLACE/INSTALL NEW BARB WIRE ON EXISTING FENCE/OUTRIGGERS	LF	1000

BID SCHEDULE
FIRST OPTION YEAR

Contractor shall furnish all plant, labor, materials, and equipment to perform all work in strict accordance with the terms and conditions set forth in the contract specifications for screen walls, fences, and enclosures, at Keesler Air Force Base, Mississippi.

ITEM NO	DESCTRIPTIONS	UNIT	QTY	UNIT PRICE	TOTAL
1001	BRICK FENCE	LF	100		
1002	BRICK COLUMS W/BOARD ON BOARD WOOD FENCE- 6FT	LF	100		
1003	BRICK COLUMS W/BOARD ON BOARD METAL FENCE- 6FT	LF	100		
1004	BOARD ON BOARD WOOD FENCING -6FT	LF	250		
1005	BOARD ON BOARD METAL FENCING -6FT	LF	2000		
1006	BOARD ON BOARD METAL FENCING -8FT	LF	650		
1007	PRECAST AGGREGATE CONCRETE PANEL FENCING	LF	100		
1008	PRECAST AGGREGATE CONCRETE PANEL BOARD ON B. METAL	LF	100		
1009	BRICK COLUMNS WITH STUCCO PANELS	LF	100		
1010	REMOVE CONCRETE PAVEMENT	SY	300		
1011	REMOVE ASPHALT PAVEMENT	SY	300		
1012	REPLACE CONCRETE PAVEMENT	SY	800		
1013	REPLACE ASPHALT PAVEMENT	LF	70		
1014	BOARD ON BOARD METAL GATES -6FT	LF	150		
1015	BOARD ON BOARD METAL GATES -8FT	LF	32		
1016	REMOVE EXISTING WOODEN/CHAIN-LINK FENCING	LF	4000		
1017	BRICK COLUMS W/BOARD ON BOARD WOOD FENCE- 8FT	LF	100		
1018	BRICK COLUMS W/BOARD ON BOARD METAL FENCE- 8FT	LF	400		
1019	CHAIN- LINK FENCE 6FT	LF	100		

1020	CHAIN- LINK FENCE 7FT W/3STRAND BARB WIRE MAX 8FT	LF	100
1021	GATES 5FT HIGH	LF	20
1022	GATES 6FT HIGH	LF	20
1023	GATES 7FT HIGH W/3 STRAND BARB WIRE MAX 8FT	LF	10
1024	CHAIN- LINK FENCE 5FT VINYL COATED	LF	100
1025	CHAIN- LINK FENCE 6FT VINYL COATED	LF	100
1026	GATES VINYL COATED 5FT HIGH X 10FT WIDE	EA	1
1027	GATES VINYL COATED 6FT HIGH X 10FT WIDE	EA	1
1028	DEMO BRICK FENCE 6FT HIGH	LF	50
1029	DEMO BRICK FENCE 7FT HIGH	LF	50
1030	DEMO BRICK FENCE 8FT HIGH	LF	150
1031	24" ADDITIONAL HEIGHT OF BRICK COLUMNS	EA	50
1032	DOUBLE RALLED WOOD FENCE 4FT HIGH	LF	500
1033	DOUBLE RALLED WOOD GATE 3FT WIDE BY 4FT HIGH	EA	8
1034	DOUBLE RALLED SPLIT RAILED WOOD FENCE 4FT HIGH	LF	400
1035	DOUBLE RALLED SPLIT RAILED WOOD GATE 3FT WIDE BY 4FT HIGH	EA	1
1036	6' HIGH 9 GA CHAIN LINK FENCE W/3 STRANDS BARB WIRE	LF	100
1037	18' HIGH CHAIN LINK FENCE W/ 3 STRANDS BARB WIRE	LF	350
1038	9' HIGH X 6' WIDE CHAIN LINK ROLL GATE	LF	60
1039	9' HIGH X 4' WIDE CHAIN LINK GATE	LF	10
1040	6' ELECTRIC SLIDE GATE SYSTEM W/ MOTORIZED OPERATORS (BRONZE ORNAMENTAL)	LF	78
1041	6' ELECTRIC SLIDE GATE SYSTEM W/ MOTORIZED OPERATORS (ALUM FRAME W/BARBED ARMS)	LF	78
1042	6' ELECTRIC SLIDE GATE SYSTEM W/ MOTORIZED OPERATORS (VINYL COATED FRAME W/ BROWN CHAIN LINK AND 3 STRANDS OF BARBED WIRE)	LF	78

1043	AIRFIELD BLAST FENCE FACTOR FOR DIFFICULTY AND LABOR INTENSITY FOR CHAIN LINK FENCE INSTALLATION	LF	100
1044	DEMO BOARD ON BOARD METAL	LF	100
1045	DEMO OUTRIGGERS	EA	100
1046	DEMO DAMAGED/BROKEN BARBWIRE	EA	1000
1047	REPLACE/INSTALL NEW OUTRIGGERS ON EXISTING FENCE	EA	100
1047-A	REPLACE/INSTALL NEW OUTRIGGERS ON EXISTING FENCE W/ TOP RAIL	EA	100
1048	REPLACE/INSTALL NEW BARB WIRE ON EXISTING FENCE/OUTRIGGERS	LF	1000

BID SCHEDULE
SECOND OPTION PERIOD
SIX (6) MONTHS

Contractor shall furnish all plant, labor, materials, and equipment to perform all work in strict accordance with the terms and conditions set forth in the contract specifications for screen walls, fences, and enclosures, at Keesler Air Force Base, Mississippi.

ITEM NO	DESCRIPTIONS	UNIT	QTY	UNIT PRICE	TOTAL
2001	BRICK FENCE	LF	50		
2002	BRICK COLUMS W/BOARD ON BOARD WOOD FENCE- 6FT	LF	50		
2003	BRICK COLUMS W/BOARD ON BOARD METAL FENCE- 6FT	LF	50		
2004	BOARD ON BOARD WOOD FENCING -6FT	LF	125		
2005	BOARD ON BOARD METAL FENCING -6FT	LF	1000		
2006	BOARD ON BOARD METAL FENCING -8FT	LF	325		
2007	PRECAST AGGREGATE CONCRETE PANEL FENCING	LF	50		
2008	PRECAST AGGREGATE CONCRETE PANEL BOARD ON B. METAL	LF	50		
2009	BRICK COLUMNS WITH STUCCO PANELS	LF	50		
2010	REMOVE CONCRETE PAVEMENT	SY	150		
2011	REMOVE ASPHALT PAVEMENT	SY	150		
2012	REPLACE CONCRETE PAVEMENT	SY	400		
2013	REPLACE ASPHALT PAVEMENT	LF	35		
2014	BOARD ON BOARD METAL GATES -6FT	LF	75		
2015	BOARD ON BOARD METAL GATES -8FT	LF	16		
2016	REMOVE EXISTING WOODEN/CHAIN-LINK FENCING	LF	2000		
2017	BRICK COLUMS W/BOARD ON BOARD WOOD FENCE- 8FT	LF	50		
2018	BRICK COLUMS W/BOARD ON BOARD METAL FENCE- 8FT	LF	200		
2019	CHAIN- LINK FENCE 6FT	LF	50		

2020	CHAIN- LINK FENCE 7FT W/3STRAND BARB WIRE MAX 8FT	LF	50
2021	GATES 5FT HIGH	LF	10
2022	GATES 6FT HIGH	LF	10
2023	GATES 7FT HIGH W/3 STRAND BARB WIRE MAX 8FT	LF	5
2024	CHAIN- LINK FENCE 5FT VINYL COATED	LF	50
2025	CHAIN- LINK FENCE 6FT VINYL COATED	LF	50
2026	GATES VINYL COATED 5FT HIGH X 10FT WIDE	EA	0.5
2027	GATES VINYL COATED 6FT HIGH X 10FT WIDE	EA	0.5
2028	DEMO BRICK FENCE 6FT HIGH	LF	25
2029	DEMO BRICK FENCE 7FT HIGH	LF	25
2030	DEMO BRICK FENCE 8FT HIGH	LF	75
2031	24" ADDITIONAL HEIGHT OF BRICK COLUMNS	EA	25
2032	DOUBLE RALLED WOOD FENCE 4FT HIGH	LF	250
2033	DOUBLE RALLED WOOD GATE 3FT WIDE BY 4FT HIGH	EA	4
2034	DOUBLE RALLED SPLIT RAILED WOOD FENCE 4FT HIGH	LF	200
2035	DOUBLE RALLED SPLIT RAILED WOOD GATE 3FT WIDE BY 4FT HIGH	EA	1
2036	6' HIGH 9 GA CHAIN LINK FENCE W/3 STRANDS BARB WIRE	LF	50
2037	18' HIGH CHAIN LINK FENCE W/ 3 STRANDS BARB WIRE	LF	175
2038	9' HIGH X 6' WIDE CHAIN LINK ROLL GATE	LF	30
2039	9' HIGH X 4' WIDE CHAIN LINK GATE	LF	5
2040	6' ELECTRIC SLIDE GATE SYSTEM W/ MOTORIZED OPERATORS (BRONZE ORNAMENTAL)	LF	39
2041	6' ELECTRIC SLIDE GATE SYSTEM W/ MOTORIZED OPERATORS (ALUM FRAME W/BARBED ARMS)	LF	39
2042	6' ELECTRIC SLIDE GATE SYSTEM W/ MOTORIZED OPERATORS (VINYL COATED FRAME W/ BROWN CHAIN LINK AND 3 STRANDS OF BARBED WIRE)	LF	39

2043	AIRFIELD BLAST FENCE FACTOR FOR DIFFICULTY AND LABOR INTENSITY FOR CHAIN LINK FENCE INSTALLATION	LF	50
2044	DEMO BOARD ON BOARD METAL	LF	50
2045	DEMO OUTRIGGERS	EA	50
2046	DEMO DAMAGED/BROKEN BARBWIRE	EA	500
2047	REPLACE/INSTALL NEW OUTRIGGERS ON EXISTING FENCE	EA	50
2047-A	REPLACE/INSTALL NEW OUTRIGGERS ON EXISTING FENCE W/ TOP RAIL	EA	50
2048	REPLACE/INSTALL NEW BARB WIRE ON EXISTING FENCE/OUTRIGGERS	LF	500

BID SCHEDULE
THIRD OPTION PERIOD
SIX (6) MONTHS

Contractor shall furnish all plant, labor, materials, and equipment to perform all work in strict accordance with the terms and conditions set forth in the contract specifications for screen walls, fences, and enclosures, at Keesler Air Force Base, Mississippi.

ITEM NO	DESCRIPTIONS	UNIT	QTY	UNIT PRICE	TOTAL
3001	BRICK FENCE	LF	50		
3002	BRICK COLUMS W/BOARD ON BOARD WOOD FENCE- 6FT	LF	50		
3003	BRICK COLUMS W/BOARD ON BOARD METAL FENCE- 6FT	LF	50		
3004	BOARD ON BOARD WOOD FENCING -6FT	LF	125		
3005	BOARD ON BOARD METAL FENCING -6FT	LF	1000		
3006	BOARD ON BOARD METAL FENCING -8FT	LF	325		
3007	PRECAST AGGREGATE CONCRETE PANEL FENCING	LF	50		
3008	PRECAST AGGREGATE CONCRETE PANEL BOARD ON B. METAL	LF	50		
3009	BRICK COLUMNS WITH STUCCO PANELS	LF	50		
3010	REMOVE CONCRETE PAVEMENT	SY	150		
3011	REMOVE ASPHALT PAVEMENT	SY	150		
3012	REPLACE CONCRETE PAVEMENT	SY	400		
3013	REPLACE ASPHALT PAVEMENT	LF	35		
3014	BOARD ON BOARD METAL GATES -6FT	LF	75		
3015	BOARD ON BOARD METAL GATES -8FT	LF	16		
3016	REMOVE EXISTING WOODEN/CHAIN-LINK FENCING	LF	2000		
3017	BRICK COLUMS W/BOARD ON BOARD WOOD FENCE- 8FT	LF	50		
3018	BRICK COLUMS W/BOARD ON BOARD METAL FENCE- 8FT	LF	200		
3019	CHAIN- LINK FENCE 6FT	LF	50		

3020	CHAIN- LINK FENCE 7FT W/3STRAND BARB WIRE MAX 8FT	LF	50
3021	GATES 5FT HIGH	LF	10
3022	GATES 6FT HIGH	LF	10
3023	GATES 7FT HIGH W/3 STRAND BARB WIRE MAX 8FT	LF	5
3024	CHAIN- LINK FENCE 5FT VINYL COATED	LF	50
3025	CHAIN- LINK FENCE 6FT VINYL COATED	LF	50
3026	GATES VINYL COATED 5FT HIGH X 10FT WIDE	EA	0.5
3027	GATES VINYL COATED 6FT HIGH X 10FT WIDE	EA	0.5
3028	DEMO BRICK FENCE 6FT HIGH	LF	25
3029	DEMO BRICK FENCE 7FT HIGH	LF	25
3030	DEMO BRICK FENCE 8FT HIGH	LF	75
3031	24" ADDITIONAL HEIGHT OF BRICK COLUMNS	EA	25
3032	DOUBLE RALLED WOOD FENCE 4FT HIGH	LF	250
3033	DOUBLE RALLED WOOD GATE 3FT WIDE BY 4FT HIGH	EA	4
3034	DOUBLE RALLED SPLIT RAILED WOOD FENCE 4FT HIGH	LF	200
3035	DOUBLE RALLED SPLIT RAILED WOOD GATE 3FT WIDE BY 4FT HIGH	EA	0.5
3036	6' HIGH 9 GA CHAIN LINK FENCE W/3 STRANDS BARB WIRE	LF	50
3037	18' HIGH CHAIN LINK FENCE W/ 3 STRANDS BARB WIRE	LF	175
3038	9' HIGH X 6' WIDE CHAIN LINK ROLL GATE	LF	30
3039	9' HIGH X 4' WIDE CHAIN LINK GATE	LF	5
3040	6' ELECTRIC SLIDE GATE SYSTEM W/ MOTORIZED OPERATORS (BRONZE ORNAMENTAL)	LF	39
3041	6' ELECTRIC SLIDE GATE SYSTEM W/ MOTORIZED OPERATORS (ALUM FRAME W/BARBED ARMS)	LF	39
3042	6' ELECTRIC SLIDE GATE SYSTEM W/ MOTORIZED OPERATORS (VINYL COATED FRAME W/ BROWN CHAIN LINK AND 3 STRANDS OF BARBED WIRE)	LF	39

3043	AIRFIELD BLAST FENCE FACTOR FOR DIFFICULTY AND LABOR INTENSITY FOR CHAIN LINK FENCE INSTALLATION	LF	50
3044	DEMO BORAD ON BOARD METAL	LF	50
3045	DEMO OUTRIGGERS	EA	50
3046	DEMO DAMAGED/BROKEN BARBWIRE	EA	500
3047	REPLACE/INSTALL NEW OUTRIGGERS ON EXISTING FENCE	EA	50
3047-A	REPLACE/INSTALL NEW OUTRIGGERS ON EXISTING FENCE W/ TOP RAIL	EA	50
3048	REPLACE/INSTALL NEW BARB WIRE ON EXISTING FENCE/OUTRIGGERS	LF	500

CLAUSES AND PROVISIONS

(a) Clauses and provisions from the Federal Acquisition Regulation (FAR) and supplements thereto are incorporated in this document by reference and in full text. Those incorporated by reference have the same force and effect as if they were given in full text.

(b) Clauses and provisions in this document will be numbered in sequence, but will not necessarily appear in consecutive order.

(c) **Sections K, and L, will be physically removed from any resultant award, but will be deemed to be incorporated, by reference, in that award.**

(End of Clause)

SECTION E Inspection and Acceptance

CLAUSES INCORPORATED BY REFERENCE:

52.246-12	Inspection of Construction	AUG 1996

5352.246-9000 INSPECTION AND ACCEPTANCE (AETC) JUL 1993
(IAW AETC FARS 5346.502)

81ST CIVIL ENGINEERING SQUADRON/CECS, 508 L STREET, KEELSER AFB, MS 39534, is designated as the office responsible for inspecting the work while the Contracting Officer is responsible for final acceptance of the work.

(End of Clause)

SECTION F Deliveries or Performance

CLAUSES INCORPORATED BY REFERENCE:

52.211-13 Time Extensions SEP 2000

CLAUSES INCORPORATED BY FULL TEXT

5352.211-9000 ALLOTTED WORK TIME SEP 1996
(IAW AETCFARS 5311.404 (b))

The Contractor shall have the required performance time based on the type of work requested as indicated below, from the date the work requests/calls are received by the Contractor. These performance periods include material submittals, approval of materials submittal, mobilization time, and performance time.

DELIVERY ORDER AMOUNT	PERFORMANCE PERIOD
$ 00.00 - $20,000.00	56 Calendar Days
$20,000.00 - $30,000.00	74 Calendar Days
Greater than $30,000.00	An additional 12 Calendar Days for each $10,000.00, or part thereof.

(End of Clause)

PERIOD OF PERFORMANCE
(IAW FAR 11.401 (A))

Performance of tasks under item (s) **SEE BID SCHEDULE, PART I, SECTION B,** will be as specified on Standard Form 1442 (SF 1442). Orders issued prior to the expiration date of the contract will be carried to completion provided sufficient monies are available and performance does not normally exceed **120 Calendar Days** beyond the period of the contract. In the event completion of the order cannot be completed within the established time period, the order may be extended to a time and at terms agreeable to both parties.

(End of Clause)

52.211-12 LIQUIDATED DAMAGES—CONSTRUCTION SEP 2000
(IAW FAR 11.504(b))

For the purposes of this clause the blank(s) are completed as follows:

a. If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay the sum of **$125.30*** for each calendar day of delay until the work is completed and accepted by the government.

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 Termination clause.

c. If the Government does not terminate the Contractor's right to proceed, the resulting damage will consist of Liquidated Damages until work is completed or accepted.

***$125.30 for each day of delay for each separate call, except that if, at the time of delinquency, the Contractor is performing concurrently on more than one call against the same delivery order, Liquidated Damages shall be assess at 50% of the above rate for each day of delay, i.e., a delinquent call, in accordance with the foregoing, shall be configured as $125.30 X 50% = $62.65.**

(End of Clause)

5352.214-9000 SMOKING IN AETC FACILITIES (AETC) JUL 1993
(IAW AETC FARS 5314.201-2(h))

Contractors are advised that the Commander has placed restrictions on the smoking of tobacco products in AETC facilities. Contractor employees and visitors are subject to the same restrictions as are Government personnel. Smoking is permitted only in designated smoking areas. **SEE Air Force Instruction 400-102 (AFI 400-102) FOR FURTHER GUIDANCE.**

(End of Clause)

REQUIRED INSURANCE
(IAW FAR 28.306(b))

Reference FAR clause entitled **"Insurance . . ."** the Contractor shall, at its own expense, procure and thereafter maintain the following kinds of insurance with respect to performance under the contract.

a. Workmen's Compensation and Employers Liability Insurance as required by law except that if this contract is to be performed in a State which does not require or permit private insurance, then compliance with the statutory or administrative requirements in any such State will be satisfactory. The required Workmen's Compensation insurance shall extend to cover employer's liability for accidental bodily injury or death and for occupational disease with a minimum liability limit of **$100,000.00.**

b. General Liability Insurance. Bodily injury liability insurance, in the minimum limits of **$500,000.00** per occurrence shall be required on the comprehensive form of policy.

c. Automobile Liability Insurance. This insurance shall be required on the comprehensive form of policy and shall provide bodily injury liability and property damage liability covering the operation of all automobiles used in connection with the performance of the contract. At least the minimum limits of **$200,000.00** per person and **$500,000.00** per occurrence for bodily injury and **$20,000.00** per occurrence for property damage shall be required.

(End of Clause)

SECTION I Contract Clauses

CLAUSES INCORPORATED BY REFERENCE:

52.202-1	Definitions	DEC 2001
52.202-1 Alt I	Definitions (Dec 2001) --Alternate I	MAY 2001
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	JUL 1995
52.203-7	Anti-Kickback Procedures	JUL 1995
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	JUN 1997
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	JUL 1995
52.211-15	Defense Priority And Allocation Requirements	SEP 1990
52.215-2	Audit and Records--Negotiation	JUN 1999
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-10	Price Reduction for Defective Cost or Pricing Data	OCT 1997
52.215-12	Subcontractor Cost or Pricing Data	OCT 1997
52.215-13	Subcontractor Cost or Pricing Data--Modifications	OCT 1997
52.215-15	Pension Adjustments and Asset Reversions	DEC 1998
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other than Pensions	OCT 1997
52.215-19	Notification of Ownership Changes	OCT 1997
52.215-21	Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data--Modifications	OCT 1997
52.219-8	Utilization of Small Business Concerns	OCT 2000
52.219-14	Limitations On Subcontracting	DEC 1996
52.222-3	Convict Labor	AUG 1996
52.222-4	Contract Work Hours and Safety Standards Act - Overtime Compensation	SEP 2000
52.222-6	Davis Bacon Act	FEB 1995
52.222-7	Withholding of Funds	FEB 1988
52.222-8	Payrolls and Basic Records	FEB 1988
52.222-9	Apprentices and Trainees	FEB 1988
52.222-10	Compliance with Copeland Act Requirements	FEB 1988
52.222-11	Subcontracts (Labor Standards)	FEB 1988
52.222-12	Contract Termination-Debarment	FEB 1988
52.222-13	Compliance with Davis-Bacon and Related Act Regulations.	FEB 1988
52.222-14	Disputes Concerning Labor Standards	FEB 1988
52.222-15	Certification of Eligibility	FEB 1988
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	APR 2002
52.222-27	Affirmative Action Compliance Requirements for Construction	FEB 1999
52.222-35	Equal Opportunity For Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans	DEC 2001
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-37	Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era and Other Eligible Veterans	DEC 2001

52.223-3	Hazardous Material Identification And Material Safety Data	JAN 1997
52.223-5	Pollution Prevention and Right-to-Know Information	APR 1998
52.223-6	Drug Free Workplace	MAY 2001
52.225-13	Restrictions on Certain Foreign Purchases	JUL 2000
52.227-1	Authorization and Consent	JUL 1995
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	AUG 1996
52.227-4	Patent Indemnity-Construction Contracts	APR 1984
52.228-2	Additional Bond Security	OCT 1997
52.228-5	Insurance - Work On A Government Installation	JAN 1997
52.228-11	Pledges Of Assets	FEB 1992
52.228-12	Prospective Subcontractor Requests for Bonds	OCT 1995
52.228-14	Irrevocable Letter of Credit	DEC 1999
52.228-15	Performance and Payment Bonds--Construction	JUL 2000
52.229-4	Federal, State And Local Taxes (Noncompetitive Contract)	JAN 1991
52.229-5	Taxes--Contracts Performed In U S Possessions Or Puerto Rico	APR 1984
52.232-5	Payments under Fixed-Price Construction Contracts	MAY 1997
52.232-17	Interest	JUN 1996
52.232-23	Assignment Of Claims	JAN 1986
52.232-23 Alt I	Assignment of Claims (Jan 1986) - Alternate I	APR 1984
52.232-27	Prompt Payment for Construction Contracts	FEB 2002
52.232-33	Payment by Electronic Funds Transfer--Central Contractor Registration	MAY 1999
52.233-1	Disputes	JUL 2002
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
52.236-13	Accident Prevention	NOV 1991
52.236-14	Availability and Use of Utility Services	APR 1984
52.236-15	Schedules for Construction Contracts	APR 1984
52.236-17	Layout of Work	APR 1984
52.236-21	Specifications and Drawings for Construction	FEB 1997
52.236-26	Preconstruction Conference	FEB 1995
52.242-13	Bankruptcy	JUL 1995
52.242-14	Suspension of Work	APR 1984
52.243-4	Changes	AUG 1987
52.244-5	Competition In Subcontracting	DEC 1996
52.246-21	Warranty of Construction	MAR 1994
52.248-3	Value Engineering-Construction	FEB 2000
52.249-2 Alt I	Termination for Convenience of the Government (Fixed-Price) (Sep 1996) - Alternate I	SEP 1996
52.249-10	Default (Fixed-Price Construction)	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.201-7000	Contracting Officer's Representative	DEC 1991
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	MAR 1999

252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.205-7000	Provisions Of Information To Cooperative Agreement Holders	DEC 1991
252.209-7000	Acquisition From Subcontractors Subject To On-Site Inspection Under The Intermediate Range Nuclear Forces (INF) Treaty	NOV 1995
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Terrorist Country	MAR 1998
252.215-7000	Pricing Adjustments	DEC 1991
252.215-7002	Cost Estimating System Requirements	OCT 1998
252.223-7001	Hazard Warning Labels	DEC 1991
252.223-7004	Drug Free Work Force	SEP 1988
252.223-7006	Prohibition On Storage And Disposal Of Toxic And Hazardous Materials	APR 1993
252.225-7012	Preference For Certain Domestic Commodities	APR 2002
252.225-7031	Secondary Arab Boycott Of Israel	JUN 1992
252.231-7000	Supplemental Cost Principles	DEC 1991
252.236-7000	Modification Proposals-Price Breakdown	DEC 1991
252.236-7005	Airfield Safety Precautions	DEC 1991
252.242-7000	Postaward Conference	DEC 1991
252.243-7001	Pricing Of Contract Modifications	DEC 1991
5352.217-9000	LONG LEAD LIMITATION OF GOVERNMENT LIABILITY	MAY 1996

CLAUSES INCORPORATED BY FULL TEXT

5352.217-9000 OPTION CLAUSE LIMITATION NOTICE (AETC) JUL 1994
(IAW 5317.208

This contract contains two option provisions, (i) Option to Extend Services, and (ii) Option to Extend the Term of the Contract (see FAR 52.217-8 and FAR 52.217-9). Either or both may be exercised unilaterally by the government. The clause entitled "Option to Extend the Term of the Contract" will not be exercised after any exercise of the "Option to Extend Services" clause.

(End of Clause)

5352.223-9000 ELIMINATION OF USE OF CLASS I OZONE DEPLETING SUBSTANCES (ODS) (MAY 1996)

(a) It is Air Force policy to preserve mission readiness while minimizing dependency on Class I Ozone Depleting Substances (ODS), and their release into the environment, to help protect the Earth's stratospheric ozone layer.

(b) Unless a specific waiver has been approved, Air Force procurements:

(1) May not include any specification, standard, drawing, or other document that requires the use of a Class I ODS in the design, manufacture, test, operation, or maintenance of any system, subsystem, item, component, or process; and

2) May not include any specification, standard, drawing, or other document that establishes a requirement that can only be met by use of a Class I ODS;

(c) For the purposes of Air Force policy, the following are Class I ODS:

(1) Halons: 1011, 1202, 1211, 1301, and 2402;

(2) Chlorofluorocarbons (CFCs): CFC-11, CFC-12, CFC-13, CFC-111, CFC-112, CFC-113, CFC-114, CFC-115, CFC-211, CFC-212, CFC-213, CFC-214, CFC-215, CFC-216, and CFC-217, and the blends R-500, R-501, R-502, and R-503; and

(3) Other Controlled Substances: Carbon Tetrachloride, Methyl Chloroform, and Methyl Bromide.

(d) The Air Force has reviewed the requirements specified in this contract to reflect this policy. Where considered essential, specific approval has been obtained to require use of the following substances:

Substance	Application/Use	Quantity (lbs)
None	None	None

(e) To assist the Air Force in implementing this policy, the offeror/contractor is required to notify the contracting officer if any Class I ODS not specifically listed above is required in the performance of this contract.

5352.236-9000 AVAILABILITY OF UTILITIES SERVICES (AETC) JUL 1993
(IAW AETCFARS 5337.110(a))

Notwithstanding the provisions of Contract Clause FAR 52.236-14, Availability and Use of Utility Services, all reasonable required amounts of water, gas, electricity, etc., essential to contract performance, will be made available at no cost to the Contractor from existing systems, outlets, and supplies. All temporary connections, outlets, and distribution lines, as may be required, shall be installed by the Contractor at the Contractor's own expense.

(End of Clause)

5352.237-9001 PREPERFORMANCE CONFERENCE (AETC) JUL 1993
(IAW AETCFARS 5337.110(b))

Offeror(s)/bidder(s) are hereby advised that if they are awarded a contract as a result of this solicitation, they may be required to appear at the **81st Contracting Squadron, Building Number 4605, 310 "M" Street, Keesler AFB, Mississippi 39534-2147**, to attend a pre-performance conference prior to commencement of any work on the military installation.

(End of Clause)

52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK APR 1984
(IAW FAR 11.404 (b))

(1) The Contractor shall be required to:

(a) Commence work under this contract within **10 Calendar Days** after receipt of the first delivery order, and within **5 Calendar Days** after subsequent delivery orders,

(b) Prosecute the work diligently, and

(c) Contract shall become effective 01 Sep 02 or the date of award, whichever is later, and shall remain in effect through 31 Aug 03. The Contractor will be required to prosecute the work and to complete each separate task order as specified in contract clause, **5352.211-9000, ALLOTTED WORK TIME (SEP 1996).**

(2) The time stated for completion shall include final cleanup of the premises.

(End of Clause)

52.216-18 **ORDERING** **OCT 1995**
(IAW FAR 16.506 (a))

For the purposes of this clause the blank(s) are completed as follows:

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. For the Basic Contract period, such orders may be **issued from 01 Sep 02 or date of award through 31 Aug 03.**

(b) If First Option Year period is exercised, orders may be **issued from 01 Sep 03 through 31 Aug 04.**

(c) If Second Option Six Months period is exercised, orders may be **issued from 01 Sep 04 through 28 Feb 05.**

(d) If Third Option Six Months period is exercised, orders may be **issued from01 Mar 05 through 31 Aug 05.**

(e) All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order or task order and this contract, the contract shall control.

(f) If mailed, a delivery order or task order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the Schedule.

(End of Clause)

52.216-19 **ORDER LIMITATIONS** **OCT 1995**
(IAW FAR 16.506 (b))

(a) Minimum order. When the Government requires supplies or services covered by this contract in an amount of less than **$2,000.00**, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under the contract.

(b) Maximum order. The Contractor is not obligated to honor:

(1) Any order for a single item in excess of **$250,000.00**;

(2) Any order for a combination of items in excess of **$250,000.00**; or

(3) A series of orders, from the same ordering office, received within **14 days,** that together call for quantities exceeding the limitation in subparagraph (1) or (2) above.

(c) If this is a requirements contract (i.e., includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) above.

(d) Notwithstanding paragraphs (b) and (c) above, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within **5 days**, after issuance with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire

the supplies or services from another source.

(End of Clause)

52.216-21 REQUIREMENTS OCT 1995

(IAW FAR 16.506 (d)(1))

(a) This is a requirements contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies or services specified in the Schedule are estimates only and are not purchased by this contract. Except as this contract may otherwise provide, if the Government's requirements do not result in orders in the quantities described as "estimated" or "maximum" in the Schedule, that fact shall not constitute the basis for an equitable price adjustment.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. Subject to any limitations in the Order Limitations clause or elsewhere in this contract, the Contractor shall furnish to the Government all supplies or services specified in the Schedule and called for by orders issued in accordance with the Ordering clause. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(c) Except as this contract otherwise provides, the Government shall order from the Contractor all the supplies or services specified in the Schedule that are required to be purchased by the Government activity or activities specified in the Schedule.

(d) The Government is not required to purchase from the Contractor requirements in excess of any limit on total orders under this contract.

(e) If the Government urgently requires delivery of any quantity of an item before the earliest date that delivery may be specified under this contract, and if the Contractor will not accept an order providing for the accelerated delivery, the Government may acquire the urgently required goods or services from another source.

(f) Any order issued during the effective period of this contract, and not completed within that period, shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided, that the Contractor shall not be required to make any deliveries under this contract after **120 days**.

(End of Clause)

52.217-8 OPTION TO EXTEND SERVICES NOV 1999

The Government may require continued performance of any services within the limits and at the rates specified in contract. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed **6 months**. The Contracting Officer may exercise the option by written notice to the Contractor within **15 days**.

(End of Clause)

52.217-9 OPTION TO EXTEND THE TERM OF THE CONTRACT MAR 2000

(a) The Government may extend the term of this contract by written notice to the Contractor within **15 days**;

provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least **60 days,** before the contract expires. The preliminary notice does not commit the Government to an extension.

(b) If the Government exercises this option, the extended contract shall be considered to include this option clause.

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed **42 months**.

(End of Clause)

52.222-30 DAVIS-BACON ACT--PRICE ADJUSTMENT (NONE OR SEPARATELY SPECIFIED METHOD) (DEC 2001)

(a) The wage determination issued under the Davis-Bacon Act by the Administrator, Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, that is effective for an option to extend the term of the contract, will apply to that option period.

(b) The Contracting Officer will make no adjustment in contract price, other than provided for elsewhere in this contract, to cover any increases or decreases in wages and benefits as a result of—

(1) Incorporation of the Department of Labor's wage determination applicable at the exercise of the option to extend the term of the contract;

(2) Incorporation of a wage determination otherwise applied to the contract by operation of law; or

(3) An increase in wages and benefits resulting from any other requirement applicable to workers subject to the Davis-Bacon Act.

(End of clause)

52.225-9BUY AMERICAN ACT-CONSTRUCTION MATERIALS (MAY 2002)

(a) Definitions. As used in this clause--

Component means an article, material, or supply incorporated directly into a construction material.

Construction material means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site pre-assembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the end product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the end product.

Domestic construction material means--

(1) An un-manufactured construction material mined or produced in the United States; or

(2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which non-availability determinations have been made are treated as domestic.

Foreign construction material means a construction material other than a domestic construction material.

United States means the 50 States and the District of Columbia, U.S. territories and possessions, Puerto Rico, the Northern Mariana Islands, and any other place subject to U.S. jurisdiction, but does not include leased bases.

(b) Domestic preference.

(1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to the construction material or components listed by the Government as follows: **NONE**

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act.

(1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

FOREIGN AND DOMESTIC CONSTRUCTION MATERIALS PRICE COMPARISON

Construction Material Description	Unit of Measure	Quantity	Price (Dollars)*
Item 1			
Foreign construction material	_____	_____	_____
Domestic construction material	_____	_____	_____
Item 2			
Foreign construction material	_____	_____	_____
Domestic construction material	_____	_____	_____

*Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).

List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary. Include other applicable supporting information.

(End of Clause)

52.236-4 PHYSICAL DATA APR 1984
(IAW FAR 36.504)

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

(a) N/A.

(b) Weather conditions: For purposes of this clause, the following information is provided:

AVERAGE NUMBER OF RAIN DAYS PER MONTH

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10	9	9	7	7	9	11	12	9	6	7	10

(c) N/A.

(d) N/A.

(End of Clause)

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://farsite.hill.af.mil**

(End of Clause)

52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES APR 1984

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any **Defense Federal Acquisition Regulation (48 CFR Chapter 2)** clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of Clause)

252.204-7004 REQUIRED CENTRAL CONTRACTOR REGISTRATION.(NOV 2001)

(a) Definitions.

As used in this clause--

(1) Central Contractor Registration (CCR) database means the primary DoD repository for contractor information required for the conduct of business with DoD.

(2) Data Universal Numbering System (DUNS) number means the 9-digit number assigned by Dun and Bradstreet Information Services to identify unique business entities.

(3) Data Universal Numbering System +4 (DUNS+4) number means the DUNS number assigned by Dun and Bradstreet plus a 4-digit suffix that may be assigned by a parent (controlling) business concern. This 4-digit suffix may be assigned at the discretion of the parent business concern for such purposes as identifying subunits or affiliates of the parent business concern.

(4) Registered in the CCR database means that all mandatory information, including the DUNS number or the DUNS+4 number, if applicable, and the corresponding Commercial and Government Entity (CAGE) code, is in the CCR database; the DUNS number and the CAGE code have been validated; and all edits have been successfully completed.

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee must be registered in the CCR database prior to award, during performance, and through final payment of any contract resulting from this solicitation, except for awards to foreign vendors for work to be performed outside the United States.

(2) The offeror shall provide its DUNS or, if applicable, its DUNS+4 number with its offer, which will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(3) Lack of registration in the CCR database will make an offeror ineligible for award.

(4) DoD has established a goal of registering an applicant in the CCR database within 48 hours after receipt of a complete and accurate application via the Internet. However, registration of an applicant submitting an application through a method other than the Internet may take up to 30 days. Therefore, offerors that are not registered should consider applying for registration immediately upon receipt of this solicitation.

(c) The Contractor is responsible for the accuracy and completeness of the data within the CCR, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to confirm on an annual basis that its information in the CCR database is accurate and complete.

(d) Offerors and contractors may obtain information on registration and annual confirmation requirements by calling 1-888-227-2423, or via the Internet at http://www.ccr.gov.

(End of clause)

252.219-7009 SECTION 8(A) DIRECT AWARD MAR 2002

(a) This contract is issued as a direct award between the contracting office and the 8(a) Contractor pursuant to the Partnership Agreement dated February 1, 2002, between the Small Business Administration (SBA) and the Department of Defense. Accordingly, the SBA, even if not identified in Section A of this contract, is the prime contractor and retains responsibility for 8(a) certification, for 8(a) eligibility determinations and related issues, and for providing counseling and assistance to the 8(a) Contractor under the 8(a) Program. The cognizant SBA district office is:

U.S. SMALL BUSINESS ADMINISTRATION
NORTH FLORIDA DISTRICT OFFICE
ATTN: MS. RONALD J. AMMERMAN
7825 BAY MEADOWS WAY, SUITE 100B
JACKSONVILLE, FL 32256-7504

(b) The contracting office is responsible for administering the contract and for taking any action on behalf of the Government under the terms and conditions of the contract; provided that the contracting office shall give advance notice to the SBA before it issues a final notice terminating performance, either in whole or in part, under the contract. The contracting office also shall coordinate with the SBA prior to processing any novation agreement. The contracting office may assign contract administration functions to a contract administration office.

(c) The Contractor agrees that--

(1) It will notify the Contracting Officer, simultaneous with its notification to the SBA (as required by SBA's 8(a) regulations at 13 CFR 124.308), when the owner or owners upon whom 8(a) eligibility is based plan to relinquish ownership or control of the concern. Consistent with Section 407, of Pub L, 100-656, transfer of ownership or control shall result in termination of the contract for convenience, unless the SBA waives the requirement for termination prior to the actual relinquishing of ownership and control; and

(2) It will not subcontract the performance of any of the requirements of this contract without the prior written approval of the SBA and the Contracting Officer.

(End of Clause)

252.236-7001 CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS AUG 2000

(a) The Government will provide to the Contractor, without charge, one set of contract drawings and specifications, except publications incorporated into the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall--

(1) Check all drawings furnished immediately upon receipt;

(2) Compare all drawings and verify the figures before laying out the work;

(3) Promptly notify the Contracting Officer of any discrepancies;

(4) Be responsible for any errors that might have been avoided by complying with this paragraph (b); and

(5) Reproduce and print contract drawings and specifications as needed.

(c) In general--

(1) Large-scale drawings shall govern small-scale drawings; and

(2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(d) Omissions from the drawings or specifications or the miss-description of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or miss-described details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the **Specifications* and the Contract Drawings**** identified on the following index of drawings:

***SEE: SPECIFICATIONS FOR KEESLER AIR FORCE BASE, MISSISSIPPI, PROJECT NUMBER: MAHG 02-2200, IDQ CONTRACT FOR SCREEN WALLS, FENCES, AND ENCLOSURES. PREPARED: 15 JANUARY 2002**

****SEE: *SECTION J. LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS, AT PAGE 26 OF 43 PAGES.**

(End of Clause)

252.243-7002 REQUESTS FOR EQUITABLE ADJUSTMENT (MAR 1998)

(a) The amount of any request for equitable adjustment to contract terms shall accurately reflect the contract adjustment for which the Contractor believes the Government is liable. The request shall include only costs for performing the change, and shall not include any costs that already have been reimbursed or that have been separately claimed. All indirect costs included in the request shall be properly allocable to the change in accordance with applicable acquisition regulations.

(b) In accordance with 10 U.S.C. 2410(a), any request for equitable adjustment to contract terms that exceeds the simplified acquisition threshold shall bear, at the time of submission, the following certificate executed by an individual authorized to certify the request on behalf of the Contractor:

I certify that the request is made in good faith, and that the supporting data are accurate and complete to the best of my knowledge and belief.

(Official's Name)

(Title)

(c) The certification in paragraph (b) of this clause requires full disclosure of all relevant facts, including--

(1) Cost or pricing data if required in accordance with subsection 15.403-4 of the Federal Acquisition Regulation (FAR); and

(2) Information other than cost or pricing data, in accordance with subsection 15.403-3 of the FAR, including actual cost data and data to support any estimated costs, even if cost or pricing data are not required.

(d) The certification requirement in paragraph (b) of this clause does not apply to----

(1) Requests for routine contract payments; for example, requests for payment for accepted supplies and services, routine vouchers under a cost-reimbursement type contract, or progress payment invoices; or

(2) Final adjustment under an incentive provision of the contract.

252.247-7023 TRANSPORTATION OF SUPPLIES BY SEA (MAY 2002)

(a) Definitions. As used in this clause --

(1) "Components" means articles, materials, and supplies incorporated directly into end products at any level of manufacture, fabrication, or assembly by the Contractor or any subcontractor.

(2) "Department of Defense" (DoD) means the Army, Navy, Air Force, Marine Corps, and defense agencies.

(3) "Foreign flag vessel" means any vessel that is not a U.S.-flag vessel.

(4) "Ocean transportation" means any transportation aboard a ship, vessel, boat, barge, or ferry through international waters.

(5) "Subcontractor" means a supplier, materialman, distributor, or vendor at any level below the prime contractor whose contractual obligation to perform results from, or is conditioned upon, award of the prime contract and who is performing any part of the work or other requirement of the prime contract.

(6) "Supplies" means all property, except land and interests in land, that is clearly identifiable for eventual use by or owned by the DoD at the time of transportation by sea.

(i) An item is clearly identifiable for eventual use by the DoD if, for example, the contract documentation contains a reference to a DoD contract number or a military destination.

(ii) "Supplies" includes (but is not limited to) public works; buildings and facilities; ships; floating equipment and vessels of every character, type, and description, with parts, subassemblies, accessories, and equipment; machine tools; material; equipment; stores of all kinds; end items; construction materials; and components of the foregoing.

(7) "U.S.-flag vessel" means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b)(1) The Contractor shall use U.S.-flag vessels when transporting any supplies by sea under this contract.

(2) A subcontractor transporting supplies by sea under this contract shall use U.S.-flag vessels if--

(i) This contract is a construction contract; or

(ii) The supplies being transported are--

(A) Noncommercial items; or

(B) Commercial items that--

(1) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it contracts for f.o.b. destination shipment);

(2) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(3) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(c) The Contractor and its subcontractors may request that the Contracting Officer authorize shipment in foreign-flag vessels, or designate available U.S.-flag vessels, if the Contractor or a subcontractor believes that --

(1) U.S.-flag vessels are not available for timely shipment;

(2) The freight charges are inordinately excessive or unreasonable; or

(3) Freight charges are higher than charges to private persons for transportation of like goods.

(d) The Contractor must submit any request for use of other than U.S.-flag vessels in writing to the Contracting Officer at least 45 days prior to the sailing date necessary to meet its delivery schedules. The Contracting Officer will process requests submitted after such date(s) as expeditiously as possible, but the Contracting Officer's failure to grant approvals to meet the shipper's sailing date will not of itself constitute a compensable delay under this or any other clause of this contract. Requests shall contain at a minimum --

(1) Type, weight, and cube of cargo;

(2) Required shipping date;

(3) Special handling and discharge requirements;

(4) Loading and discharge points;

(5) Name of shipper and consignee;

(6) Prime contract number; and

(7) A documented description of efforts made to secure U.S.-flag vessels, including points of contact (with names and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.

(e) The Contractor shall, within 30 days after each shipment covered by this clause, provide the Contracting Officer and the Maritime Administration, Office of Cargo Preference, U.S. Department of Transportation, 400 Seventh Street SW., Washington, DC 20590, one copy of the rated on board vessel operating carrier's ocean bill of lading, which shall contain the following information:

(1) Prime contract number;

(2) Name of vessel;

(3) Vessel flag of registry;

(4) Date of loading;

(5) Port of loading;

(6) Port of final discharge;

(7) Description of commodity;

(8) Gross weight in pounds and cubic feet if available;

(9) Total ocean freight in U.S. dollars; and

(10) Name of the steamship company.

(f) The Contractor shall provide with its final invoice under this contract a representation that to the best of its knowledge and belief--

(1) No ocean transportation was used in the performance of this contract;

(2) Ocean transportation was used and only U.S.-flag vessels were used for all ocean shipments under the contract;

(3) Ocean transportation was used, and the Contractor had the written consent of the Contracting Officer for all non-U.S.-flag ocean transportation; or

(4) Ocean transportation was used and some or all of the shipments were made on non-U.S.-flag vessels without the written consent of the Contracting Officer. The Contractor shall describe these shipments in the following format:

ITEM DESCRIPTION	CONTRACT LINE ITEMS	QUANTITY
TOTAL		

(g) If the final invoice does not include the required representation, the Government will reject and return it to the Contractor as an improper invoice for the purposes of the Prompt Payment clause of this contract. In the event there has been unauthorized use of non-U.S.-flag vessels in the performance of this contract, the Contracting Officer is entitled to equitably adjust the contract, based on the unauthorized use.

(h) In the award of subcontracts for the types of supplies described in paragraph (b)(2) of this clause, the Contractor shall flow down the requirements of this clause as follows:

(1) The Contractor shall insert the substance of this clause, including this paragraph (h), in subcontracts that exceed the simplified acquisition threshold in part 2 of the Federal Acquisition Regulation.

(2) The Contractor shall insert the substance of paragraphs (a) through (e) of this clause, and this paragraph (h), in subcontracts that are at or below the simplified acquisition threshold in part 2 of the Federal Acquisition Regulation.

(End of clause)

252.247-7024 NOTIFICATION OF TRANSPORTATION OF SUPPLIES BY SEA (MAR 2000)

(a) The Contractor has indicated by the response to the solicitation provision, Representation of Extent of Transportation by Sea, that it did not anticipate transporting by sea any supplies. If, however, after the award of this contract, the Contractor learns that supplies, as defined in the Transportation of Supplies by Sea clause of this contract, will be transported by sea, the Contractor --

(1) Shall notify the Contracting Officer of that fact; and

(2) Hereby agrees to comply with all the terms and conditions of the Transportation of Supplies by Sea clause of this contract.

(b) The Contractor shall include this clause; including this paragraph (b), revised as necessary to reflect the relationship of the contracting parties--

(1) In all subcontracts under this contract, if this contract is a construction contract; or

(2) If this contract is not a construction contract, in all subcontracts under this contract that are for--

(i) Noncommercial items; or

(ii) Commercial items that--

(A) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it subcontracts for f.o.b. destination shipment);

(B) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(C) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(End of clause)

5352.242-9000 CONTRACTOR ACCESS TO AIR FORCE INSTALLATIONS MAY 2002

(a) The contractor shall obtain base identification and vehicle passes for all contractor personnel who make frequent visits to or perform work on the Air Force installation(s) cited in the contract. Contractor personnel are required to wear or prominently display installation identification badges or contractor-furnished, contractor identification badges while visiting or performing work on the installation.

(b) The contractor shall submit a written request on company letterhead to the contracting officer listing the following: contract number, location of work site, start and stop dates, and names of employees and subcontractor employees needing access to the base. The letter will also specify the individual(s) authorized to sign for a request for base identification credentials or vehicle passes. The contracting officer will endorse the request and forward it to the issuing base pass and registration office or security police for processing. When reporting to the registration office, the authorized contractor individual(s) should provide a valid driver's license, current vehicle registration, valid vehicle insurance certificate, and I.D. Card to obtain a vehicle pass.

(c) During performance of the contract, the contractor shall be responsible for obtaining required identification for newly assigned personnel and for prompt return of credentials and vehicle passes for any employee who no longer requires access to the work site.

(d) When work under this contract requires unescorted entry to controlled or restricted areas, the contractor shall comply with AFI 31-209, the Air Force Resource Protection Program, and AFI 31-501, Personnel Security Program Management, as applicable.

(e) Upon completion or termination of the contract or expiration of the identification passes, the prime contractor shall ensure that all base identification passes issued to employees and subcontractor employees are returned to the issuing office.

(f) Prior to submitting an invoice for final payment, the prime contractor shall obtain a clearance certification from the issuing office which states all base identification passes have been turned in, accounted for, or transferred to a follow-on contract. This certification shall be submitted to the contracting officer prior to submission of the final invoice for payment.

(g) Failure to comply with these requirements may result in withholding of final payment.

(End of Clause)

SECTION J List of Documents, Exhibits and Other Attachments

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Attachment 1	USDOL General Wage Decision MS020027 Highway	03	01 Mar 02
Attachment 2	Specifications	35	15 Jan 02
Attachment 3	Reference Drawings No: MB-349	04	13 May 98
Attachment 4	Reference Drawings No: MB-317	03	23 Jun 92

Residential Fence Specifications:
Section 02830 -Ornamental Fences and Gates

PART 1 GENERAL

1. GENERAL

1.1 REFERENCES: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only. The latest edition of the publication shall be used.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM B 117-(1997)	Standard Practice for Operating Salt Spray (Fog) Apparatus
ASTM D 2247 (1999)	Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
ASTM D 3363 (2000)	Standard Test Method for Film Hardness by Pencil Test

This specification covers Residential Strength Aluminum Ornamental Fence as manufactured by Jerith Manufacturing Co., Inc., including sections, posts, gates, and accessories.

1.02 SUBMITTALS

A. Changes in specifications may not be made after the published date of bid. All submittals of substitutions must be approved before bid date.

B. Shop drawing of fences and gates with all dimensions, details, and finishes. Drawings must include post foundations.

C. Product data: Manufacturer's catalog indicating materials and a letter certifying that all conditions of the specifications have been met.

PART 2 PRODUCTS

2.01 Manufacturer:

The fencing system shall be Residential Strength Aluminum Ornamental Fence as manufactured by Jerith Manufacturing Co., Inc., 14400 McNulty Road, Philadelphia, PA 19154. (Telephone: 800-344-2242; Fax: 215-676-9756; email: sales@jerith.com.) **The fence shall be Jerith Style # 101, three rails with a picket length of 48 inches. The color of the fence system shall be Black.**

2.02 Materials:

A. Aluminum Extrusions: All posts and rails used in the fence system shall be extruded from HS-35TM aluminum alloy having minimum yield strength of 35,000 psi. All pickets shall have minimum yield strength of 25,000 psi. 6063- T5 Alloy is ~ acceptable for any components.

B. Fasteners: All fasteners shall be stainless steel. Square drive screws shall be used to connect the pickets to the horizontal rails. Rail to post connections shall be made using self-dril1ing hex-head screws.

C. Accessories: Aluminum sand and die-castings shall be used for all scrolls, post caps, finials, and miscellaneous hardware. Die-castings shall be made from Alloy 360.0 for superior corrosion resistance. Alloy 380.0 is acceptable.

2.03 Finish:

A. Pretreatment: A three-stage non-chrome pretreatment shall be applied. The first step shall be a chemical cleaning, followed by a water rinse. The final stage shall be a dry-in- place activator, which produces a uniform chemical conversion coating for superior adhesion.

B. Coating: Fence materials shall be coated with FencCoat™, a TGIC polyester powder-coat finish system applied by Jerith Manufacturing Company. Epoxy powder coatings, baked enamel or acrylic paint finishes are not acceptable. The FencCoat finish shall have a cured film thickness of at least 2.0 mils. In addition, the screw heads shall be painted to match the color of the fence.

C. Tests: The cured FencCoat finish shall meet the following:

1. Humidity resistance of 3,000 hours using ASTM D 2247.
2. Salt-spray resistance of 3,000 hours using ASTM B 117.
3. Accelerated weathering for 1,000 hours under Method 6152 of Federal Test Method 141 shall show no adhesion loss, with only slight fading, chalking and water staining.
4. Outdoor weathering shall show no adhesion loss, checking or crazing, with only slight fade and chalk when exposed for 3 years in Florida facing south at a 45-degree angle.
5. Minimum hardness of2H using ASTM D 3363.

2.04 Construction:

A. Horizontal rails shall be "I" channels formed in a modified *"V"* shape. Pickets shall pass through holes punched in the top of the rail. The top wall shall be .055" thick and the sidewalls .082" thick for superior vertical load strength. There shall be 3 horizontal rails (4 rails for 72" high fence) in each section.

B. Pickets shall be fastened to the rails using painted stainless steel screws. Screws shall be used on only one side of the rail, leaving the other side with a clean appearance. Pickets shall be 5/S" square and have a wall thickness of .050". Welding the pickets to the rails is not permitted.

C. Posts shall be 2" square extrusions with pre-punched holes, which allow the fence section rails to slide in. Posts shall be spaced *72 1/2"* on center and have .060" walls. Gateposts shall be [2" or 4"] square with .125" walls and used on both sides of a gate. Cast aluminum caps shall be provided with all posts.

D. Gates shall have welded frames and shall support a 250 lb. vertical load on the latch side of the gate without collapsing. Walk gates shall be self-closing and self-latching.

E. Assembled sections shall support a 300 lb. vertical load at the midpoint of any horizontal rail.

2.05 Warranty:

The entire fence system shall have a written Limited Lifetime Warranty against rust and defects in workmanship and materials. In addition, the FencCoat finish shall be warranted not to crack, chip, peel, or blister for the same period.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify areas to receive fencing are completed to final grades and elevations.

B. Properly lines and legal boundaries of work to be clearly established by the general contractor or property owner.

3.02 FENCE INSTALLATION

A. Install fence per manufacturer's recommendations.

B. Space posts uniformly at 8 ft center to center unless instructed otherwise.

C. Set posts in concrete. Dig holes having a diameter 4 times the diameter of the post and 6" (152 mm) deeper than the bottom of the post. Forms are not necessary or recommended. Crown concrete at top to shed water (except for tennis courts).

D. Check each post for vertical and top alignment.

E. Attach brackets using ¼" (6 mm) carriage bolts with lock nuts. Attach panels and place tops on bracket. Rivet top to bracket in 2 places to assure security.

3.03 INSTALL AND SECURE POST TOPS

3.04 CLEANING

A. Clean up debris and remove from the site.

SPECIFICATIONS

FOR

KEESLER AIR FORCE BASE, MISSISSIPPI

PROJECT: MAHG 02-2200

IDQ SCREEN WALLS, FENCES AND ENCLOSURES

PREPARED: 15 January 2002

KEESLER AIR FORCE BASE

CIVIL ENGINEER

PROJECT: MAHG- 02-2200

IDQ SCREEN WALLS/FENCES AND ENCLOSURES

I-N-D-E-X

GENERAL REQUIREMENTS SECTION 01000

STATEMENT OF WORK

PART-1 GENERAL

1.1 **SCOPE**: The work to be performed under this contract shall consist of providing all labor, transportation, materials, equipment and the performance of all work necessary to install screen walls, fences and enclosures at Keesler Air Force Base, Mississippi. All work shall be performed in strict accordance with the specifications and subject to the terms and conditions of the contract.

The term 'IDQ' shall be taken to mean 'requirements'.

1.2 **SITE CONDITIONS**: Before ordering materials the Contractor shall field examine and verify all existing conditions. The Contractor acknowledges satisfaction as to the nature and location of the work, the general and local conditions, access to the job site; disposal, handling, and storage of materials; availability of labor, water, electric power or similar physical conditions at Keesler AFB; the character of equipment and facilities needed preliminary to and during the performance of the work; and all other matters that can in any way affect the work or the cost thereof under this contract.

Before starting a section of work, the responsible Contractor and/or his subcontractor(s) shall carefully examine the preparatory work that has been executed to receive his work to see that it has been completed to ensure that his work and adjacent related work will finish to proper quality, contours, planes and levels.

1.3 **DRAWINGS**: Drawings which show the required changes to the existing systems are included with this Statement of Work (SOW). The drawings indicate the location, nature, and general scope of the work. Work shown on the Drawings is intended to be descriptive and may not be an exact and complete representation of the actual finished work. The drawings are made to small scale, necessitating the omission of minor details. The drawings indicate typical and/or normal construction details. The drawings may need to be modified to suit actual field conditions.

All questions regarding the drawings shall be addressed to the Contracting Officer or his designated representative. The Contractor shall verify all dimensions and elevations indicated for both existing and new work, and shall notify the Contracting Officer of any discrepancies between drawings, specifications and existing conditions before performing the work. Failure to make such notification shall not release the Contractor from his responsibility to carry out all work in a satisfactory, workmanlike manner.

1.4 **SPECIFICATIONS**: Any work that is necessary or required to make each installation complete and operable for its intended purpose, even though it is not specifically included in the Specifications or on the Drawings, shall be performed as incidental work as if it were described in the Specifications and shown on the Drawings. All accessories or incidental items not specifically shown and detailed in the specifications herein, which are necessary and/or required to complete the work within the intent of the specifications, shall be included by the Contractor without additional cost to the Government.

1.4.1 MEANING OF TERMS: Specifications are often written in the imperative mood. In sentences using the imperative mood, the subject, "the Contractor", is implied. Also implied in this language is "shall", "shall be", or similar words and phrases. In material specifications, the subject may also be the supplier, fabricator, or manufacturer supplying material, products, or equipment for use on the project.

Wherever "directed", "required", "prescribed", or other similar words are used, the "direction", "requirement", or "order" of the Contracting Officer is intended. Similarly, wherever "approved", "acceptable", "suitable", "satisfactory", or similar words are used, the words mean "approved by", "acceptable to", or "satisfactory to" the Contracting Officer.

In each standard referred to herein, consider the advisory provisions to be mandatory, as though the word "shall" has been substituted for "should" wherever it appears. Interpret references in these standards to "authority having jurisdiction," or words of similar meaning, to mean Contracting Officer.

1.5 **SUBMITTALS**: Within fifteen (10) days after Award and before starting material installation, the Contractor shall submit to the Contracting Officer for approval four certified copies of each

submittal as specified in each section of these specifications. The Contracting Officer may limit submittals to those necessary for adequate quality control.

No product shall be installed prior to the approval of its respective submittal document. Each submittal item shall include the manufacture's cut sheet showing all salient qualities of the items specified. The Contractor shall highlight the pertinent qualities with a brightly colored transparent marker.

1.6 **QUALITY ASSURANCE**: Specifications and Drawings establish performance and quality requirements, location and general arrangement of materials and equipment, and minimum standards for quality of workmanship and appearance.

Perform work and provide material that is uniform in character and reasonably close to the prescribed value or within the specified tolerance range.

1.6.1 ACCEPTANCE OF WORK: References to standard test methods of ASTM, and other recognized standards authorities refer to the methods in effect on the date of solicitation for bids.

The Contracting Officer will delegate authority to representatives to decide on acceptability of work, progress of work, suspension of work, interpretation of the contract, and acceptable fulfillment of the contract. The term "Contracting Officer" includes all authorized representatives of the Contracting Officer, including inspectors, acting within the limits of their authority as delegated by the Contracting Officer.

The Government may inspect, sample, or test all work at any time before final acceptance of the project. Work that does not conform to the contract, or to prevailing industry standards where no specific contract requirements are noted, shall be removed and replaced at no cost to the Government.

1.6.2 WORKMANSHIP Materials and equipment shall be installed by professional workmen skilled in the trade involved. All work shall be performed in a workman like manner in accordance with the manufacturers recommendations, as well as applicable Code requirements.

1.6.3 MATERIAL All material furnished by the Contractor for this job shall be new, unused material of high quality. Do not incorporate material requiring submittal into the work until approved.

1.6.3.1 CERTIFICATION OF COMPLIANCE: Provide material from a manufacturer with an effective testing and inspection system. Require the manufacturer to furnish documentation of the testing and inspection system with a Certificate of Compliance that states the work complies with all contract requirements.

1.7 **PAYMENT AND MEASUREMENT**: Quantities for payment for all work and materials complete and in place on this project shall be at the respective unit price as shown on the Bid Schedule and/or as described in these specifications. Payment shall include the cost of all labor, materials, the use of all equipment and tools, the furnishing of all testing, and incidentals necessary to complete the work, as specified and as shown.

1.8 **NOTIFICATION**: The Contractor shall submit to the Contracting Officer in writing, his proposed work plan.

1.8.1 COORDINATION WITH OTHER ACTIVITIES: Coordination of all activities shall be performed by the Government at no additional cost to the Contractor, provided that the Contractor has properly submitted his work schedule and it has been approved.

1.9 **CONTRACTOR ACCESS AND USE OF PREMISES**: The Contractor is on notice that the work will be performed within occupied areas. The performance of work shall be coordinated with the residents, the Contracting Officer and the Base Civil Engineer. Conduct operations in such a manner as to cause the least possible interference with the regular routine of the residents of these areas. Work shall be accomplished in such a manner that the egress to facilities shall be maintained. The Contractor shall confine and limit his personnel to only those areas required to perform the work.

1.9.1 WORKING HOURS: Normal base working hours are from 7:00 a.m. to 4:45 p.m. each normally scheduled work day. Normally scheduled weekly work days adhere to the base compressed work week schedule. This schedule is based on one week of four 9-hour days and one non-work day followed by a second week of four 9-hour days and one 8-hour day as

specifically described below. The sequence of these weeks follows the normal weekly pay schedule for Keesler civilian employees. No work shall be accomplished outside of the normal base working hours, on weekends or on federal holidays without the prior written approval of the Contracting Officer. However, the Contracting Officer may require certain work to be performed outside of normal working hours as special requirements dictate. Normal base working hours follow the Compressed Work Schedule. For the purpose of this contract, the normal base working hours are as described in the table below. The two week cycle is repetitious with the non work Friday coinciding with the normal civilian pay day.

Sunday - non work day	Sunday - non work day
Monday - 700 a.m. to 445 p.m.	Monday - 700 a.m. to 445 p.m.
Tuesday - 700 a.m. to 445 p.m.	Tuesday - 700 a.m. to 445 p.m.
Wednesday - 700 a.m. to 445 p.m.	Wednesday - 700 a.m. to 445 p.m.
Thursday - 700 a.m. to 445 p.m.	Thursday - 700 a.m. to 445 p.m.
Friday - non work day	Friday - 700 a.m. to 345 p.m.
Saturday - non work day	Saturday - non work day

The following are legal holidays

New Year's Day
Martin Luther King, Jr.'s Birthday - Third Monday in January
President's Day - Third Monday in February
Memorial Day - Last Monday in May
Independence Day
Labor Day - Second Monday in September
Columbus Day - Second Monday in October
Veteran's Day
Thanksgiving Day
Christmas Day

1.9.2 WORK OUTSIDE REGULAR HOURS: Work outside regular working hours requires Contracting Officer approval. Provide written request five (5) calendar days prior to such work to allow arrangements to be made by the Government for inspecting the work in progress.

1.9.3 MAINTENANCE OF TRAFFIC: Streets are in use, and the Contractor shall coordinate his work schedule with the Contracting Officer and Security Police prior to commencing work so that interference with traffic will be held to a minimum during accomplishment of the contract. Work performed under this contract shall be planned to minimize disruption to normal traffic flow. Partial or complete interruption to normal traffic flow shall be approved by the Contracting Officer. Barricades shall be utilized where necessary to properly route vehicular or pedestrian traffic. All signs and barricades shall conform to the "Manual of Uniform Traffic Control Devices for Streets and Highways", 1971 Edition.

1.9.4 MATERIAL DELIVERY & STORAGE: The Contractor may request approval for an open-air storage area on Base for storage of materials and equipment provided that such a space is available. The Contractor shall have all materials for his work delivered during normal working hours or he shall have a representative present to receive shipments which arrive after normal working hours. Materials are to be stored only in areas designated by the Contracting Officer. Materials shall be stacked off the ground and protected in a manner to prevent damage from exposure to the elements and construction operations.

1.9.4.1 TRAILERS: Contractor shall be responsible for storing and protection of materials during course of installation.

1.9.4.2 APPEARANCE OF TRAILERS: All temporary construction facilities including trailers shall conform to the Base color scheme. Color shall be approved by the Contracting Officer. Trailers utilized by the Contractor for administrative or material storage purposes shall present a clean and neat exterior appearance and shall be in a state of good repair. Trailers which, in the opinion of the Contracting Officer, require exterior painting or maintenance will not be allowed on the military property.

1.9.5 INTERRUPTION OF EXISTING UTILITIES SERVICES: The Contractor shall perform the work under this contract with a minimum of outage time for all utilities. In some cases, the Contractor

may be required to perform the work while the existing utility is in service. The existing utilities services may be interrupted only when approved by the Contracting Officer in writing at least seven (7) days in advance of the time he desires the existing service to be interrupted.

1.9.6 TEMPORARY UTILITIES: All reasonable amounts of electricity and water required for the completion of this project will be furnished to the Contractor without charge from existing system outlets and supplies. If electricity is not available on the site, the Contractor shall provide and install a temporary service pole. The government will provide power to the pole and it shall be the Contractor's responsibility to provide the lines from the pole to a convenient location on the site. If water is not available on the site, it shall be the Contractor's responsibility to connect into an existing line and provide a carrying system to the site. All wiring shall be in accordance with the National Electrical Code. NEC rules concerning temporary services shall be fully complied with. All connection locations, methods, and material shall be at the direction of the Contracting Officer. The Contractor shall further be responsible for the removal of any temporary utility system upon contract completion.

1.9.7 TEMPORARY SANITATION: Sanitation facilities will not be provided by the Government. The Contractor shall provide and maintain within the construction area minimum field-type sanitary facilities approved by the Contracting Officer. The Contractor will provide maintenance, transportation to and from job site, secure placement of unit so as not to obstruct normal public activity, and unit clean-out. The type units provided, the placement location(s) and the color shall be as approved by the Contracting Officer. Units shall be kept clean and sanitized to prevent objectionable odors. The facility location(s) shall be as approved by the Contracting Officer.

1.10 **PROTECTION OF PROPERTY**: For any work performed in close proximity to Government and private property the Contractor shall utilize every precaution to protect existing facilities, houses, adjacent structures, pavements, occupants' belongings, utility lines, and other structures from damage resulting from work on this contract.

1.10.1 PRECAUTIONS: Damage to existing facilities resulting from work on this contract shall be satisfactorily repaired, replaced, and left in their original state by the Contractor at no additional cost to the Government. All repair work shall be subject to the approval of the Contracting Officer, and shall be accomplished within seven (7) calendar days of the occurrence. Repairs necessary for security or safety will be accomplished immediately. Contractor shall be responsible for cleaning and restoring to its original condition all property affected by work on this contract. Replacement materials and methods of installation shall match existing conditions.

1.10.2 PROTECTION OF LANDSCAPE AND NATURAL RESOURCES: Within all assigned areas, the Contractor shall exercise all reasonable care to protect all trees, shrubbery, gardens, and grass areas from damage. The Contractor shall restore each to their original condition upon completion of the work at no additional cost to the Government. The Contractor shall not drive vehicles on turf without specific approval from the Contracting Officer.

Turf shall be repaired with sod only. Seeding shall not be acceptable.

Damage to turf shall be defined as any rutting; "dead" areas caused by storage of equipment, materials or similar items, and/or cleaning solutions; and divots or gouges.

1.10.3 EXISTING WORK: The Contractor shall remove or alter existing work in such a manner as to prevent injury or damage to any portions of the existing work which remain. The Contractor shall repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as approved by the Contracting Officer. At the completion of operations, existing work shall be in a condition equal to or better than that which existed before new work started.

1.10.3.1 DOCUMENTATION OF EXISTING CONDITIONS: The Contractor shall document the current condition at the start of work of all properties associated with or adjacent to the required construction. This shall be accomplished before the start of any Contractor activity.

1.11 **WORKING CONDITIONS**

1.11.1 SAFETY: The Contractor shall conform to base regulations and directives pertaining to security, safety, traffic, fire, and personnel clearances, insofar as they pertain to the

Contractor's activities as directed by the Contracting Officer. The Contractor shall be responsible for developing a site-specific Safety Plan for his operations in accordance with rules and regulations of Federal, State, and local safety and health officials. The Contractor shall take all necessary and prudent safety precautions to ensure the safety of the public, the workforce and other exposed personnel.

The Contractor shall be responsible for providing and placing all barricades, lighting, and safety devices during any of his activities. All construction equipment shall have back-up beepers to warn anyone in the construction areas that a vehicle is in the process of backing.

1.11.2 SEVERE WEATHER WARNING REQUIREMENTS: When notified by the Contracting Officer that a severe weather warning has been issued for the area in which construction is being performed, the Contractor shall immediately take action to tie down, or otherwise secure, structures, material, and equipment on the job site that could become missiles as a result of strong surface winds, thunderstorms, or other weather-related conditions. These requirements are applicable twenty-four (24) hours a day, seven (7) days a week.

1.11.2.1 STORM PROTECTION: When a warning of gale force winds is issued, the Contractor shall take precautions to minimize danger to persons, and protect the work and nearby Government property. These precautions shall be coordinated through the Contracting Officer and shall include closing all openings; removing loose materials, tools and equipment from exposed locations; and removing or securing scaffolding and other temporary work. Close openings in the work when storms of lesser intensity pose a threat to the work or any nearby Government property.

1.11.3 LIST OF CONTACT PERSONNEL: The Contractor shall furnish to the Contracting Officer a list of contact personnel of the Contractor and subcontractors including addresses and telephone numbers for use in the event of an emergency. As changes occur and additional information becomes available the Contractor shall correct and change information contained in previous lists.

1.11.4 HAZARDOUS ELECTRICAL EXPOSURE: The work to be performed under this contract involves potential exposure to high voltage electrical circuits which require extreme care in handling and a high level of personnel expertise. Only well qualified workmen will be assigned to the tasks and all safety precautions will be taken to prevent accidents to personnel and equipment.

1.12 **DEBRIS**: All debris generated as a result of work on this project shall become the property of the Contractor unless specifically exempt in the specifications and/or drawings, and shall be disposed of by the Contractor outside the limits of Keesler Air Force Base. It shall be the Contractor's responsibility to dispose of said debris in a manner meeting with the minimum requirements of federal, state, and local regulation with respect to environmental protection.

1.12.1 EXCAVATED MATERIALS: The Government will retain the option to keep all excavated materials, topsoil and broken concrete (riprap). If, upon inspection by the Contracting Officer, these materials are determined to be suitable, the Contractor shall load, haul and deliver to a storage location on Keesler Air Force Base. The Contractor shall not be responsible for stockpiling or moving the material at the storage location.

1.13 **CLEAN UP**: The Contractor will take precautions to maintain cleanliness at all areas involved in the project. The Contractor shall be responsible for the removal of all dunnage, refuse, and debris resulting from their operations from the site. Contractor shall protect areas not under restoration from the spread of any dirt, dust, or other debris caused by the work in this contract. The Contractor shall at the close of each day of work, execute cleaning work, so no hazards are left in the general construction area.

1.14 **HAZARDOUS MATERIAL**: Because of the general nature of the requirements, hazardous materials may be used by the Contractor on his contract. Because of the potentially dangerous nature of these materials, the Contractor shall take adequate precautions to protect personnel and property from injury or damage from all hazardous materials used on this contract.

1.14.1 SPILLAGE: At all times, special measures shall be taken to prevent paints, chemicals, fuels, oils, etc., from being spilled and particularly from entering surface or groundwater. In the event of a paint, fuel, oil, or chemical spill the Contractor shall immediately take containment measures to prevent the spill from migrating and/or entering the base drainage system. Spill residue shall be disposed of off base. Also all spills shall be reported as soon as possible to the Contracting Officer.

1.15 **ENVIRONMENTAL PROTECTION REQUIREMENTS**

1.15.1 APPLICABLE REGULATIONS: The Contractor shall plan for and provide environmental protective measures to control pollution that develops during normal construction practice. The Contractor shall comply with the applicable Federal, state, and local regulations pertaining to the environment, including but not limited to water, air, and noise pollution in effect on the date of the invitation for bids.

1.16 **AS-BUILT RECORD DRAWINGS**: The Contractor shall maintain a record of all changes and variations made during the course of the work. These record drawings shall be maintained and updated by the Contractor for the purpose of recording alterations to the contract drawings. Two sets of prints will be provided to the Contractor for this purpose. Changes shall be marked with red pencil. The 'As-Built' changes shall be recorded accurately, with written notes as necessary for clarification. Care shall be taken in handling of these records to prevent tears or other physical defects that will prevent or impair the duplication of these records.

At the end of the project, the Contractor shall provide two complete sets of 'As-Built' drawings for all work included under this contract. These drawings shall be turned over to the Contracting Officer at least one week prior to the final inspection of work.

1.17 STIPULATION Because of other work being accomplished on the base by other construction contracts in house work order or self help work orders, you may not get all of the work exclusively.

END OF SECTION 01000

SECTION 01300
SUBMITTALS

1. GENERAL

1.1 **GENERAL**: The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Proposed deviations from the contract requirements shall be clearly identified.

Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby.

Approval of a separate material, product, or component does not imply approval of assembly in which the item functions.

1.2 **APPROVED SUBMITTALS**: Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.3 **DISAPPROVED SUBMITTALS**: The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the Contracting Officer.

1.4 **SUBMITTAL DESCRIPTIONS**: The submittals described below are those required and further described in other sections of the specifications. Other requirements pertaining to submittals are included in the SPECIAL CLAUSES. Submittals required by the CONTRACT CLAUSES and other non-technical parts of the contract are not included in this section.

1.4.1 SD-02, MANUFACTURER'S CATALOG DATA: Data composed of catalog cuts, brochures, circulars, specifications and product data, and printed information in sufficient detail and scope to verify compliance with requirements of the contract documents.

1.4.2 SD-04 DRAWINGS: Submittals which graphically show relationship of various components of the work, schematic diagrams of systems, details of fabrication, layouts of particular elements, connections, and other relational aspects of the work. Detail drawings in sufficient detail to enable the Government to check conformity with the requirements of the contract documents.

1.4.3 SD-06 INSTRUCTIONS: Preprinted material describing installation of a product, system or material, including special notices and Material Safety Data Sheets, if any, concerning impedances, hazards, and safety precautions.

1.4.4 SD-13 CERTIFICATES: Statement signed by responsible official of a manufacturer of a product, system or material, attesting that the product, system or material meets specified requirements. The statement must be dated after the award of this contract, must name the project, and must list the specific requirements which are being certified.

1.4.5 SD-14 SAMPLES: Samples, including both fabricated and unfabricated physical examples of materials, products, and units of work as complete units or as portions of units of work.

1.4.6 SD-15 COLOR SAMPLES: Samples of the available choice of colors, textures, and finishes of a product or material, presented over substrates identical in texture to that proposed for the work.

1.4.7 SD-18 RECORDS: Documentation to ensure compliance with an administrative requirement or to establish an administrative mechanism.

- END OF SECTION 01300 -

SECTION 02110
CLEARING AND SITE DEMOLITION

1. **GENERAL**

This guide specification covers the requirements for furnishing all labor and equipment and performing all work required for clearing shrubs, fringe growth along roads and fences, clearing fences, the removal of asphalt and concrete, and disposal of debris, trash, and materials resulting from clearing operations.

1.1 **REFERENCES**: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only. The latest edition of the publication shall be used.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A10.6 (1990) Safety Requirements for Demolition

CORPS OF ENGINEERS (COE)

COE EM-385-1-1 (1992) Safety and Health Requirements Manual

MISSISSIPPI STANDARD SPECIFICATIONS (MSS)

Standard Specifications for Road and Bridge Construction, 1990 Edition

1.2 **PAYMENT**: Payment items for the work of this contract on which the contract unit price payments will be made are listed in the Bid Schedule. The costs associated with removing top soil, excavating foundations, grading surrounding areas, and overall site restoration do not have specific unit costs in the Bid Schedule and therefore should be included in the overall price of the work.

1.2.1 FENCE REMOVAL: The Contractor shall remove existing wooden/chain-link fencing as stipulated by the Contracting Officer. Payment for this work shall be at the respective unit price as shown on the Bid Schedule.

1.2.2 PAVEMENT REMOVAL: The Contractor shall remove existing concrete and/or asphalt in order to complete the work under this contract. This work shall be accomplished as specified herein. Payment for the removal and replacement of asphalt and concrete will be made in accordance with unit costs in the Bid Schedule.

2. **PRODUCTS** (Not Applicable)

3. **EXECUTION**

3.1 **SPECIAL REQUIREMENTS**: During the course of work, it may be required for the Contractor to remove existing vegetation, fences, concrete and asphalt in order to complete work under this contract.

3.2 **PREPARATION**

3.2.1 PROTECTION: The Contractor shall verify that existing plant life designated by the Contracting Officer to remain within the area specified for clearing, is tagged or otherwise identified. Trees and vegetation to be left standing shall be protected from damage incident to clearing, and construction operations by the erection of barriers or by such other means as the circumstances require.

3.3 **ASPHALT AND CONCRETE**

3.3.1 REMOVAL: Existing asphalt and concrete removed under this contract shall be saw-cut a minimum of 1-½ inches deep to assure that adjacent asphalt and concrete is not disturbed.

3.3.2 REPLACEMENT: Asphalt shall be replaced in accordance with the Mississippi Standard Specifications for Road and Bridge Construction, 1990 Edition. Concrete replacement shall be in accordance with specification Section 03300, “Cast In Place Concrete”.

3.4 **FENCES**: All fences requiring removal will be stipulated on an individual order basis. Removal shall consist of complete removal of all gates, fencing, posts, etc., and filling all consequential holes.

3.5 **DISPOSAL OF MATERIAL**: The material cleared from the areas shall be completely removed by transporting from the Government property

3.5.1 BURNING: Burning will not be permitted.

END OF SECTION 02110

1. HOLLOW CLAY BRICK: Brick shall conform to ASTM C 62 and ASTM C 216, Tri-State #461B, Velour, smooth.

2. Finishes ********** NOTE: The types of possible finishes for precast concrete faces are virtually limitless. The requirements for the project will be specified in this paragraph. Some of the most common finishes are as follows: a. As cast finishes: (1) Smooth as cast-produced using smooth, nonporous forms. (2) Textured as cast-produced using fluted, sculptured, board finish or textured form liners. b. Mechanically textured finishes: (1) Sandblasted concrete finishes: (a) Brush - remove sheen from plastic, high density, or metal forms; no reveal. (b) Light - provide a 0+2 mm (0+1/16 inch) reveal of coarse aggregate and uniform color. (c) Medium - provide a 3 mm (1/8 inch) to 6 mm (1/4 inch) reveal of coarse aggregate. (d) Heavy - provide a reveal of 13 mm (1/2 inch) to 1/3 (1/3) of the diameter of the coarse aggregate. (2) Bush hammered concrete finish - produced by pneumatic tools fitted with a bush hammer, comb, chisel, or multiple pointed attachment to remove approximately 5 mm (3/16 inch) of material (3) Water jet finish - produced by applying even coat of retardant to face of form, removing form after concrete hardens and providing a reveal 1/3 to 1/2 the diameter of coarse aggregate by washing away surface mortar with water. (4) Manual brush finish - produced by applying even coat of retardant to face of form, removing form after concrete hardens and providing a reveal of 1/3 to 1/2 the diameter of coarse aggregate by brushing away surface mortar. (5) Fractured fin of rib - produced by manual hammering of the rib at designated intervals and alternating directions. c. Acid etch finish - produced by treating the surface of unit with brushes which have been immersed in acid solution. Surface sealers or coatings are generally not recommended. The designer should consult ACI 303 and PCI Mnl-117 before specifying sealers or coatings.

3.

4. GATE OPERATOR Electric gate operators for sliding gates shall be as follows: Electrical gate operators shall have a right angle gearhead instantly reversing motor with magnetic drum-type brake, friction disc clutch, reversing starter with thermal overload protection, and a chain-driven geared rotary-type automatic limit switch. Gears shall consist of a hardened steel machine cut worm and mating bronze gear. All gears and bearings shall operate in a bath of oil. Gate operators with V-belt pulleys will not be allowed. Gate operators shall be equipped with an emergency release to allow the gate to be operated manually. The emergency release mechanism shall be capable of being locked in the engaged or disengaged position. Positive stops shall be provided on the gate tracks as a backup to the limit switches.

1.2 EXISTING FENCE Removal of refuse and disposal of existing fencing shall be as indicated and as specified in Section 02110, "Clearing and Site Demolition."

3.1.3 FOOTING SIZE: Use footing depth of 36 inches below finished grade for posts supporting wire rope, line, terminal, and gate posts. For terminal posts, gate posts, and posts supporting wire rope, footings shall be 1 foot 4 inches in diameter. For line post, footings shall be 10 inches in diameter. Footings shall be level with grade and will be dome shaped to facilitate water runoff.

Standard Practice for F969-96 Construction of Chain-Link Tennis Court Fence

1. Scope 1.1 This practice covers fencing around tennis courts, built from various types of chain-link fabric and framework materials, and installation practices for same. 1.2 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Standard Specification for A641-92 Zinc-Coated (Galvanized) Carbon Steel Wire , 1. Scope 1.1 This specification covers soft, medium, and hard temper zinc-coated (galvanized) carbon steel wire in coils for general use. Note 1-This specification is the companion to metric Specification A641M; therefore, no metric equivalents are shown in this specification.1.2 The

supplementary requirements of this specification cover zinc coating weights for nails, staples, and wire from which nails and staples are cut and formed.

Standard Specification for A789/A789M-95 Seamless and Welded Ferritic/Austenitic Stainless Steel Tubing for General Service , 1. Scope 1.1 This specification covers grades of nominal wall thickness, stainless steel tubing for services requiring general corrosion resistance, with particular emphasis on resistance to stress corrosion cracking. These steels are susceptible to embrittlement if used for prolonged periods at elevated temperatures.Note 1-For tubing smaller than 1/2 in. [12.7 mm] in outside diameter, the elongation values given for strip specimens in Table 1 shall apply. Mechanical property requirements do not apply to tubing smaller than 1/8 in. [3.2 mm] in outside diameter or with walls thinner than 0.015 in. [0.4 mm].1.2 The values stated in either inch-pound units or SI units are to be regarded separately as standard. Within the text, the SI units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other. Combining values from the two systems may result in nonconformance with the specification. The inch-pound units shall apply unless the "M" designation of this specification is specified in the order.

Standard Specification for F1083-96 Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures , 1. Scope 1.1 This specification covers hot-dipped galvanized welded steel pipe in NPS (see Note 1) to NPS 8, inclusive, with nominal (average) wall thickness as given in Tables 1 and 2. Pipe having other dimensions (see Note 2) may be furnished provided such pipe complies with all other requirements of this specification. Pipe ordered under this specification is intended for use as a structural support for fencing as cited in Specification F 1043, Group 1A. This specification parallels Specification A 53 with the exception of hydrostatic testing.Note 1-The dimensionless designator NPS (nominal pipe size) has been substituted in this specification for such traditional terms as nominal diameter, size, and nominal size. Note 2-A comprehensive listing of standardized pipe dimensions is contained in ANSI B36.10. 1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

Standard Specification for A116-95 Zinc-Coated (Galvanized) Steel Woven Wire Fence Fabric , 1. Scope 1.1 This specification covers zinc-coated steel fence fabric suitable for such uses as farm-field, railroads, and highway right-of-way and similar fencing, having a series of horizontal (line) wires with vertical (stay) wires woven or wrapped around the line wires, forming rectangular openings. This specification covers various fabric designs, three tensile strength grades, and appropriate zinc coating weight classifications for woven wire fence fabric.1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

Standard Specification for F626-96a Fence Fittings , 1. Scope 1.1 This specification covers the materials, coating requirements, and inspection of fence accessories for chain-link fence for the following:1.1.1 Post and line caps,1.1.2 Rail and brace ends,1.1.3 Top rail sleeves,1.1.4 Tie wires, clips, and fasteners,1.1.5 Tension and brace bands,1.1.6 Tension bars,1.1.7 Truss rod assembly,1.1.8 Barbed wire arms, 1.1.9 Color coating of fittings, and 1.1.10 Fitting size terminology.1.2 The values stated in inch-pound units are to be regarded as the standard. The SI values given in parentheses are for information only.

FS RR-F-191/1 (Rev. D) Fencing, Wire and Post, Metal (Chain-Link Fence Fabric)
FS RR-F-191/2 (Rev. D) Fencing, Wire and Post, Metal (Chain-Link Fence Gates)
FS RR-F-191/3 (Rev. D) Fencing, Wire and Post, Metal (Chain-Link Fence Posts, Top Rails and Braces)
FS RR-F-191/4 (Rev. D) Fencing, Wire and Post, Metal (Chain-Link Fence Accessories)

1. FENCE HEIGHT shall be seven foot minimum height chain link.

Standard Specification for A824-95 Metallic-Coated Steel Marcelled Tension Wire for Use With Chain Link Fence 1. Scope 1.1 This specification covers metallic-coated carbon steel marcelled tension wire for use with chain-link fence. Three types of coatings are covered: 1.1.1 Type I -Aluminum-coated (aluminized), and 1.1.2 Type II -Zinc-coated (galvanized). 1.1.3 Type III -Zinc-5% Aluminum Mischmetal (Zn5Al-MM) alloy-coated. 1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

Standard Specification for A585-92 Aluminum-Coated Steel Barbed Wire , 1. Scope 1.1 This specification covers aluminum-coated steel barbed wire consisting of a strand of two wires, coated before fabrication, with 4-point barbs of either aluminum-coated steel or aluminum alloy. A choice of two types is provided, as designated by the spacing of the barbs (see 3.1). 1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

Standard Specification for A121-92a Zinc-Coated (Galvanized) Steel Barbed Wire 1. Scope 1.1 This specification covers zinc-coated steel barbed wire, consisting of a strand of two wires, 80 rods in length, in a number of sizes and constructions. It is furnished in two grades and with two classes (weights) of zinc coating (Section 6). 1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

Standard Specification for F668-96 Poly(Vinyl Chloride) (PVC)-Coated Steel Chain-Link Fence Fabric,1. Scope 1.1 This specification covers poly(vinyl chloride)-coated steel chain-link fabric, coated before weaving. Poly(vinyl chloride) hereinafter will be designated PVC. 1.2 Fabric produced from three classes of wire coatings are covered as follows: 1.2.1 Class 1 consists of PVC coating extruded over zinc-coated, aluminum-coated, or zinc-5% aluminum-mischmetal alloy-coated steel wire. 1.2.2 Class 2a consists of PVC coating extruded and adhered to zinc-coated, aluminum-coated, or zinc-5% aluminum-mischmetal alloy-coated steel wire. 1.2.3 Class 2b consists of PVC coating fused and adhered to zinc-coated, aluminum-coated, or zinc-5% aluminum-mischmetal alloy-coated steel wire. 1.3 The values stated in inch-pound units are regarded as the standard. The values given in parentheses are provided for information only.

Standard Specification for A392-96 Zinc-Coated Steel Chain-Link Fence Fabric,1. Scope 1.1 This specification covers zinc-coated steel chain-link fence fabric, zinc coated either before or after weaving. 1.2 The values stated in inch-pound units are to be regarded as the standard.

Standard Specification for F1184-94 Industrial and Commercial Horizontal Slide Gates , 1. Scope 1.1 This specification covers detailed requirements for cantilever and overhead slide chain link fence gates, gate posts, and accessories for industrial and commercial applications. 1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

Standard Specification for F900-94 Industrial and Commercial Swing Gates , 1. Scope 1.1 This specification covers detailed requirements for chain link fence gates, gate posts and accessories for both single and double swing-type gates for industrial and commercial application.

Standard Specification for A824-95 Metallic-Coated Steel Marcelled Tension Wire for Use With Chain Link Fence , 1. Scope 1.1 This specification covers metallic-coated carbon steel marcelled tension wire for use with chain-link fence. Three types of coatings are covered:1.1.1 Type I -Aluminum-coated (aluminized), and1.1.2 Type II -Zinc-coated (galvanized). 1.1.3 Type III -Zinc-5% Aluminum Mischmetal (Zn5Al-MM) alloy-coated.1.2 The

values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information on

Product Classification: 02830 Sweet's Catalog Code: 02830/ORS BuyLine 7407 Ametco Manufacturing Corp. 4236 Hamann Parkway Willoughby, OH 44094 Tel:800-321-7042 216-951-4300 Fax: 216-951-2542 PP-PRODUCT PRESENTATION The ideal complement to Orsogril fencing is the Ametco Gate System. It provides all the Orsogril® advantages of being practical, sturdy, beautiful, durable and visually harmonious. The frame is constructed using welded steel tubing which is lightweight, strong and rigid. These frames are then combined with Orsogril® fencing panels to form the V-Wheel Roller Gate. These assemblies are galvanized and can be finished using thermohardening powder coatings. This superior finishing system virtually eliminates corrosion and maintenance problems. V-Wheel Roller Gates can be designed using any of the 5 standard Orsogril® styles. Gates can be designed for use independently of Orsogril® fencing. Ametco's V-Wheel Roller Gates are supplied ready for manual operation. Electric operator systems, not furnished by Ametco, may be incorporated. Contact Ametco for assistance in designing and specifying electrically operated V-Wheel Roller Gates. Orsogril® is electro-forge welded steel panel material that is galvanized and powder polyester-coated. Exterior applications should be hot-dip galvanized and then powder-coated if required. The Orsogril® panels use steel bars with a yield strength of 36,000 psi and a tensile strength of 50,000 psi. Yield and tensile strengths for posts are similar to the values for steel bars used in the panels. V-Wheel Roller Gates These rolling gates are supported by V profile wheels that engage a special V profile steel track set into concrete. Wheels may be steel or plastic. For stability, horizontally mounted guide rollers engage the top framing member of the gate. Ametco supplies these gates with V-Wheels, track, posts and guide wheels. Frame sizes, roller diameters and other details are shown on the "CAD Details for Ametco Gates" screen. V-Wheel Roller Gates can be supplied with single or dual wheels. Single wheels are used with gates up to 15' wide and 600 lbs. in weight. Dual wheels are used for added stability in all gate sizes and for larger units. Plastic wheels may be specified for units less than 600 lbs. in weight. Contact Ametco for assistance in selecting the optimum wheel configuration and material for your project. The steel guide tracks are mounted with countersunk fasteners directly to concrete. Tracks are supplied for either single or dual wheels and can be surface or recessed mounted. To review track details, please refer to the "CAD Details for Ametco Gates" screen. Concrete used for track mounting must be "level" within 1/2" (state mfr.'s acceptable tolerance). Final track leveling and alignment is done using solid steel shims. Concrete used to support V tracks must be designed to resist movement due to frost, expansive soils or other causes. V-Wheel Roller Gates are typically used across openings that range from 4'-0" to 60' maximum. When planning V-Roller Gate installations be sure to account for the space required to mount the stabilizing posts and to allow for gate travel. To review planning and dimensioning requirements, please refer to the "CAD Details for Ametco Gates" screen. Gate Posts The standard post size is 4" (101mm) dia. round steel pipe. Ametco supplies (indicate type and material) post caps. Posts must be set into substantial concrete footings. We recommend footings not less than 1'-6" dia. x 3'-6" deep (450mm dia. x 1066mm deep). Contact Ametco for assistance with special footing conditions and sizing requirements. AI-ASSEMBLY, INSTALLATION A. Install track in concrete by anchors or poured concrete - check elevation. B. Install stabilizing post in concrete square and level. C. Mount V-wheels to gate and set gate on V-track. D. Attach top guide roller and adjust for smooth operation. E. Run gate on track-mount stops. MF-MATERIALS, FINISHES Lasting Colors Orsogril® Fencing is protected by an extremely effective coating system giving long life with a touch of elegance. The controlled hot-dip galvanizing and the coating, with thermohardening powders, gives Orsogril® fencing protection from the elements as well as increasing its sturdiness and eliminating maintenance. The color gives an "extra" touch of appeal to the fence, harmonizing with its surroundings. Once you have selected the color from the wide choices available, it will endure exposure without crazing or fading. 10 Standard colors are available: Red Baron, Evergreen, Cream, Sky White, Blue Streak, Safety Orange, Safety Yellow, Cal Gray, Black Velvet and Charlie Brown. Please contact Ametco for color samples. Finishes

and 7-Year Warranty The polyester- or polyurethane-coated galvanized metal will remain corrosion-free for years. Post and panels are hot-dip galvanized to ASTM 123. The ability of a galvanized coating to meet its primary objective of providing corrosion protection should be the chief criteria in evaluating its overall appearance and in determining its suitability. Hot-dip galvanizing gives the product a greater resistance to corrosion than that obtained using other methods (electrolytic galvanization, etc.). “The life expectancy of galvanized coatings on typical structural members is far in excess of 50 years in most rural environments, and 20 to 25 years plus, even in severe urban and coastal exposure.”* However, the process can leave minor impurities on the treated surface, i.e., flashings, drips, drops, etc. These do not impair the coating in terms of corrosion resistance. The Talia Design, because of the large surface area, is cadmium plated to ANSI/ASTM A165-71 Type NS with a clear chromate finish in place of hot-dip galvanizing when powder coating is being applied. Color and extra corrosion protection is then added on top of the galvanized or cadmium finish by using a powder polyester coat. Performance properties of the polyester coating is as follows. SALT SPRAY RESISTANCE: (ASTM B-117) Bonderite 1000 steel panels, in a scored condition, exhibit no undercutting after 500 hours in 5% salt spray testing at 95 degrees F and 95% relative humidity. No rusting or blistering on panel face. Under the same conditions after 1000 hours, the panels showed less than 3/16" undercutting. WEATHERABILITY: (ASTM D822) After one year exposure in South Florida with panels facing south and tilted at a 45 degree angle, a high gloss white polyester coating retains 88% of its gloss (gloss readings obtained on washed panels). No film failure. A 2-part polyurethane coat on top of hot-dip galvanized base is used when gates are too large to be powder-coated. Ametco Mfg. Corp. certifies that its Orsogril® fencing systems are free from defects in material and workmanship. The polyester-coated galvanized metal is guaranteed not to crack, peel or blister for a period of 7 years. Accidental damage, defects resulting from improper installation and damage from vandalism or abuse are not included. Warranty is limited to a prorated value of the coating, not to exceed the original value of the coating. *American Hot Dip Galvanizers Association, Inc. TS-TECHNICAL SUPPORT Applicable Standards: Material: Bar Stock: ASTM A 36, Tube: ASTM A 500-Grade B Fabrication: ANSI/AWS D1.1 Hot-Dip Galvanized: ASTM A 123 Cadmium Plating: ANSI/ASTM A 165-71, Type NS with a clear chromate finish Powder Coating: Hardness ASTM D 3363; Direct impact ASTM D 2793. Saltspray resistance test ASTM B 117CC-CODES, CERTIFICATIONS The following is a summary of our warranty. For a copy of the actual warranty contact Ametco. Ametco Manufacturing Corp. certifies that its ORSOGRIL Fencing Systems are free from defects in material and workmanship. The hot-dip galvanized coating can leave minor impurities on the treated surface, i.e., flashings, drips, drops, etc. These do not impair the coating in terms of corrosion resistance. The polyester-coated galvanized metal is guaranteed not to crack, peel or blister for a period of 7 years. Accidental damage, defects resulting from improper installation and damage from vandalism or abuse are not included. Warranty is limited to a prorated value of the coating, not to exceed the original value of the coating. AC-AVAILABILITY, COST Availability: Orsogril fencing is carried in stock in large matts. Jobs are fabricated and coated before being shipped throughout the United States. Cost: Costs are quoted on a job basis due to varying requirements of each project. Cost may be obtained by calling Ametco Manufacturing Corp. at (800) 321-7042. OM-OPERATION, MAINTENANCE The advanced coating method supplied on the Orsogril fencing system requires little or no maintenance. If, or when, panels require repainting, they can be unbolted and taken down to allow for easy painting.

18726 E. Valley Hwy. Kent, Washington 98032 1-800-822-7528 KUFLINKS DECORATIVE INSERTS FOR CHAIN LINK PP-PRODUCT PRESENTATION Over the years, tubular inserts for chain link have become an industry standard for site definition and satisfying design and building codes. Kuflinks are the most durable slats for chain link you can buy. Manufactured with virgin high density polyethylene, stabilized with ultraviolet inhibitors, Kuflinks are durable enough to resist chemicals, salt, and petroleum, and are backed by a limited 15 year warranty. Kuflinks are readily available for any height of fence in eight standard colors: white, tan, gray, blue, green, redwood, brown, and black. UA-USES, APPLICATIONS Tubular inserts have become a standard enhancement in the chain link industry. Kuflinks are versatile and appropriate for any application where site definition and

decorative improvement are desired. From tennis courts to chemical plants, from corporate headquarters to residential applications, Kuflinks provide a durable, decorative enhancement on new or existing chain link fence. AI-ASSEMBLY, INSTALLATION Nothing is more simple to install than Kuflinks. The locking bottom rail eliminates the need for complicated weaving techniques or special tools. This patented Drop 'N' Lock system does not require special fasteners. Kuflinks are available in five different widths to accommodate the various sizes of chain link. Step 1: Insert horizontal rail with open channel up, in the first full diamond of chain link fabric. Step 2: Insert vertical slats with locking slit-tab downward. The tab will engage and interlock with bottom rail. TS-TECHNICAL SUPPORT Kuflinks shall be provided by: Davidson Plastics Corporation - Kufco Products 18726 E. Valley Hwy. Kent, Washington 98032 1-800-822-7528 See table on this screen. Note to Specification Writer Kuflink inserts are available for 6, 9, 11, 11-1/2, and 12 gauge wire, with a mesh size from 1-1/2" to 3" x 5". Wind load factors will be increased by approx. 70% over a chain link fence with no fillers at all. Structural requirements, soil conditions, and minimum wind rating factors change with each local code or specification. You must plan on using post and spacing specifications sufficient to handle the increased load. Your local fencing professional will be able to help determine the exact recommended specifications, taking all these factors into consideration.

MATERIAL SPECIFICATIONS SIZE SPECIFICATIONS

SLAT GAUGE 2" 11 SLAT BAG Low Temperature Brittleness -76° 11 Gauge 1-1/8" 2" 11 10ASTM D746 9 Gauge 1" 2" 9 10 Tensile Strength 3850 Commerical 2-3/8" 3" x 5" 9 20ASTM D638 PSI Light 1-1/4" 2-3/8" 11-1/2 10 Density .95 Gauge 12 ASTM D1505 Tennis 7/8" 1-3/4" 6 10 Melt Index .39 Court ASTM D1238 Cut length is 3-1/2" ± 1/4" shorter than height of chain link. Flexural Stiffness 120,000 ASTM D747 PSI Heat Resistance 125°C Wall Thickness is .030" ± .004".

18726 E. Valley Hwy. Kent, Washington 98032 1-800-822-7528 MISSING LINK COMPLETE PRIVACY FOR CHAIN LINK PP-PRODUCT PRESENTATION Privacy cannot be determined by a percentage. It is either private, or it is not! Until the development of Missing Link, truly complete privacy on a chain link fence was not attainable. Many products exist that admittedly provide only a partial screen. Some still profess to have products that provide privacy, only to confuse the customer when the product is installed and the privacy they desired is not there. Missing Link provides complete privacy for the full run of the chain link fence. This patented innovation in true privacy on chain link is the solution for many applications in the fencing industry. Missing Link is available for any height of fence, in three decorative colors, white, beige and gray. UA-USES, APPLICATIONS Specify Missing Link for commercial applications where structural strength (from the chain link fence), together with complete privacy and a clean appearance (provided with Missing Link), are needed. Missing Link is ideal for applications where unsightly materials or activities need to be hidden or kept confidential. Specify Missing Link for residential applications where privacy, beauty, and low maintenance are needed at a reasonable cost. Because of its unique design, Missing Link is easily installed without special tools. AI-ASSEMBLY, INSTALLATION Missing Link panels are pre-cut for the height of the fence, and packaged in a polyethylene bag with enough material to cover 10 lineal feet. Missing Link panels snap onto the face of either 9 or 11 gauge wire with a 2" to 2-1/4" mesh. A locking clip, snapped on from the back side, secures each panel to the wire. Individual panels that are damaged can be easily replaced, thus avoiding the need to replace large sections of the fence. Missing Link is not recommended for use where it will be subject to heavy impact, such as that from a yard maintenance line trimmer, use as a sports backdrop, or use at a construction site. TS-TECHNICAL SUPPORT Missing Link will give the appearance of herringbone panels on the face of the chain link fabric. When used with the appropriate mesh and gauge wire which has been properly installed (see Supplied by Others), each Missing Link panel will overlap the other and provide 100% privacy. Each panel will be secured onto the wire fabric by a combination of the pinch grip to the knuckle of the wire and the pinch clips snapped on the

back side. Missing Link panels shall be made from virgin exterior grade vinyl, stabilized to resist the harmful effects of the sun's ultraviolet rays. Missing Link panels shall be color solid and shall not rot, split, peel or rust under normal conditions. Written warranty covering workmanship and performance shall be provided upon request. Missing Link panels shall be provided by Davidson Plastics Corporation - Kufco Products, 18726 E. Valley Highway, Kent, Washington 98032, 1-800-822-7528. Supplied by Others - Instructions to Others Missing Link panels snap on either an 11 or 9 gauge wire, with a mesh size from 2" to 2-1/4". For best results use "coated before weaving" 9 or 11 gauge wire with 2" mesh. The wire must be raked clean, stretched evenly, and pulled straight. Steep grades should be stepped or some panels will bow or ripple, allowing small light leaks. Panels need to be trimmed at an angle at each termination and corner post. Adjust the number of clips used or add hog rings depending upon the wind load factors computed for the job. Refer to installation instructions for more details or contact the supplier. Note to Specification Writer Wind load factors will be increased by 100% over a chain link fence with no fillers at all. Structural requirements, soil conditions, and minimum wind rating factors change with each local code or specification. You must plan on using heavier posts spaced closer together to handle the load. Your local fencing professional will be able to help determine the exact recommended specifications, taking all these factors into consideration. Davidson Plastics Corporation - Kufco Products 18726 E. Valley Hwy. Kent, Washington 98032 1-800-822-7528

Specifications - Section 02830 - Ornamental Iron Fencing 1.01 Work Included The contractor shall provide all labor, materials and accessory items necessary for the installation of the ornamental metal fence system defined herein at (specify project location). 1.02 Related Work Section 022 _ _ Earthwork Section 030 _ _ Concrete 1.03 System Description The manufacturer shall supply a total ornamental fencing system of the design, style, strength and picket spacing defined herein. The system shall include all components; pickets, rails, posts, gates and hardware as required. 1.04 Quality Assurance The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and the materials and techniques specified. 1.05 References ASTM A 513 - Standard Specifications for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing.ASTM A 526 - Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Commercial Quality. ASTM B 117 - Standard Test Method of Salt Spray (Fog) Testing. ASTM D 1654 - Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments. 1.06 Submittal Product literature and warranty shall be submitted prior to installation to confirm compliance with the requirements for the materials specified in this section. 1.07 Product Handling and Storage Upon receipt at the jobsite all materials shall be inspected to ensure that no damage has occurred during shipping. Materials shall be stored in such a manner as to preclude damage, vandalism and theft. 2.01 Supplier The ornamental metal fencing system shall conform to Master-Halco, Inc. Classic Premier Industrial Ornamental _____ style (specify style from options in current Classic Premier Industrial Ornamental literature). 2.02 Materials A. All primary fence components; pickets, rails and posts shall be manufactured from coil steel having a yield strength of 50,000 psi. B. All primary fence components; pickets, rails and posts shall be galvanized by the hot-dip process to meet the requirements of ASTM A 526 and shall have a minimum zinc coating thickness of .90 oz./sq. ft. (coating designation G90). C. Pickets shall be 1" sq. 16 ga., cold rolled steel tubing manufactured per ASTM A 513. D. Rails shall be made of 14 ga. cold rolled steel. The cross-sectional shape of the rails shall conform to the manufacturer's "forerunner" design. The cross-sectional outside dimensions of the rails shall be 1-3/4" sq. Each rail shall have a minimum weight of 2.55 pounds per foot. E. Posts shall be 2-1/2" sq., 12 ga., cold rolled steel tubing manufactured per ASTM A 513. 2.03 Finish A. Galvanized steel fence components shall be subjected to a five stage wash and pre-treatment system which includes a zinc phosphatizer and a non-chromate sealer. B. Galvanized steel fence components shall then receive a two-step powder coating applied by the electrostatic spray process. The base coat shall be a thermosetting epoxy powder coating with a minimum coating thickness of 2-4 mils. The top coat shall be a mar-resistant TGIC polyester powder coating with a minimum coating thickness of 2-4 mils. C. Color shall be _____ (select option from current Classic Premier Industrial Ornamental literature). D. Coated galvanized steel fence components shall be capable of withstanding 2000 hours of salt spray testing, without loss of adhesion, as specified in ASTM B 117. 2.04 Fabrication A. Pickets, rails and posts shall be cut to specified lengths. Rails shall be punched to accept pickets. Pickets shall be drilled to accept retaining roofs. Cutting, punching and drilling shall be done prior to coating to facilitate assembly without compromising the integrity of the finish. B. Rubber grommets shall be inserted into the pre-punched holes in the rails. Pickets shall be inserted through the grommets so that the pre-drilled holes in the pickets align with the internal upper raceway of the rails. C. A 1/8" diameter galvanized steel retaining rod shall then be inserted into the upper raceway of the rails through the pre-drilled holes in each picket. D. Completed sections shall be capable of supporting a 600 pound load at mid-span without permanent deformation. Completed sections can rack up to 24" in 8' or 18" in 6' (14º). E. Posts shall have a square cap firmly affixed to the extending end. F. Gates shall be fabricated using the same materials as for the complete fencing system, gate framework shall have the same cross-sectional dimensions as the panel rails. 2.05 Warranty A. The ornamental metal fence system shall include a written 12-year limited warranty against defects in materials and workmanship. B. The ornamental metal fence system shall include a written 12-year limited warranty on the coating against cracking, blistering, peeling or corroding. Refer to warranty certificate for complete details and limitations. 3.01 Preparation All new installation shall be laid out by the contractor in accordance with the construction plans. 3.02 Installation A. Set fence posts at (specify 71-

1/4" o.c. + 1/2" for 6' o.c. nominal with 2-1/2" sq. posts or 96" o.c. + 1.2" for 8' o.c. nominal with 2-1/2" sq. posts). Set gate posts for gate opening specified in the construction drawings. Posts shall be placed a minimum of 36" into the ground and set in concrete. B. Attach fabricated panels to posts using brackets supplied by the manufacturer. C. Install gates by attaching hardware supplied by the manufacturer. 3.03 Cleaning Contractor shall clean the jobsite of construction debris. Specifications subject to change without notice. Master-Halco, Inc. CORPORATE OFFICE 110 East La Habra Boulevard P.O. Box 365 La Habra, California 90633 (888) MH-FENCE (toll-free) www.mhfence.com

Manufactured by A&B Plastics, Inc. Post Office Box 10747 Yakima, Washington 98909-1747 U.S.A. Telephone 509/248-9955 Facsimile 509/248-4750 MR-MANUFACTURER For nearly twenty years PDS brand chain link inserts have set the quality specification standards others have tried to imitate. While much more visually appealing than flat inserts, PDS tubular oval slats also provide significantly increased strength and durability. It's easy to see why today, PDS leads the industry with the time-saving, patented, bottom-locking slat retention system. With over fifteen years of proven experience in the field, PDS is an economical and attractive way to add privacy to all chain link fences. PDS slats are manufactured in sizes to fit virtually any chain link fence available from any manufacturer or installer. A nationwide network of authorized PDS distributors is ready to assist you with samples, cost estimates and design guidelines. PDS slatting is manufactured on both the East and West coasts for fast delivery of even the largest orders. For the name of the PDS distributor serving your area call us at 509/248-9955. PP-PRODUCT PRESENTATION Now the utmost in privacy and beauty from both sides of the fence. PDS slats are designed to retain their original color and beauty without cracking or fading. A chain link fence with PDS slats is virtually maintenance free. To clean, just spray with water. Special formulations of color and ultraviolet inhibitors are used in the manufacture of PDS slats to give amazing weather resistance and color fastness. PDS slats are resistant to rain, snow, heavy duty detergents, including those containing ammonia, saltwater, water treatment chemicals, alcohol, acids and alkalies as well as petroleum products. PDS is an exclusive patented slat that is made to fit all standard chain link fence meshes and gauges, coated or galvanized, from tennis court through industrial grid sizes. Any height is available and eight attractive colors are offered. Slats are delivered in bags of single colored material for coverage of ten lineal feet of fencing. Bags of different single colors can be mixed and matched to complement any fenced area inside and out!!! Residential Whether you seek to improve an existing chain link fence or build a new one from the ground up, Privacy Decorative Slatting may be the perfect answer. PDS can turn a dull backyard into a private, personal sanctuary. PDS is designed for the homeowner as well as the professional landscaper, so installation is a breeze. With the patented PDS system, there are no rivets or complex weaving maneuvers required on standard fence installations. INSTALLATION After inserting the horizontal locking channel across the bottom of the fence, simply slide the vertical slats from the top of the mesh and they will automatically lock into place. No professional experience is required to retrofit existing chain fences with the new PDS slatting. Commercial Easy installation, low maintenance, durability, and beauty make PDS ideal for commercial applications. Sight obscuring surrounds are required by code for many industrial areas and are also often desirable for security and screening. Unsightly industrial facilities, utility stations or storage yards can be easily shielded from view and commercial areas can be attractively secured. Industrial PDS can give an unsightly industrial area a bright, new face lift. The 2-3/8" wide PDS slat was designed specifically for industrial and commercial fencing. This slat fits into the 3" x 5" mesh chain link fabric and comes pre-woven from most chain link manufacturers. Wide slats can also be ordered separately for on-the-job retrofit or new installations with or without the PDS bottom channel as a finish detail. The factory assembled slats are fastened with monel-clinch-lock staples to assure a maintenance free fence. This fence is available in heights of 4, 5, 6, 7, 8, 10 and 12 feet. Specifications SLAT TYPE: "A" MESH: 2" GAUGE: 11 SLAT WIDTH: 1-1/8" COVERAGE (LINEAL FT/BAG): 10 SLAT TYPE: "B" MESH: 2" GAUGE: 9 SLAT WIDTH: 1-1/16" COVERAGE (LINEAL FT/BAG): 10 SLAT TYPE: "L" MESH: 2" GAUGE: 6 SLAT WIDTH: 1" COVERAGE (LINEAL FT/BAG): 10 SLAT TYPE: "C" MESH: 2-1/4" GAUGE: 11-1/2" SLAT WIDTH: 1-1/4" COVERAGE (LINEAL FT/BAG): 10 SLAT TYPE: "TC" MESH: 1-3/4" GAUGE: 9 & 11 SLAT WIDTH: 7/8" COVERAGE (LINEAL FT/BAG): 10 SLAT TYPE: *IND MESH: 3" x 5" GAUGE: 9 & 11 SLAT WIDTH: 2-3/8" COVERAGE (LINEAL FT/BAG): 20 *INDUSTRIAL SLATS WARRANTY PDS carries a 15 year pro-rated warranty against fading and breakage under normal use. PDS polyethylene slats are formulated to last longer and maintain their color and integrity under the most severe weathering conditions. Unlike other materials, PDS slatting does not distort at high temperatures nor become brittle at low temperatures. Contact the factory for full warranty information. SPECIFICATIONS PROPERTY: Melt index (.34) EFFECT: Low melt index values indicate improved stress and

crack resistance which produce a longer lasting slat. PROPERTY: Density (.951) EFFECT: In the range of polyethylene density from .914 to .960 the .951 was chosen because it yields the required stiffness without danger of brittleness. PROPERTY: Low Temperature Brittleness Temperature (-76º F) EFFECT: Polyethylene does not become brittle at low temperatures like many materials such as vinyl. PROPERTY: Tensile Strength (3700 P.S.I.) EFFECT: This ensures the materials will not distort under load or impact. PROPERTY: Resistance to Heat (250º F) EFFECT: This ensures a long life without distortion under high temperature.

Commercial Weight Construction Specifications Section 02830 - Chain Link Fences Ameristar 02830/AMM P.O. Box 58100 Tulsa, Oklahoma 74158-1000 Tel: (800) 321-8724 Fax:(918) 835-0899 E-mail: vcox.ameristar.com@worldnet.att.net Http://www.fenceusa.com/ameristar/ Ameristar HT-25 Fence Framework - Commercial Weight PART 1 - GENERAL 1.01 WORK INCLUDED The contractor shall provide all labor, materials and appurtenances necessary for installation of the color chain link fencing system defined herein at (specify project site). 1.02 RELATED WORK Section 02500 - Paving and Surfacing Section 03300 - Cast-In-Place Concrete Section 04200 - Unit Masonry 1.03 SYSTEM DESCRIPTION The contractor shall supply a total color coated chain link fencing system of the design, style and strength defined herein. The system shall include all components (i.e., framework, chain link fabric, gates and fittings) required. 1.04 QUALITY ASSURANCE The contractor shall provide laborers and supervisors who are thoroughly familiar with die type of construction involved and materials and techniques specified. 1.05 REFERENCES Specification A 924/A 924M - General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process. Specification A 653/A 653M - Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot Dip Process. Specification F1043 - Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework. ASTM B117 Test Method - Salt Spray (Fog) Testing. Practice D1499 - Operating Light- and Water-Exposure Apparatus (Carbon-Arc Type) for Exposure of Plastics. ASTM D3359 Test Method 3359 - Measuring Adhesion by Tape Test. Specifications F668 - Poly (Vinyl Chloride) (PVC) - Coated Steel Chain Link Fence Fabric. Specification F626 - Fence Fittings. Specification F900 - Industrial and Commercial Swing Gates. Specification F1184 - Industrial and Commercial Horizontal Slide Gates. Specification F934 - Standard Colors for Polymer-Coated Chain Link Fence Materials. Practice F567 - Installation of Chain Link Fence. Practice F969 - Construction of Chain Link Tennis Court Fence. 1.06 SUBMITTAL The manufacturer's literature shall be submitted prior to installation. 1.07 PRODUCT HANDLING AND STORAGE Upon receipt at the job site, all materials shall be checked to ensure that no damages occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism, and theft. PART 2 - MATERIALS 2.01 MANUFACTURER Framework for color chain link fencing systems shall conform to Ameristar® Pipe, commercial weight HT-25, as manufactured by Ameristar Fence Products in Tulsa, Oklahoma. 2.02 MATERIAL A. The material used to manufacture frame-work for color chain link fencing systems shall be galvanized sheet steel, in coils, meeting the general requirements of Specification A924 and the specific product requirements of Specification A653, Quality level HSLA (high-strength, low-alloy). Type I, Grade 50, Coating Designation G-90 (.90 oz/ft²), Hot Dip Process. The framework shall be manufactured in accordance with commercial standards to meet the strength requirements (55,000 psi minimum yield strength) of Specification F1043, Group IC, Electrical Resistance Welded Round Steel Pipe. The manufactured framework shall be subjected to a complete thermal stratification coating process (multi-stage, high-temperature, multi-layer) including, as a minimum, a six-stage pretreatment/wash (with zinc phosphate), an electrostatic spray application of an epoxy base, and a separate electrostatic spray application of a polyester finish. The material used for the base coat shall be a zinc-rich (gray color) thermosetting epoxy: the minimum thickness of the base coat shall be 2 mils. The material used for the finish coat shall be a thermosetting "no-mar" TGIC polyester powder: The minimum thickness of the finish coat shall be 2-3 mils. The stratification coated framework shall demonstrate the ability to endure a salt spray resistance test conducted in accordance with ASTM B117 Test Method without loss of adhesion for a minimum exposure time of 3,500 hours. Additionally, the coated framework shall demonstrate the ability to withstand exposure in a weatherometer apparatus for 1,000 hours without failure in accordance with Practice D1499 and to show satisfactory adhesion when subjected to the cross-hatch test, Method B, in Test Method D3359. The polyester finish coat shall not fade, crack, blister or split under normal use.B. The material for chain link fence fabric shall be manufactured from galvanized steel wire. The weight of zinc shall meet the requirements of Specification F668, Table 4. Galvanized wire shall be PVC coated to meet the requirements of Specification F668. Select from Class 1 (Extruded), Class 2A (Extruded and Bonded) and

Class 2B (Fused and Bonded). C. The material for fence fittings shall be manufactured and coated to meet the requirements of Specification F626. D. Swing gates shall be manufactured and coated to meet the requirements of Specification F900. Slide gates shall be manufactured to meet the requirements of Specification F1184. E. The color of all manufactured materials shall be (specify green, brown or black) in accordance with Specification F934. 2.03 FABRICATION Terminal posts, line posts and top/bottom rails shall be precut to specified lengths. PART 3 - EXECUTION 3.01 PREPARATION All new installation shall be laid out by the contractor in accordance with the construction plan. 3.02 INSTALLATION Install chain link fence in accordance with Practice F567. For chain link tennis count fences, install in accordance with Practice P969. Fence posts shall be set at spacings of a maximum of 10' o.c. Gate posts shall be spaced according to the gate openings specified in the construction plans. The “Paving and Surfacing,” “Cast-In-Place Concrete” and “Unit Masonry” sections of this specification shall govern post base placement and material requirements. Install fabric on security side and attach with wire ties or clip to line posts at 15 inches o.c. and to rails, braces and tension wire at 24 inches o.c. 3.03 CLEANING The contractor shall clean the jobsite of excess materials. Post hole excavations shall be scattered uniformly away from posts. HT-25 Applications • Nurseries • Day Care Facilities • Swimming Pools • Playgrounds • Mini-Storages • Golf Courses • Apartments • Tennis Courts

Construction Specifications Section 02830 - Chain Link Fences Ameristar 02830/AMM P.O. Box 58100 Tulsa, Oklahoma 74158-1000 Tel: (800) 321-8724 Fax:(918) 835-0899 E-mail: vcox.ameristar.com@worldnet.att.net Http://www.fenceusa.com/ameristar/ Ameristar HT-40 Fence Framework - Industrial Weight PART 1 - GENERAL 1.01 WORK INCLUDED The contractor shall provide all labor materials and appurtenances necessary for installation of the color chain link fencing system defined herein at (specify project site). 1.02 RELATED WORK Section 02500 - Paving and Surfacing Section 03300 - Cast-In-Place Concrete Section 04200 - Unit Masonry 1.03 SYSTEM DESCRIPTION The contractor shall supply a total color coated chain link fencing system of the design, style and strength defined herein. The system shall include all components (i.e., framework, chain link fabric, gates and fittings) required. 1.04 QUALITY ASSURANCE The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified. 1.05 REFERENCES Specification A 924/A 924M - General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process. Specification A 653/A 653M - Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process. Specification F1043 - Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework. ASTM B177 Test Method - Salt Spray (Fog) Testing. Practice D1499 - Operating Light- and Water-Exposure Apparatus (Carbon-Arc Type) for Exposure of Plastics. ASTM D3359 Test Method - Measuring Adhesion by Tape Test. Specification F668 - Poly (Vinyl Chloride) (PVC) - Coated Steel Chain Link Fence Fabric. Specification F626 - Fence Fittings. Specification F900 - Industrial and Commercial Swing Gates. Specification F1184 - Industrial and Commercial Horizontal Slide Gates. Specification F934 - Standard Colors for Polymer Coated Chain Link Fence Materials. Practice F567 - Installation of Chain Link Fence. Practice F969 - Construction of Chain Link Tennis Court Fence. 1.06 SUBMITTAL The manufacturer's literature shall be submitted prior to installation. 1.07 PRODUCT HANDLING AND STORAGE Upon receipt at the job site, all materials shall be checked to ensure that no damages occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage and to protect against damage, weather, vandalism and theft. PART 2 - MATERIALS 2.01 MANUFACTURER Framework for color chain link fencing Systems shall conform to Ameristar® Pipe, commercial weight HT-40, as manufactured by Ameristar Fence Products in Tulsa, Oklahoma. 2.02 MATERIAL A. The material used to manufacture framework for color chain link fencing systems shall be galvanized sheet steel, in coils, meeting the general requirements of Specification A924 and the specific product requirements of Specification A653, Quality level HSLA (high-strength, low-alloy), Type I, Grade 50 (50,000 psi minimum yield strength), Coating Designation G-90 (.90 oz/ft²), Hot Dip Process. The framework shall be manufactured in accordance with commercial standards to meet the strength requirements (50,000 psi minimum yield strength) of Specification F1043, Group IC, Electrical Resistance Welded Round Steel Pipe. The manufactured framework shall be subjected to a complete thermal stratification coating process (multi-stage, high-temperature, multi-layer) including, as a minimum, a six-stage pretreatment/wash (with zinc phosphate). an electrostatic spray application of an epoxy base, and a separate electrostatic spray application of a polyester finish. The material used for the base coat shall be a zinc-rich (gray color) thermosetting epoxy; the minimum thickness of the base coat shall be 2 mils. The material used for the finish coat shall be a thermosetting "no-mar" TGIC polyester powder; the minimum thickness of the finish coat shall be 2-3 mils. The stratification coated framework shall demonstrate the ability to endure a salt spray resistance test conducted in accordance with ASTM B117 Test Method without loss of adhesion for a minimum exposure time of 3,500 hours. Additionally, the coated framework shall demonstrate the ability to withstand exposure in a weatherometer apparatus for 1,000 hours without failure in accordance with Practice D1499 and to show satisfactory adhesion when subjected to the cross-hatch test, Method B. in Test Method D3359. The polyester finish coat shall not fade, crack, blister or split under normal use. B. The material for chain link fence fabric shall be manufactured from galvanized steel wire. The weight of zinc shall meet the requirements of Specification F668, Table 4. Galvanized wire shall be PVC coated to meet the requirements of Specification F668. Select from Class 1 (Extruded), Class 2A (Extruded and Bonded) and Class 2B (Fused and Bonded). C. The

material for fence fittings shall be manufactured and coated to meet the requirements of Specification F626. D. Swing gates shall be manufactured and coated to meet the requirements of Specification F900. Slide gates shall be manufactured to meet the requirements of Specification F1184. E. The color of all manufactured materials shall be (specify green, brown or black) in accordance with Specification F934. 2.03 FABRICATION Terminal posts, line posts and top/bottom rails shall be precut to specified lengths. PART 3 - EXECUTION 3.01 PREPARATION All new installation shall be laid out by the contractor in accordance with the construction plan. 3.02 INSTALLATION Install chain link fence in accordance with Practice F567. For chain link tennis court fences, install in accordance with Practice F969. Fence posts shall beset at spacings of a maximum of 10' o.c. Gale posts shall be spaced according to the gate openings specified in the construction plans. The “Paving and Surfacing”, “Cast-In-Place Concrete” and “Unit Masonry” sections of this specification shall govern post base placement and material requirements. Install fabric on security side and attach with wire ties or clip to line posts at 15 inches o.c. and to rails, braces and tension wire at 24 inches o.c. 3.03 CLEANING The contractor shall clean the jobsite of excess materials. Post hole excavations shall be scattered uniformly away from posts. HT-40 Applications • Athletic Facilities (i.e. Tennis Courts, Baseball Diamonds) • Industrial Plant Facilities • Government Facilities • Department of Transportation • Airports • Schools

AMERISTAR 02830/AMM P.O. Box 581000 Tulsa, Oklahoma 74158-1000 Tel: (800) 321-8724 Fax: (918) 835-0899 E-mail: vcox.ameristar.com@worldnet.att.net Http://www.fenceusa.com/ameristar/ Photo Captions: A. Epoxy Powder Coat B. “No-Mar” Polyester Color Coat C. Galvanized Steel (Inside) D. Zinc Phosphate E. Galvanized Steel (Outside) “PERMACOAT” Produced Unsurpassed Quality Ameristar’s “Permacoat” finish is a (double layer) electrostatic powder coating system which far exceeds the performance of other coating finishes. The key to the “Permacoat” finish is the base coat of epoxy powder (the first application of this process by a fencing manufacturer). The epoxy powder is a zinc rich coating which tenaciously clings to the galvanized substrate and is known for its outstanding corrosion resistance. The final or topcoat is a thermosetting “no-mar” polyester powder coat with UV resistance which provides a beautiful color finish for years of maintenance-free enjoyment. Permacoat™ - Offers “Superior” Coating Performance Durability - For years, architects and fence contractors have been asking for a “superior” coating finish that can withstand the rigors of shipment and installation and result in a project with a beautiful “up close” appearance at completion. Ameristar’s Color Chain Link Fence Framework is the solution! UV Resistance - Ameristar’s Color Chain Link Fence Framework has “superior” ultra-violet characteristics which far exceed vinyl clad Systems, in South Florida exposure. Maintenance Free - The galvanized steel substrate combined with the “superior” maintenance free Permacoat™ Color System results in unsurpassed product life expectancy which far exceeds the performance of other coating finishes. Unmatched Quality - Ameristar Color Fence Systems are the only fence products in the U.S. having the Permacoat™ Color System. Permacoat™ provides the following “superior” qualities: • Resistant to scratches, nicks and abrasions • Corrosion Resistant • Unsurpassed Visual Appearance Warranty - A written 10 year limited warranty is extended on Ameristar’s Color Chain Link Fence Framework. Call Ameristar today for a written copy. Affordability For years, architects have needed a system to bridge the gap between galvanized chain link and ornamental fencing at an affordable cost. The latest technology in tube mill operations and powder coatings have been combined with Ameristar’s state-of-the-art manufacturing facility to produce a “superior” quality chain link fence framework, at a cost that is competitive with single coat polyester or vinyl tubings.

04235/CON BuyLine 8076 A recent innovation in masonry fencing is our single wythe masonry fence. The system consists of prefabricated masonry panels which are inserted into a slot in the side of a supporting column, which may consist of a concrete/masonry column or an “I-Beam” faced with brick. The advantages of this type of system are numerous: 1. A continuous footing is not required, thus saving materials, site preparation, labor, etc., and more importantly, dollars. 2. The masonry panel is “floating,” being simply supported between the piers, thus, if the ground heaves or settles in mid-span or if one support settles or heaves with respect to the other support, no stresses are induced in the panel, hence no cracking or damage results. In contrast, a conventionally laid fence must conform to the foundation and will crack if movement of the foundation occurs. 3. Most conventional masonry walls are cantilevered vertically from the footings to sustain wind load. This requires vertical reinforcement which necessitates two widths of brick to form a cavity for grouting. With Pre-Fab masonry fencing, the panel spans between columns or piers to sustain the wind. Therefore, the reinforcement may be in the regular bed joint for running bond, or through the cores of the brick for soldier coursing, again resulting in a savings on material and labor. 4. Special bonds may be achieved at the prefabricating plant which are difficult, if not impossible, to obtain conventionally. Pier spacing is naturally a multi-variable function of wind force fencing. Brick depth, height, and reinforcing size, is a factor. For example, modular brick with a 20 psf wind force, the pier spacing would approximately be 12 feet, 9 inches maximum with a running bond, using 9 gauge ladder reinforcement in each mortar joint. If the modular brick is used in a soldier configuration with the same wind, pier spacings up to 22 feet, 5 inches are possible using number 5 bars in every brick core hole. However, optimum spacing for the soldier configuration is probably between 19 and 20 feet using 2 number 3 bars per brick. Pier size is also a multi-variable of wind force, panel span length and height, in which each individual application must be considered.If you have further questions about masonry fencing, please call us. Continental Masonry Corporation 7201 North Robinson Oklahoma City, OK 73116 Tel: (405) 840-0800

1. Schools, Parks & Recreational Facilities 2. Prison Fences 3. Communications Facilities 4. Mass Transit Lines 5. Power Transmission Sites 6. Airports 7. Zoos 8. Other Applications: • chain link fence framework systems • meets the strength requirements of ASTM F-1083, F-669 and Fed. Spec. RR-F-191 • perfect where color is desired in a corrosive environment • ideal in electro-sensitive environments STANDARD SIZES (outside diameter) • 2.375" • 2.875" • 4" • 6" • 8" • 10" • 12" • 14" • 16" Availability and Cost Composite Post 40 is available for shipment throughout the United States and Canada. Composite Post 40 is price/cost competitive with traditional materials. Standard Colors Black, Woodland Green, Brown & Soft Gray. Custom colors available. Standard Production Lengths Twenty-one ft. (21') and twenty-four ft. (24'). Custom sizes available. Warranty Design information is provided as an aid to the engineer or architect in developing working plans for specific applications. No warranties of any kind are made as to the suitability for particular applications or the results obtained therefrom. For information & quotations contact Lancaster Composite, Inc. 1000 Houston Street P.O. Box 247 Colombia, PA 17512-0247 717-684-4440 Fax 717-684-4445 E-Mail 102044.1223@compuserve.com

SPECRAIL P.O. Box 6308 129 Leeder Hill Drive Hamden, CT 06517 (203) 248-6346 WATS: 1-800-243-6256 FAX: 1-203-248-8489 02830/SPE - BuyLine 7603 SECTION 02830 – ORNAMENTAL ALUMINUM FENCES AND GATES PART 1 - GENERAL 1.01 Work Included The contractor shall provide labor, materials and all necessary accessory items for the installation of the ornamental aluminum fence system specified herein at (specified project location). 1.02 Related Work Section 022 – Earthwork Section 030 – Concrete 1.03 System Description The manufacturer shall apply a total ornamental aluminum fencing system of the style, strength, and color defined herein. The system shall be a total package including all components; pickets, posts, stringers, gates, and hardware as required. 1.04 Quality Assurance The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and the materials specified. 1.05 References AAMA 603.8 – Performance requirements & testing procedures for pigmented organic coatings. ASTM B221 – Specification for aluminum alloy extruded bars, shapes and tubes. 1.06 Submittal The manufacturer's literature shall be submitted prior to installation to confirm compliance with all requirements for materials specified in this section. 1.07 Delivery, Storage, and Handling A. Fence panels, gates, posts and accessories shall be delivered to the construction site in packed cartons. B. Each package shall be identified and shall bear the name of manufacturer. C. Store all materials in a secure and dry area. PART 2 - PRODUCTS 2.01 Manufacturer The aluminum fencing system shall be as manufactured by SPECRAIL, 129 Leeder Hill Drive, Hamden, CT 06517. The fence shall be [specify style, (specify height), and (specify color)]. 2.02 Materials A. Aluminum Extrusions: All components shall be made of 6063-T5 and 6105-T5 in accordance with ASTM B221. B. Fasteners: All screws shall be 302 stainless self-drilling head. All screws shall be painted to match the finish of fence. C. Accessories: Aluminum castings shall be used for all post caps, wall brackets, scrolls, finials and other miscellaneous hardware. Hinges and latches shall be fabricated from aluminum extrusions with stainless steel springs. 2.03 Finish The fence shall be coated with POLYCOLOR®, an environmentally approved, premium high-solids acrylic coating which exceeds AAMA 603.8. Application of POLYCOLOR shall be electrostatic spray. Curing shall be at a temperature of 375°F to 400°F. 2.04 Fabrication A. Stringers: (Horizontal rails) shall be punched to allow pickets to pass through the top of the rail. The number of stringers shall vary with the style, height and strength as determined by manufacturer. B. Pickets: shall be fastened to stringers mechanically with stainless steel TEK screws on one side of stringer only. C. Posts: shall be prepunched to allow the stringers to slide in and be attached with stainless steel TEK. Cast aluminum post caps shall be affixed to all posts. D. Gates: shall be fabricated using the same components as for the complete fencing system. Walk gates shall have adjustable self-closing hinges and will be self-latching. PART 3 - EXECUTION 3.01 Preparation Prepare the grade and remove surface irregularities, if any, which may cause interference with the installation of aluminum fence. 3.02 Installation A. Set fence posts at 6'0" on center maximum, set gate posts for gate openings specified in the construction drawings. B. Insert stringers ends into prepunched posts and fasten with TEK screws. C. Center and align posts. Place concrete around posts, and vibrate or tamp for consolidation. Recheck vertical and top alignment of posts and make necessary corrections. D. Install gates plumb, level, and secure for full opening without interference. For double gates, install drop rod. Adjust all hardware for smooth operation. 3.03 Cleaning Contractor shall clean jobsite of excess materials; post hole excavations shall be scattered uniformly away from posts. Clean aluminum fence with mild household detergent and clean water, rinse well. Mortar should be removed from exposed posts using a 10% solution of muriatic acid followed immediately by several rinses with clean water.

Product Classification: 02830 Sweet's Catalog Code: 02830/ORS BuyLine 7407 Ametco Manufacturing Corp. 4236 Hamann Parkway Willoughby, OH 44094 Tel:800-321-7042216-951-4300 Fax: 216-951-2542 AI-ASSEMBLY, INSTALLATION Cantilever Slide Gates A. Gate post must be 4" (101mm) square with substantial footings in order to reduce vibration. If need be, place top and bottom rail between the two primary gate posts. Posts must be plumb. B. Track assembly to gate frame must be square at a 90º angle. C. Tighten bolts for back brackets firm; excessive pressure is not required. D. Once the track is permanently installed to the gate frame, run the truck through the track to assure freedom of movement. E. Truck brackets may be offset as required for necessary clearance of track assembly with gate posts. Truck should be bolted to post bracket with some pressure. F. The lower portion of the gate frame should pass through the guide wheels without binding. G. NOTE: NOT SUPPLIED BY AMETCO. If electrically operated, run the gate by hand before connecting chain, to be sure the gate runs with little effort. H. Where splicing is required to extend track assembly, straddle splice joint with back plate and tighten bolts sequentially to assure proper alignment. Cantilever Roller Gates A. It is important that gate posts have substantial footings and be installed plumb and square. B. Install roller brackets to posts. C. Either slide gate into rollers or set gate on bottom roller then install top rollers. D. Adjust roller for smooth easy operation. E. Install and adjust stops and any guide roller for smooth running. F. NOTE: NOT SUPPLIED BY AMETCO. If electrically operated: run gates by hand before connecting to chains or gears; gate should run with little effort. MF-MATERIALS, FINISHES Lasting Colors Orsogril® Fencing is protected by an extremely effective coating system giving long life with a touch of elegance. The controlled hot-dip galvanizing and the coating, with thermohardening powders, gives Orsogril® fencing protection from the elements as well as increasing its sturdiness and eliminating maintenance. The color gives an "extra" touch of appeal to the fence, harmonizing with its surroundings. Once you have selected the color from the wide choices available, it will endure exposure without crazing or fading. 10 Standard colors are available: Red Baron, Evergreen, Cream, Sky White, Blue Streak, Safety Orange, Safety Yellow, Cal Gray, Black Velvet and Charlie Brown. Please contact Ametco for color samples. We also offer custom colors on a "minimum-order" basis. Please contact Ametco for additional information. Finishes and 7-Year Warranty The polyester- or polyurethane-coated galvanized metal will remain corrosion-free for years. Post and panels are hot-dip galvanized to ASTM 123. The ability of a galvanized coating to meet its primary objective of providing corrosion protection should be the chief criteria in evaluating its overall appearance and in determining its suitability. Hot-dip galvanizing gives the product a greater resistance to corrosion than that obtained using other methods (electrolytic galvanization, etc.). "The life expectancy of galvanized coatings on typical structural members is far in excess of 50 years in most rural environments, and 20 to 25 years plus, even in severe urban and coastal exposure."* However, the process can leave minor impurities on the treated surface, i.e., flashings, drips, drops, etc. These do not impair the coating in terms of corrosion resistance. The Talia Design, because of the large surface area, is cadmium plated to ANSI/ASTM A165-71 Type NS with a clear chromate finish in place of hot-dip galvanizing when powder coating is being applied. Color and extra corrosion protection is then added on top of the galvanized or cadmium finish by using a powder polyester coat. Performance properties of the polyester coating is as follows. SALT SPRAY RESISTANCE: (ASTM B-117) Bonderite 1000 steel panels, in a scored condition, exhibit no undercutting after 500 hours in 5% salt spray testing at 95 degrees F and 95% relative humidity. No rusting or blistering on panel face. Under the same conditions after 1000 hours, the panels showed less than 3/16" undercutting. WEATHERABILITY: (ASTM D822) After one year exposure in South Florida with panels facing south and tilted at a 45 degree angle, a high gloss white polyester coating retains 88% of its gloss (gloss readings obtained on washed panels). No film failure. A 2-part polyurethane coat on top of hot-dip galvanized base is used when gates are too large to be powder-coated. Ametco Mfg. Corp. certifies that its Orsogril® fencing systems are free from defects in material and workmanship. The polyester-coated galvanized metal is guaranteed not to crack, peel or blister for a period of 7 years. Accidental damage, defects resulting from improper installation and damage from vandalism or abuse are not included. Warranty is

limited to a prorated value of the coating, not to exceed the original value of the coating. *American Hot Dip Galvanizers Association, Inc.

SECTION 09220
STUCCO

1. GENERAL

1.1 **REFERENCES** The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only. The latest edition of the publication shall be used.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 150 (1997)e1 Portland Cement
ASTM C 206 (1992)e1 Finishing Hydrated Lime
ASTM C 841 (1997) Installation of Interior Lathing and Furring
ASTM C 847 (1993) Metal Lath
ASTM C 897 (1996) Aggregate for Job-Mixed Portland Cement-Based Plasters
ASTM C 926 (1995a) Application of Portland Cement-Based Plaster
ASTM C 933 (1980; R 1990) Welded Wire Lath
ASTM C 1032 (1986; R 1990) Woven Wire Plaster Base
ASTM C 1107 (1997) Packaged Dry, Hydraulic-Cement Grout (Nonshrink)

1.2 **SUBMITTALS**: Prior to delivery of materials to the project site, submit and receive approval for the following items in accordance with Section 01300, "Submittals."

1.2.1 SD-14 SAMPLES

a.) Colored Stucco Finish Coat; One panel of stucco, 12 inches square, showing finish texture and color and with exposed reinforcement at the edges.
b.) Reinforcement; 12 inches square
c.) Accessories; one 12 inch length of each accessory proposed for use.

1.3 **ENVIRONMENTAL CONDITIONS**: Stucco shall not be applied when the ambient temperature is 40 ° F or lower, or when a drop in temperature below 40 ° F is expected within 48 hours after application.

1.4 **DELIVERY AND STORAGE**: Packaged materials shall be delivered to the site in the original packages with labels intact and seals unbroken. Cementitious materials shall be kept dry and stored off the ground under cover. Aggregate shall be covered to prevent the absorption or loss of moisture.

2. PRODUCTS

2.1 **PORTLAND CEMENT**: Portland cement shall conform to ASTM C 150, gray Portland cement Type II.

2.2 **COLORED STUCCO FINISH COAT**: Colored stucco finish coat shall be a mill mixed product using white Portland cement and requiring only the addition of and mixing with water for application. Finish coat texture and color shall be as selected by the Contracting Officer and shall be a custom finish coat texture and color.

2.3 **BUILDING PAPER**: Building paper shall conform to FS UU-B-790, Type I, Grade B.

2.4 **LIME**: Lime shall conform to ASTM C 206, Type S.

2.5 **SAND**: Sand aggregate for job-mixed base coat and job-mixed finish coat stucco shall conform to ASTM C 897.

2.6 **ACCESSORIES**: Accessories shall be roll-formed galvanized steel, galvanized welded wire zinc alloy or rigid polyvinyl chloride (PVC) vinyl except that cornerite and striplath shall be formed from steel sheets with manufacturer's standard galvanized coating.

2.7 **METAL LATH**: Metal lath shall conform to ASTM C 847, types and weights in accordance with the various spacing shown in ASTM C 841. Lath for vertical application on steel and wood framing supports shall be expanded metal or welded or woven wire and shall have paper backing with a minimum vapor permeance of 5 perms. Woven wire lath shall be a maximum 1-1/2 by 1-1/2 inch mesh wire of not less than 0.0540 inch nominal diameter and shall conform to ASTM C 1032. Welded wire lath shall conform to ASTM C 933, with openings not to exceed 2 by 2 inches. Expanded metal or wire lath shall be fabricated in a manner to provide not less than 1/4 inch keying between wire and paper backing and keying shall be obtained by a uniform series of slots in a perforated face paper woven between the wires.

2.8 **WATER**: Water shall be clean, fresh, potable, and free from amounts of oils, acids, alkalis and organic matter that would be injurious to the stucco.

3. EXECUTION

3.1 **CONTROL JOINTS**: Control joints shall be located as indicated on the drawings and/or as required. Prefabricated control joint members shall be installed prior to the application of the stucco. Control joints shall be cleared of all stucco within the control area after stucco application and prior to final stucco set.

3.2 **LATH**: Lath shall be installed in accordance with ASTM C 841 except as otherwise specified. Metal and wire lath shall be applied straight, without buckles and with joints staggered. End laps of metal lath shall be not less than 1 inch. When paper-backed lath is used, the paper shall be split from the lath at all lap areas to provide a paper to paper and lath to lath lap. Lath shall be interrupted at all control joints. Waterproofing paper shall be continuous across control joints.

3.2.1 ON CONCRETE AND MASONRY: Lath shall be fastened every 8 inches vertically and every 16 inches horizontally. Where wood supports adjoin masonry or concrete in the same direction, casing bead, control joints, or reinforcement shall be provided.

3.2.2 SPECIAL SHAPES, PROFILES, AND CONTOURS: Special shapes, profiles, and contours shall be formed with wood, metal or aluminum furring and reinforcing.

3.2.3 GROUNDS: Grounds shall be provided as necessary for attachment of trim, finish, and other work to stucco. Grounds shall be run in lengths as long as practicable, butt jointed and rigidly secured in place. Except where otherwise indicated, grounds shall be set to develop full thickness of stucco. Spot grounds, not more than 2 inches in the largest dimensions, shall be used where required, and shall be firmly attached to the backing.

3.3 **PREPARATION OF SURFACES**: Preparation of surfaces for application of stucco to solid bases such as stone, masonry or concrete shall conform to the applicable requirements of ASTM C 926.

3.4 **PROPORTIONS AND MIXING**: Proportions and mixing for job-mixed base coat and finish coat shall conform to the applicable requirements of ASTM C 926. Mixing of mill-mixed finish coat shall be in accordance with the manufacturer's directions.

3.5 **STUCCO APPLICATION**: Stucco shall be applied in three coats to a thickness of not less than 1 inch as measured from the back plane of metal reinforcement, exclusive of ribs or dimples or from the face of solid backing or support, with or without metal reinforcement, to the finished stucco surface, including moderate texture variations. Stucco application shall conform to the applicable requirements of ASTM C 926 and the following:

3.5.1 WORKMANSHIP: Items or features of the work in connection with or adjoining the stucco shall be in place, plumb, straight, and true prior to beginning the stucco work. Metal and wire lath, where required, shall be in place and positioned to provide a good key at back of lath. Masonry surfaces to receive stucco shall be evenly dampened immediately prior to application of stucco. Each stucco coat shall be applied continuously in one general direction, without allowing mortar to dry at edges. Where it is impossible to work the full dimension of a wall surface in a continuous operation, jointing shall be made at a break, opening, or other natural division of the surface. Edges to be joined shall be dampened slightly to produce a smooth confluence. Exterior corners of stucco shall be slightly rounded. Stucco on soffit surfaces shall be pitched forward to form a drip.

3.5.2 SCRATCH COAT: Scratch coat shall be applied not less than 3/8 inch thick under sufficient pressure to form good keys and to completely embed the reinforcement. Before the scratch coat has set, it shall be lightly scratched in one direction and vertical surfaces shall be scratched in the horizontal direction only. The scratch coat shall be fog cured for a minimum of 72 hours.

3.5.3 BROWN COAT: The scratch coat shall be dampened evenly to obtain uniform suction before the brown coat is applied. There shall be no visible water on the surface when the brown coat is applied. The brown coat shall be applied to the scratch coat with sufficient pressure to force the stucco into the scratches and shall be brought to a plumb, true, even plane with rod or straightedge. When set sufficiently, the brown coat shall be uniformly floated with a dry float to promote densification of the coat and to provide a surface receptive to bonding of the finish coat. Brown coat shall be fog cured for a minimum of 72 hours.

3.5.4 FINISH COAT: Surfaces of the brown coat shall be dampened not more than 1 hour before the finish coat is to be applied to a uniform wetness with no free-standing water on the surface. The finish coat shall be textured as required by the Contracting Officer and finish shall conform to the approved sample. The finish coat shall be fog cured for a minimum of 48 hours. Care shall be taken to prevent staining.

3.5.5 SURFACE TOLERANCE: When a 10 foot straightedge is placed at any location on the finished surface of the stucco, excluding rough-textured finish, the surface shall not vary more than 1/8 inch from the straightedge.

3.6 **CURING AND PROTECTION**: Fog curing shall be accomplished by applying a fine mist of water to the stucco. Care shall be exercised during fog curing to avoid erosion damage to the stucco surfaces. A solid stream of water shall not be used. Frequency of fogging shall be not less than three times daily. When directed the Contractor shall protect the stucco from the direct rays of the sun during severe drying conditions using canvas, cloth or other approved sheet material.

3.7 **PATCHING AND POINTING**: Loose, cracked, damaged or defective work shall be replaced or patched as directed. Patching shall match existing work in texture and color and shall be finished flush.

-- END OF SECTION -09220-

SECTION 06100
ROUGH CARPENTRY

1. GENERAL

1.1 **REFERENCES** The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only. The latest edition of the publication shall be used.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
ASTM A 307 (1994) Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength

AMERICAN WOOD PRESERVERS' ASSOCIATION (AWPA)
AWPA C2 (1995) Lumber, Timber, Bridge Ties and Mine Ties - Preservative Treatment by Pressure Processes
AWPA M4 (1990) The Care of Preservative - Treated Wood Products

AMERICAN WOOD PRESERVERS' BUREAU (AWPB)
AWPB LP 2 (1988) Softwood Lumber, Timber and Plywood Pressure Treated with Waterborne Preservatives for Above Ground Use
AWPB LP 22 (1988) Softwood Lumber, Timber and Plywood Pressure Treated with Waterborne Preservatives for Ground Contact Use

FEDERAL SPECIFICATIONS (FS)
FS FF-N-105 (Rev. B) (17 March '71) Nails, Brads, Staples and Spikes: Wire, Cut and Wrought
FS TT-P-19 (Rev D; Am 1) (01 June '92) Paint, Latex (Acrylic Emulsion, Exterior Wood and Masonry)

FEDERAL STANDARDS (FED-STD)
FED-STD 595 (Rev B) (15 Dec '89) Colors Used in Government Procurement

NATIONAL FOREST PRODUCTS ASSOCIATION (NFOPA)
NFOPA-01 (1986; Rev. May 1990) National Design Specification for Wood Construction
NFOPA-02 (1988) Manual for Wood Frame Construction

SOUTHERN CYPRESS MANUFACTURERS ASSOCIATION (SCMA)
SCMA GSC (1986) Grades of Southern Cypress

SOUTHERN PINE INSPECTION BUREAU (SPIB)
SPIB SPIBGR (1991; Supp. 1) Southern Pine Inspection Bureau Grading Rules

1.2 **DELIVERY AND STORAGE** Materials shall be delivered to the site in undamaged condition, and protected from extreme changes in temperature and humidity. Store materials off the ground to provide proper ventilation, with drainage to avoid standing water, and protection against ground moisture and dampness. Store materials with a moisture barrier at both the ground level and as a cover forming a well ventilated enclosure. Remove defective and damaged materials and provide new materials.

2. PRODUCTS

2.1 LUMBER AND SHEATHING

2.1.1 GRADING AND MARKING Materials shall bear the grademark, stamp or other identifying marks indicating grades of material and rules or standards under which produced. Such identifying marks on material shall be in accordance with the rule or standard under which the material is produced, including requirements for qualifications and authority of the inspection organization, usage of authorized identification, and information included in the identification.

2.1.2 SIZES Lumber and material sizes shall conform to requirements of the rules or standards under which produced. Unless otherwise specified, lumber shall be surfaced on four sides. Size references, unless otherwise specified, are nominal sizes, and actual sizes shall be within manufacturing tolerances allowed by the standard under which the product is produced.

2.1.3 MOISTURE CONTENT Air-dry or kiln-dry lumber. Kiln-dry treated lumber after treatment. Maximum moisture content of wood products shall be as follows at the time of delivery to the job site and when installed in the work:

Treated and Untreated Lumber	
Framing lumber and boards - 4 inches or less, nominal thickness	19% maximum
Timbers 5 inches and thicker, nominal thickness	23% maximum
Materials Other Than Lumber: In accordance with standard under which product is produced.	

2.2 **PRESERVATIVE TREATMENT** The treatment of lumber, timber, and plywood shall meet the requirements of AWPB LP 22 for ground contact use and fresh water exposure of AWPB LP 2 for above ground use only. All products shall bear the appropriate AWPB Quality Mark. The wood shall then be dried to the moisture content specified and marked with the word "Dry." Surfaces of lumber that will be exposed shall not be incised. Exposed areas of treated wood that are cut or drilled after treatment shall receive a field treatment in accordance with AWPA M4. Unless otherwise specified the following items will always be treated:

a.) All wood members in contact with water.

b.) All wood members exposed to the weather or within 18 inches or less of soil, unless otherwise specified to be coated.

2.3 **ROUGH HARDWARE** Unless otherwise indicated or specified, rough hardware shall be of the type and size necessary for the project requirements. Sizes, types, and spacing of fastenings of manufactured building materials shall be as recommended by the product manufacturer unless otherwise indicated or specified. Rough hardware exposed to the weather or embedded in or in contact with preservative treated wood, exterior masonry, or concrete walls or slabs shall be zinc-coated.

2.3.1 ANCHOR BOLTS ASTM A 307, size as indicated, complete with nuts and washers.

2.3.2 BOLTS: LAG, TOGGLE, AND MISCELLANEOUS BOLTS AND SCREWS Type, size, and finish best suited for intended use.

2.3.3 CLIP ANGLES Steel, 3/16 inch thick, size best suited for intended use; or zinc-coated steel or iron commercial clips designed for connecting wood members.

2.3.4 EXPANSION SHIELDS Type and size best suited for intended use.

2.3.5 NAILS AND STAPLES FS FF-N-105, size and type best suited for purpose. In general, 8-penny or larger nails shall be used for nailing through 1-inch thick lumber and for toe nailing 2-inch thick lumber; 16-penny or larger nails shall be used for nailing through 2-inch thick lumber. Nails used with treated lumber shall be galvanized.

3. EXECUTION

3.2 INSTALLATION OF MISCELLANEOUS WOOD MEMBERS

3.2.1 GENERAL Members shall be closely fitted, accurately set to required lines and levels, and rigidly secured in place. Nailing shall be in accordance with the recommended Nailing Schedule as contained in NFOPA-02. Where detailed nailing requirements are not specified, nail size and nail spacing shall be sufficient to develop an adequate strength for the connection without splitting the members.

3.2.2 PAINTING Items not to be painted which are in contact with or adjacent to other surfaces shall be removed or protected prior to surface preparation and painting operations. Galvanized surfaces to be painted shall be solvent-cleaned and treated with vinyl-type wash coat. Surfaces to be painted shall be cleaned before applying paint or surface treatments. Oil and grease shall be removed with clean cloths and cleaning solvents prior to painting. Cleaning shall be sequenced so that dust and other contaminants will not fall on wet, newly painted surfaces.

Paint may be applied by brush, roller or spray. At the time of application, paint shall show no signs of deterioration. Uniform suspension of pigments shall be maintained during application. Each coat shall be applied so finished surfaces shall be of uniform thickness and free of runs, drops, ridges, waves, laps, brush marks, and variations in color, texture, and finish. Hiding shall be complete. Rollers for applying paints and enamels shall be of a type designed for the coating to be applied and the surface to be coated. Special attention shall be given to insure that all edges, corners and crevices receive a film thickness equal to that of adjacent painted surfaces.

Painted surfaces shall receive two coats of paints and color shall be in accordance with FED-STD 595, color number 30099. All wooden items contained in this contract shall be painted. The type of paint used on wood shall be commercial grade, exterior latex paint meeting the requirements of FS TT-P-19 as well as stated herein.

END OF SECTION 06100

SECTION 04200
MASONRY

1. GENERAL

1.1 REFERENCES: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only. The latest edition of the publication shall be used.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 82 (1997) Steel Wire, Plain, for Concrete Reinforcement
ASTM A 153 (1995) Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 615 (1996a) Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM C 62 (1997) Building Brick (Solid Masonry Units Made From Clay or Shale)
ASTM C 90 (1997) Load-Bearing Concrete Masonry Units
ASTM C 91 (1996) Masonry Cement
ASTM C 216 (1997) Facing Brick (Solid Masonry Units Made from Clay or Shale)
ASTM C 270 (1997) Mortar for Unit Masonry
ASTM C 494 (1992) Chemical Admixtures for Concrete
ASTM C 780 (1996) Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry
ASTM D 1056 (1991) Flexible Cellular Materials-Sponge or Expanded Rubber
ASTM D 1667-76(1990) Flexible Cellular Materials-Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam)

1.2 **SUBMITTALS**: Submit the following in accordance with Section 01300, "Submittals."

1.2.1 SD-14 Samples Submit a sample of the brick and concrete block required. The color and texture of brick shall be selected and approved by the Contracting Officer.

a.) Concrete Masonry Units (CMU)
b.) Concrete Brick

1.3 **DELIVERY, HANDLING AND STORAGE**: Materials shall be delivered, handled, stored, and protected to avoid chipping, breakage, and contact with soil or contaminating material. Concrete masonry units shall be covered or protected from inclement weather. Anchors, ties, and joint reinforcement shall be stored in a dry location. Steel reinforcing bars and uncoated ties shall be free of loose mill scale and rust. Cementitious and other packaged materials shall be delivered in unopened containers, plainly marked and labeled with manufacturers' names and brands. Cementitious material shall be stored in dry, weathertight enclosures or be completely covered. Cement shall be handled in a manner that will prevent the inclusion of foreign materials and damage by water or dampness. Sand and aggregates shall be stored in a manner to prevent contamination or segregation.

2. **PRODUCTS**

2.1 **MATERIALS** The source of materials which will affect the appearance of the finished work shall not be changed after the work has started except with Contracting Officer's approval. Except as otherwise specified, new materials shall be equivalent in size, color, texture and quality to existing materials.

2.1.1 HOLLOW CLAY BRICK: Brick shall meet the requirements of ASTM C 62, ASTM C 216, and shall conform to Tri-State #561B, Dark Gray, Barktex.

2.1.2 CONCRETE MASONRY UNITS: Concrete masonry units shall conform to ASTM C90, Type I, Grade N-I light weight for hollow-load-bearing units. Units shall be modular in size and shall include closer, jamb, header, lintel, and bond beam units and special shapes and sizes to complete the work as indicated.

2.1.3 MORTAR: Mortar shall be Type S in accordance with the proportion specification of ASTM C 270 except cement-lime mortar proportions shall be 1 part cement, 1/2 part lime and 4-1/2 parts aggregate. Evaluation of performance shall be based on ASTM C 780 and ASTM C 1072.

Cement shall have a low alkali content and be of one brand. Aggregates shall be from one source. Accelerating admixture, if used, shall be non-corrosive, shall contain less than 0.2 percent chlorides, and shall conform to ASTM C 494, Type C. Mortar coloring shall be added to the mortar used for exposed masonry surfaces to produce a uniform color matching existing brick work. Mortar coloring shall not exceed 3 percent of the weight of cement for carbon black and ten percent of the weight of cement for all other pigments.

2.1.4 GROUT: Grout shall conform to ASTM C476.

2.1.5 ANCHORS AND WALL TIES: Anchors and ties shall be fabricated without drips or crimps and shall be zinc-coated in accordance with ASTM A 153, Class B-2.

2.1.6 JOINT REINFORCEMENT: Joint reinforcement shall be fabricated from steel wire conforming to ASTM A 82, welded construction. Tack welding will not be acceptable in reinforcement used for wall ties. Wire shall have zinc coating conforming to ASTM A 153, class B-2. All wires shall be a minimum of 9 gauge. Reinforcement shall be ladder type, or truss type design, having one longitudinal wire in the mortar bed of each face shell for hollow units. Joint reinforcement shall be placed a minimum of 5/8 inch cover from either face. The distance between crosswires shall not exceed 16 inches. Joint reinforcement for straight runs shall be furnished in flat sections not less than 10 feet long. Joint reinforcement for cavity walls may be provided with rectangular wall-type ties extending to the longitudinal wires. Joint reinforcement shall be provided with factory formed corners and intersections.

2.1.7 REINFORCING BARS: Reinforcing steel bars and rods shall conform to ASTM A 615, Grade 60, size as shown. Centering clips or caging devices shall be formed from not later than 9 gauge wire and shall be designed to prevent displacement of reinforcing steel during construction.

2.1.8 EXPANSION-JOINT MATERIALS: Premolded type shall be closed-cell cellular rubber conforming to ASTM D 1056 or closed-cell vinyl or polyvinyl chloride conforming to ASTM D 1667.

3. EXECUTION

3.1 ENVIRONMENTAL REQUIREMENTS

3.1.1 HOT WEATHER INSTALLATION: Masonry erected when the ambient air temperature is more than 99 º F in the shade and the relative humidity is less than 50 percent shall be shaded from direct sunlight during installation and after erection, masonry shall be protected from direct exposure to wind and sun for 48 hours.

3.1.2 COLD WEATHER INSTALLATION: Before erecting masonry when ambient temperature or mean daily air temperature falls below 40 º F, a written statement of proposed cold weather construction procedures shall be submitted for approval. Temperatures of masonry units shall not be less than 40 º F when laid and the temperature of the mortar used shall be between 40 º F and 120 º F. When the ambient temperature is 32 º F or less, masonry work under construction shall be protected and maintained at a temperature greater than 32 º F during installation and for a period of 24 hours after installation.

3.2 **LAYING MASONRY UNITS** Wall sections, types of construction, and dimensions shall be as shown. Masonry units shall be laid in the indicated bond pattern. Vertical joints shall be kept plumb. Units being laid and surfaces to receive units shall be free of water film and frost. Units shall be laid in a nonfurrowed full bed of mortar. Mortar for veneer wythes shall be beveled and sloped toward the center of the wythe from the cavity side. Units shall be shoved into place so that the vertical joints are tight. Vertical joints of brick and the vertical face shells of concrete masonry units, except where indicated at control, expansion, and isolation joints, shall be completely filled with mortar. Units that have been disturbed after the mortar has stiffened shall be removed, cleaned, and re-laid with fresh mortar. Mortar will be permitted to protrude up to 1/2 inch into the space between the facing wythe and the backup wall. Means shall be provided to prevent mortar from dropping into the space below. Air spaces, cavities, chases, expansion joints, and spaces to be grouted shall be kept free from mortar and other debris. Units used in exposed masonry surfaces shall be free from chipped edges or other imperfections detracting from the appearance of the finished work.

3.2.1 SURFACE PREPARATION: Surfaces upon which masonry is placed shall be cleaned of laitance, dust, dirt, oil, organic matter, or other foreign materials and shall be slightly roughened to

provide a surface texture with a depth of at least 1/8 inch. Sandblasting shall be used, if necessary, to remove laitance from pores and to expose the aggregate.

3.2.2 CUTTING AND FITTING: Full units of the proper size shall be used wherever possible, in lieu of cut units. Where cut units are required to accommodate the design, cutting shall be done by masonry mechanics using power masonry saws, except that cutting of units in unexposed work may be accomplished with masonry hammers and chisels. Concrete masonry units may be wet or dry cut. Wet cut units, before being placed in the work, shall be dried to the same surface-dry appearance as uncut units being laid in the wall. Cut edges shall be clean, true and sharp.

3.2.3 BRICK: When being laid, brick shall have sufficient suction to hold the mortar and to absorb water from the mortar. Brick shall be damp enough to allow the mortar to remain in a plastic state to permit the brick to be leveled and plumbed immediately after being laid without destroying bond.

3.2.4 CONCRETE MASONRY UNITS: Do not dampen concrete masonry units before or during laying. Units shall be laid so as to preserve the vertical continuity of cells that are to be filled with mortar or grout. Concrete brick shall be incorporated in unexposed work as necessary to fill out masonry sections.

3.3 **MORTAR**: Mortar shall be mixed in a mechanically operated mortar mixer for at least 3 minutes, but not more than 5 minutes. Measurement of ingredients for mortar shall be by volume or by weight. If by volume, ingredients not in containers, such as sand, shall be accurately measured by the use of a container of known capacity or shovel count based on a container of known capacity. If by weight, measurement of sand shall be based on the dry weight of sand of 80 pounds per cubic foot. Water shall be mixed with the dry ingredients in sufficient amount to provide a workable mixture which will adhere to the vertical surfaces of masonry units. Mortar that has stiffened because of loss of water through evaporation shall be re-tempered by adding water to restore the proper consistency and workability. Mortar that has reached its initial set or that has not been used within 2-1/2 hours after mixing shall be discarded.

3.4 **JOINTING**: Tooling shall be accomplished in a manner that will compress and seal mortar joint and produce joints of straight and true lines free of tool marks. Joint widths shall be uniform and such that the specified widths are maintained throughout. Joints shall be tooled when the mortar is thumbprint hard. Horizontal joints shall be tooled last. Joints shall be brushed to remove all loose and excess mortar. Joints in concealed masonry surfaces shall be cut flush with the masonry surfaces. Joints indicated to be caulked shall be raked to a depth of ¾ inch. Interior control joints shall be raked to a depth of ½ inch. All joints shall be tooled slightly concave.

3.4.1 JOINT WIDTHS: Joint widths shall be as follows:

3.4.1.1 CONCRETE MASONRY UNITS: Concrete masonry units shall have 3/8 inch joints.

3.4.1.2 BRICK: Brick joint widths shall be the difference between the actual and nominal dimensions of the brick in either height or length, but in no case shall the joints be less than ¼ inch nor more than ½ inch wide.

3.5 **BOND BEAMS**: Bond beams shall consist of concrete masonry bond beam units reinforced and filled with grout or concrete as indicated on the drawings. Structural bond beams shall be continuous through control joints and nonstructural or intermediate bond beams shall be terminated at control joints. Dummy joints shall be formed in structural bond beams at control joints. Where splices are required for continuity, reinforcement shall be lapped 48 bar diameters. A minimum clearance of 1/2 inch shall be maintained between reinforcement and interior faces of units.

3.6 **REINFORCING STEEL**: Reinforcement shall be cleaned of loose, flaky rust, scale, grease, mortar, grout, or other coating which might destroy or reduce its bond prior to placing grout. Reinforcement shall be placed prior to grouting. A minimum clearance of 1/2 inch shall be maintained between the bars and masonry units. Minimum clearance between parallel bars shall be one diameter of the reinforcement. Vertical reinforcing may be held in place using bar positioners located near the ends of each bar and at intermediate intervals of not more than 192 diameters of the reinforcement. Splices in adjacent bars shall be staggered. Bars shall be lapped a minimum of 48 diameters of the reinforcement. Welded or mechanical connections shall develop at least 125 percent of the specified yield strength of the reinforcement.

3.7 **EXPANSION JOINTS**: Expansion joints shall be provided and constructed as shown on the drawings and/or as required.

3.8 **DISCONTINUOUS WORK**: When necessary to temporarily discontinue the work, masonry units shall be stepped back for joining when work resumes. Toothing may be resorted to only when specifically approved. Loose mortar shall be removed and the exposed joints shall be thoroughly cleaned before laying new work. Top of walls exposed to rain or snow shall be covered with nonstaining waterproof covering or membrane when work is not in progress. Covering shall extend a minimum of 2 feet down each side of wall and be held securely in place.

3.9 **CLEANING**: After mortar joints have attained their initial set, but prior to hardening, mortar and grout daubs or splashings shall be completely removed from masonry-unit surfaces that will be exposed or painted. Before completion of the work, defects in joints of masonry to be exposed or painted shall be raked out as necessary, filled with mortar, and tooled to match existing joints. Masonry surfaces shall not be cleaned, other than removing excess surface mortar, until mortar in joints has hardened. Metal tools and metal brushes shall not be used for cleaning. Masonry surfaces shall be left clean, free of mortar daubs, dirt, stain, and discoloration, including scum from cleaning operations, and with tight mortar joints throughout.

END OF SECTION 04200

SECTION 03450
PRECAST ARCHITECTURAL CONCRETE

1. GENERAL

1.1 **REFERENCES** The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only.

AMERICAN CONCRETE INSTITUTE (ACI)

ACI 315 (1994) ACI Detailing Manual: Section Details and Detailing of Concrete Reinforcement
ACI 318 (1995) Building Code Requirements for Structural Concrete and Commentary
ACI 318 (1989; Rev 1992) Building Code Requirements for Reinforced Concrete

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 416 (1996) Steel Strand, Uncoated Seven-Wire for Prestressed Concrete
ASTM A 615 (1996a) Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM C 494 (1992) Chemical Admixtures for Concrete
ASTM C 1017 (1992) Chemical Admixtures for Use in Producing Flowing Concrete

FEDERAL SPECIFICATIONS (FS)

FS TT-P-664 (Rev. D) (28 Aug '92) Primer Coating, Alkyd, Corrosion-Inhibiting, Lead and Chromate Free, VOC-Compliant

PRESTRESSED CONCRETE INSTITUTE (PCI)

PCI Mnl-116 (1985) Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products
PCI Mnl-117 (1977) Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products
PCI Mnl-120 (1992) PCI Design Handbook - Precast and Prestressed Concrete
PCI Mnl-122 (1989) Architectural Precast Concrete

1.2 **GENERAL REQUIREMENTS**: Precast concrete units shall be designed and fabricated by an experienced and acceptable precast concrete manufacturer certified under the PCI Plant Certification Program. The manufacturer shall have been regularly and continuously engaged in the manufacture of precast concrete work similar to that indicated on the drawings for at least 3 years. Precast work shall be coordinated with the work of other trades.

1.3 **DESIGN**

1.3.1 STANDARDS AND LOADS: Precast unit design shall conform to ACI 318 and PCI Mnl-122. A differential temperature of 160 degrees F, between interior and exterior faces of the units, shall be considered in the design. Stresses due to restrained volume change caused by shrinkage and temperature differential, handling, transportation and erection shall be accounted for in the design.

1.3.2 CONNECTIONS: The design and sizing of connections for all design loads shall be by the Contractor. Details shown on the drawings shall be considered to the minimum requirements when designing.

1.3.3 CONCRETE STRENGTH: Precast concrete units shall have a minimum 28-day compressive strength of 5000 psi.

1.3.4 CONCRETE PROPORTION: The concrete proportion shall be developed using the same type and brand of cement, the same type and gradation of aggregates, and the same type and brand of admixture that will be used in the manufacture of precast concrete units for the project. Calcium chloride shall not be used in precast concrete and admixtures containing chloride ions, nitrates, or other substances that are corrosive shall not be used in prestressed concrete.

1.4 **SUBMITTALS** Submit the following in accordance with Section 01300, "Submittals."

1.4.1 SD-04, DRAWINGS

a.) Architectural Concrete System; Detail drawings showing details in accordance with ACI 315 and ACI 318, including installation details.

1.4.2 SD-12, SAMPLES

a.) Precast Concrete Units; Two 12 by 12 by 2 inch samples of each type of precast unit finish required for the project. Samples shall show matrix color, surface color, surface texture, and panel back finish.

1.5 **STORAGE AND INSPECTION AT MANUFACTURER'S PLANT**: Precast units temporarily stored at the manufacturer's plant shall be protected from damage in accordance with PCI Mnl-117 and PCI Mnl-122. Immediately prior to shipment to the jobsite, all precast concrete units shall be inspected for quality to insure all precast units conform to the requirements specified. Inspection for quality will include but not necessarily be limited to the following elements; color, texture, dimensional tolerances, chipping, cracking, staining, warping and honeycombing. All defective precast concrete units shall be replaced or repaired as approved.

1.6 **DELIVERY, STORAGE AND HANDLING**: Precast units shall be delivered to the site with delivery scheduled to avoid excessive build-up of units in storage at the site. Upon delivery to the jobsite all precast units shall be inspected for quality as specified above. If the precast units cannot be unloaded and placed directly into the work, they shall be stored on site, off the ground and protected from weather, marring, or overload. Precast units shall be handled in accordance with manufacturer's instructions.

2. PRODUCTS

2.1 **MATERIALS** Except as otherwise specified, material shall conform to Section 03300 "Cast-In-Place Concrete."

2.1.1 REINFORCING FIBER: Polypropylene fiber, fortified at 1.6 pounds per cubic yard, or equal.

2.1.2 REINFORCING STEEL: Reinforcing steel shall be ASTM A 615, grade 60, galvanized if clearance to an exterior face is 1 inch or less.

2.1.3 PRESTRESSING STRANDS shall conform to ASTM A 416.

2.1.4 TIE WIRE: Tie wire shall be soft monel or 18-8 stainless steel.

2.1.5 INSERTS: Inserts shall be manufacturer's standard, suited for the application.

2.1.6 PLATES, ANGLES, ANCHORS AND EMBEDMENTS: Material shall be as specified in PCI Mnl-117. Steel items, other than stainless, shall be coated with a rust-inhibiting paint or shall be hot-dip galvanized.

2.1.7 FORM RELEASE AGENT: Release agent shall be manufacturer's standard nonstaining type.

2.1.8 ADMIXTURES: Admixtures shall conform to ASTM C 494. Plasticizing admixture, if used, shall conform to ASTM C 1017.

2.1.9 METAL PRIMER shall conform to FS TT-P-664 (Rev. D).

2.2 **PRECAST CONCRETE UNITS**: Precast concrete units shall be manufactured and cured in accordance with the applicable provisions of PCI Mnl-116. Units shall be manufactured within the allowable tolerances given in PCI Mnl-116, PCI Mnl-117 and PCI Mnl-122. All panels shall be minimum 4" thick.

2.2.1 FORMWORK: Forms shall be steel of adequate thickness, braced, stiffened, anchored and aligned to produce precast architectural concrete units within required dimensional tolerances. Forms shall be sufficiently rigid to provide dimensional stability during handling and concrete placement and consolidation. Fiberglass-reinforced plastic, plastic coated wood, elastomeric or other nonabsorptive material shall be used for making tight joints and rustication pieces.

2.2.2 REINFORCEMENT: Fabrication and placement of reinforcement shall conform to the details shown on the approved detail drawings and PCI Mnl-116 and PCI Mnl-117.

2.2.3 EMBEDDED ACCESSORIES: Anchors, inserts, lifting devices, and other accessories which are to be embedded in the precast units shall be furnished and installed in accordance with the approved detail drawings. Embedded items shall be accurately positioned in their designed location, and shall have sufficient anchorage and embedment to satisfy design requirements.

2.2.4 STRIPPING: Precast concrete units shall not be removed from forms until units develop sufficient strength to safely strip the formwork and to remove the precast concrete units from the forms to prevent damage to the units from overstress or chipping.

2.2.5 EXPOSED SURFACES: Surfaces of precast units exposed to view or surfaces indicated to be finished shall be exposed aggregate, equivalent in materials and quality to existing precast units.

2.2.6 OTHER SURFACES: Surfaces of precast units not exposed to view or not otherwise indicated to be finished shall be finished in accordance with Section 03300 "Cast-In-Place Concrete."

2.3 **BEAM SUPPORTS**: Beam supports shall consist of W5 x 16 which have been shop coated with a commercial grade, rust inhibitive primer, prior to top coating. Final coating color- to be applied in the shop or field - will be approved by the Contracting Officer to match existing beam supports.

3. EXECUTION

3.1 INSTALLATION

3.1.1 GENERAL: Precast units shall be erected in accordance with the detail drawings and without damage to other units or to adjacent members. Erection of precast units shall be supervised and performed by workmen skilled in this type of work. Fence shall be installed to the lines and grades indicated. The area on either side of the fence line shall be cleared to the extent indicated. All steps necessary to maintain fence continuity shall be taken.

3.1.2 EXCAVATION: Excavate to dimensions indicated for concrete-embedded items. Holes shall be cleared of loose material. Waste material shall be spread where directed. The ground surface irregularities along the fence line shall be eliminated to the extent necessary to maintain a 2 inch clearance between the bottom of the panels and finish grade.

3.1.3 SETTING BEAM SUPPORTS: Concrete and grout shall be allowed to cure for 72 hours prior to attachment of any item to the posts. Beam supports shall be set in concrete to the depth indicated. Provide concrete bases of dimensions indicated. Concrete and grout around each beam support shall be thoroughly consolidated, free of voids, and finished to form a dome.

3.1.4 ERECTION OF PRECAST UNITS: Units shall be set true to alignment and level. Erection tolerances shall be in accordance with the requirements of PCI Mnl-117 and PCI Mnl-122. As units are being erected, shims and wedges shall be placed as required to maintain correct alignment. After erection, welds and abraded surfaces of steel shall be cleaned and touched-up with a zinc-rich paint. Pickup points, boxouts, inserts, and the like shall be finished to match adjacent areas after erection.

3.2 **CLEANING**: Faces and other exposed surfaces of precast concrete discolored during erection shall be cleaned to remove dirt and stains by dry scrubbing with a stiff fiber brush, wetting the surface and vigorous scrubbing of the finish with a stiff fiber brush followed by additional washing, or by chemical cleaning compounds such as detergents or other commercial cleaners. Commercial cleaners shall be used in accordance with the manufacturer's recommendations. Cleaning procedure shall be performed on a designated test area and shall be approved prior to proceeding with cleaning work. Discolorations which cannot be removed by these procedures, shall be considered defective work. Cleaning work shall be done when temperature and humidity conditions are such that surfaces dry rapidly. Care shall be taken during cleaning operations to protect adjacent surfaces from damage.

3.3 **PROTECTION OF WORK**: Precast units shall be protected against damage from subsequent operations.

3.4 **DEFECTIVE WORK**: Precast concrete units damaged during erection shall be repaired as soon after occurrence as possible or replaced, as directed, using approved procedures. All repairs to precast concrete units shall match the adjacent surfaces in color and texture and shall be as approved. Unless otherwise approved, repair procedures shall conform to PCI Mnl-116 and PCI Mnl-117.

END OF SECTION 03450

SECTION 03300
CAST-IN-PLACE CONCRETE

1. GENERAL

1.1 **REFERENCES** The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only. The latest edition of the publication shall be used.

AMERICAN CONCRETE INSTITUTE (ACI)

ACI 301 (1996) Standard Specification for Structural Concrete
ACI 318 (1995) Building Code Requirements for Structural Concrete and Commentary
ACI 318 (1989; Rev 1992) Building Code Requirements for Reinforced Concrete

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 33 (1997) Concrete Aggregates
ASTM C 39 (1996) Compressive Strength of Cylindrical Concrete Specimens
ASTM C 94 (1997) Ready-Mixed Concrete
ASTM C 150 (1997e1) Portland Cement
ASTM C 1107(1997) Packaged Dry, Hydraulic-Cement Grout (Nonshrink)

CORPS OF ENGINEERS (COE)

COE CRD-C 300 (1990) Specifications for Membrane-Forming Compounds for Curing Concrete

1.2 **GENERAL REQUIREMENTS**: The work shall be in conformance with ACI 318, part entitled "Construction Requirements," except as specified herein. This work will consist of any work requiring structural concrete such as walls, and miscellaneous concrete work. Excavation and backfilling shall conform to Section 02220 “Excavation, Subgrade Preparation and Grading.” The Contractor shall replace damaged material and redo unacceptable work at no additional cost to the Government.

1.3 **DELIVERY, STORAGE AND HANDLING**: Materials shall be stored in accordance with ACI 301 so as not to become deteriorated or to become contaminated. Do not deliver concrete until vapor barrier, forms, reinforcement, embedded items, and chamfer strips are in place and ready for concrete placement..

2. PRODUCTS

2.1 **CONCRETE**: Ready-Mixed Concrete: ASTM C 94, as modified herein. Ready-mixed concrete is defined in this specification as concrete procured regularly by a commercial establishment and delivered to the purchaser in the plastic state.

2.1.1 COMPRESSIVE STRENGTH: Concrete mixes shall be proportioned to obtain compressive strength in 28 days of 3000 psi for reinforced and non-reinforced concrete. The compressive strengths shall be reached in 7 days when high-early-strength cement is required.

2.1.1.1 AIR CONTENT: Total air content of exterior concrete shall be maintained at 5 to 7 percent by volume of concrete.

2.1.1.2 SLUMP: Slump shall be 2 to 3 inches for all work.

2.2 **MATERIALS**

2.2.1 CEMENT: Type II conforming to ASTM C 150.

2.2.2 WATER: Water for mixing and curing, including free moisture and water in the aggregates, shall be fresh, clean, and potable.

2.2.3 AGGREGATES: Aggregates shall be in accordance with ASTM C 33, except as modified herein. All aggregates for exposed concrete surfaces shall be obtained from one source. Aggregates shall be free from any substance which may be deleteriously reactive with the alkalies in the cement in an amount sufficient to cause excessive expansion of concrete.

2.2.4 NONSHRINK GROUT: ASTM C 1107

2.2.5 ADMIXTURES: Calcium chloride shall not exceed 2 percent by weight of cement.

2.2.6 MATERIALS FOR FORMS: Plywood or hardboard especially made for concrete form use or other materials that will produce the specified finishes without adversely affecting the concrete surfaces. All visible surfaces in the final product shall give a smooth finish acceptable to the Contracting Officer.

2.2.6.1 FORM COATING: Nonstaining form oil or form release agent that will not deleteriously affect concrete surfaces nor impair subsequent applications.

2.2.7 REINFORCEMENT: Deformed, Grade 40 or Grade 60 billet steel.

2.2.7.1 REINFORCING DOWELS: Plain carbon steel bars, minimum yield point of 40,000 psi for use in structural concrete work.

2.2.7.2 WELDED WIRE FABRIC: Welded wire fabric shall be electrically welded fabric cold-drawn wire of gauge and mesh size indicated and shall conform to ASTM A 185. Where the size, mesh and weight of the fabric are not indicated or specified otherwise, fabric shall be 6 inch by 6 inch mesh, no.8 gauge.

2.2.8 MATERIALS FOR CURING CONCRETE

2.2.8.1 IMPERVIOUS SHEETING: Impervious sheet shall be white opaque polyethylene 4 mil thick, waterproof kraft paper, or polyethylene-coated burlap.

2.2.8.2 LIQUID MEMBRANE-FORMING COMPOUND: Membrane-forming curing compound shall be of commercial formulation, sprayable, nontoxic, and of the type that will dry within 4 hours and form a film highly resistant to moisture loss from concrete while curing. Compound shall be white with fugitive dye conforming to COE CRD-C 300.

2.2.9 EXPANSION/CONTRACTION JOINT FILLER: Premolded nonextruding, resilient bituminous or non-bituminous type for use in concrete paving or construction, 3/8 inch thick.

2.3 **EMBEDDED ITEMS**: Embedded items shall be of the size and type indicated or as needed for the application.

3. EXECUTION

3.1 **SUBGRADE PREPARATION**: Subgrade shall conform to all requirements of specification Section 02220 "Excavation, Subgrade Preparation and Grading."

3.2 **FORMWORK**: The Contractor shall be responsible for the adequacy of forms and form supports. Forms shall be made mortar tight, properly aligned and adequately supported to produce concrete conforming accurately to the indicated shapes lines, dimensions, and with surfaces free of offsets, waviness, or bulges. Forms shall be maintained so as to ensure completed work within the allowable tolerances specified. Unless otherwise shown, exposed external corners shall be chamfered, beveled, or rounded by moldings placed in the forms.

3.2.1 COATING: Surfaces shall be thoroughly cleaned and coated before each use. Before placing the concrete, the contact surfaces of forms shall be coated with a non-staining mineral oil or suitable non-staining form coating compound, except as specified otherwise.

3.2.2 REMOVAL OF FORMS AND SUPPORTS: Forms shall be removed at a time and in a manner that will not injure the concrete.

3.3 **REINFORCEMENT**: Reinforcement shall be fabricated to the shapes required. Reinforcement shall be interrupted 2 inches clear on each side of joints in slabs on grade and perimeter joints.

Wire-mesh reinforcement shall be continuous between joints in slabs on grade. Laps shall be at least one full mesh plus, 2 inches; staggered to avoid continuous lap in either direction; and securely wired or clipped with the standard clips. Mesh shall be supported on precast concrete units or specifically designed wire-fabric supports fabricated of plastic in a manner that will support the mesh at the minimum height indicated.

3.4 **INSTALLATION OF EMBEDDED ITEMS**: Embedded items shall be free from oil, loose scale or rust, and paint. Embedded items shall be installed at the locations indicated and required to serve the intended purpose. Voids in sleeves, slots and inserts shall be filled with readily removable material to prevent the entry of concrete.

3.5 **CONTRACTION JOINTS**: Contraction joints shall be true to line, 1/8 inch wide, and of depth equal to approximately 1/4 of the slab thickness. Joints shall be sawed or formed by inserting fiberboard or plastic strips of the required dimensions after placing concrete. Joints in permanently exposed slabs shall be filled with an approved joint sealant.

3.6 **PLACING CONCRETE**: Concrete shall be placed upon clean undisturbed surfaces free from frost, ice, and water. Dry or pervious surfaces receiving concrete shall be covered with impervious sheet materials. Concrete may be placed directly on impervious surfaces that are thoroughly moistened but not muddy. Concrete shall be placed in layers not over 12 inches deep except that all slabs shall he placed in a single layer. Concrete to receive other construction shall be screeded to the proper level.

3.6.1 VIBRATION: Except for slabs 4 inches or less, each layer of concrete shall be consolidated with internal concrete vibrators supplemented by handspading, rodding, and tamping. Vibrating equipment shall be adequate to thoroughly consolidate the concrete. Concrete in slabs 4 inches and less shall be consolidated by compacting and screeding.

3.7 **FINISHING**: Finishing operations shall be started immediately after placement of the concrete. The sequence of operations shall be as follows; Finishing, Floating, Straight edging, and Texturing. Finishing equipment and tools shall be maintained clean and in an approved condition.

3.7.1 TEXTURING: Before the surface sheen has disappeared and before the concrete becomes non-plastic, the surface of the concrete shall be textured with a burlap drag or broomed as approved by the Contracting Officer.

3.8 **CURING**: Immediately after the finishing operations, exposed concrete surfaces shall be cured by membrane-curing. The entire exposed surface shall be covered with a uniform coating of white pigmented membrane-forming curing compound.

Formed surfaces shall be coated immediately after the forms are removed and in no case longer than one hour after removal of forms.

Curing compound shall be applied in two coats by hand-operated pressure sprayers at a coverage of approximately 200 square feet per gallon for both coats. The second coat shall be applied in a direction approximately at right angles to the direction of application of the first coat. The compound shall form a uniform, continuous, coherent film that will not check, crack, or peel and shall be free from pinholes or other imperfections. Apply an additional coat to all surfaces showing discontinuity, pinholes, or to other defects. Concrete surfaces that are subjected to heavy rainfall within three hours after curing compound has been applied shall be re-sprayed by the above method and at the above coverage at no additional coat to the Government.

3.9 **PROTECTION**: The completed concrete shall be protected from damage until accepted.

END OF SECTION 03300

SECTION 02825
FENCE, STEEL PANEL

1. GENERAL

1.1 **REFERENCES**: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only. The latest edition of the publication shall be used.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 47-90 (1995) Ferritic Malleable Iron Castings
ASTM A 153 (1995) Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 513 (1996) Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing
ASTM A 570 (1996) Steel, Sheet and Strip, Carbon, Hot-Rolled, Structural Quality
ASTM A 653 (1996) Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM A 924 (1996a) General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process
ASTM B 695 (1991) Coatings of Zinc Mechanically Deposited on Iron and Steel

1.2 **SUBMITTALS**: Submit the following in accordance with Section 01300, "Submittals."

1.2.1 SD-02, MANUFACTURER'S CATALOG DATA

a.) Panel fencing components
b.) Accessories

1.2.2 SD-06, INSTRUCTIONS

a.) Complete current instructions prepared by the manufacturer of the Panel Fence system.
b.) Submit drawings to supplement the instructions.

1.3 **DELIVERY AND STORAGE**: Deliver materials to site in an undamaged condition. Store materials off the ground to provide protection against oxidation caused by ground contact.

2. PRODUCTS

Reference to specific brand names of companies is for the purpose of establishing minimum quality standards and guidance and is not intended to limit selection to other manufacturers that are equal or exceed the specified items in terms of physical properties and other factors.

2.1 **STEEL PANEL FENCING & ACCESSORIES**: Products shall conform to ASTM A 653, ASTM A 924, and detailed specifications as referenced and other requirements as specified. When connecting to existing fence, the fence panels, gates, posts, and accessories shall be equivalent in materials and quality to existing fence. Type and class shall be uniform. Provide framework and accessories with coatings similar to that specified for the panel material.

2.1.1 ACCEPTABLE MANUFACTURERS: The Steel Panel Fencing and accessories shall be the product of the following manufacturer:

a.) ROHN ® Privacy Paneling, Peoria, IL, (800) 447-2264

2.1.2 PANEL MATERIAL: Vertical roll formed panels are 0.017 minimum A446 Grade E full-hard steel and shall have a minimum strength of 80,000 psi. Quantity 21 per 8’ section. Vertical panels shall be galvanized to ASTM A 653, G 90. Individual roll formed panels shall be 5” wide.

2.1.3 HORIZONTAL RAILS: Horizontal rails shall be 1-1/4” x 1-1/2” x 92-7/16”, 0.074 minimum steel, pre-punched. Horizontal rails shall be galvanized to ASTM A 653, G 60.

2.1.3.1 Quantity 2 per 8’ section for sections 8’ or less in height.

2.1.3.2 Quantity 3 per 8’ section for sections 10’ and 12’ in height.

2.1.4 POSTS: Posts shall be 3’ in length in excess of panel height to allow for in-ground anchoring.

2.1.4.1 For lengths up to 9’, posts shall be 4” O.D. , schedule 40.

2.1.4.2 For lengths up to 11’ to 12’ , posts shall be 4” O.D., schedule 80.

2.1.4.3 For lengths 13’ and over, posts shall be 4” O.D., schedule 80.

2.1.5 SIZES: Panels shall be provided in manufacturer's standard heights; 4', 5', 6', 8', 10' and 12'. Assembled panel sections shall be 8' long (nominal).

2.1.6 PAINT: Duranar high performance Fluorocarbon color coating, oven-baked over primer coat. Finish color shall be Canyon Brown.

2.1.7 GATES: Provide manufacturer's standards including; walk through, single swing, double swing, single rolling cantilever, and double rolling cantilever gates.

2.1.8 TOP CHANNEL: Top channel (standard on 4' and 5' high sections) shall be 0.017 minimum A446 Grade E full-hard steel and shall have a minimum strength of 80,000 psi.

2.1.9 FASTENERS: All corrosion resistant. All items essential to complete the Panel fencing installation, though not specifically indicated or specified, shall be provided.

2.1.10 CONCRETE: ASTM C 94, using ¾ inch maximum size aggregate and having minimum compressive strength of 3,000 psi at 28 days. The government reserves the right to take compression cylinder samples any time. Grout shall consist of one part Portland cement to three parts clean, well-graded sand and the minimum amount of water to produce a workable mix.

3. EXECUTION

3.1 INSTALLATION

3.1.1 GENERAL: Install panel fence in accordance with fence manufacturer's written installation instructions and drawings except as modified herein. Fence shall be installed to the lines and grades indicated. The area on either side of the fence line shall be cleared to the extent indicated. All steps necessary to maintain fence continuity shall be taken.

3.1.2 EXCAVATION: Excavate to dimensions indicated for concrete-embedded items. Post holes shall be cleared of loose material. Waste material shall be spread where directed. The ground surface irregularities along the fence line shall be eliminated to the extent necessary to maintain a 2 inch clearance between the bottom of the panels and finish grade.

3.1.3 POST SETTING:. Post shall be set plumb and in alignment. Concrete and grout shall be allowed to cure for 72 hours prior to attachment of any item to the posts. Posts shall be set in concrete to the depth indicated. Posts set in concrete shall be set in holes not less than indicated diameter.

3.1.3.1 EARTH: Provide concrete bases of dimensions indicated. Concrete and grout around each post shall be thoroughly consolidated, free of voids and finished to form a dome.

3.1.3.2 CONCRETE SLABS AND WALLS: Set posts into zinc-coated sleeves, set in concrete slab or wall, to a minimum depth of 12 inches. Fill sleeve joint with lead, nonshrink grout, or other approved material. Set posts for support of removable fence sections into sleeves that provide a tight sliding joint and hold posts aligned and plumb without use of lead or setting material.

3.1.4 GATES: Install gates with accessories to match fence. Hinges, drop fork latches, center drop latches, drop rods, wheels, stops, and keepers shall be installed as required. Hinged gates shall be hinged to swing through 180 degrees from closed to open and mounted to swing as indicated. Rolling cantilevered gates shall be installed in accordance with fence manufacturer's written installation instructions and drawings.

END OF SECTION 02825

SECTION 02811

FENCE, VINYL COATED CHAIN-LINK WITH PRE-INSERTED SLATS

1. **GENERAL**

1.1 **REFERENCES**: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only. The latest edition of the publication shall be used.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 392 (1996)	Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric
ASTM A 491 (2000)	Standard Specification for Aluminum-Coated Steel Chain-Link Fence Fabric
ASTM D 638 (1999)	Standard Test Method for Tensile Properties of Plastic
ASTM D 746 (1998)	Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact
ASTM D 747 (1999)	Standard Test Method for Apparent Bending Modulus of Plastic by Means of a Cantilever Beam
ASTM D 1238 (1994)	Standard Test Method for Flow Rates of Thermoplastics by Extrusion Plastometer
ASTM D 1505 (1998)	Standard Test Method for Density of Plastics by the Density-Gradient Technique Plastometer
ASTM F 567 (2000)	Standard Practice for Installation of Chain Link Fence
ASTM F 668 (1999)	Standard Specification for Poly(Vinyl Chloride) (PVC) and Other Organic Polymer-Coated Steel Chain-Link Fence Fabric
ASTM F 1043 (2000)	Standard Specification for Strength and Protection Coatings on Metal Industrial Chain Link Fence Framework
ASTM F 1184 (2000)	Standard Specification for Industrial and Commercial Horizontal Slide Gates

1.2 **SUBMITTALS**: Submit the following in accordance with Section 01300, "Submittals."

1.2.1 SD-02, MANUFACTURER'S CATALOG DATA

a.) Chain-link fencing components
b.) Accessories

1.2.2 SD-04, DRAWINGS

a.) Location of gate, corner, end, and pull posts

1.2.3 SD-06, INSTRUCTIONS

a.) Fence

1.2.4 SD-13, CERTIFICATES

a.) Chain Link Fence Statement signed by an official authorized to certify on behalf of the manufacturer attesting that the chain link fence and component materials meet the specified requirements.

1.3 **DELIVERY AND STORAGE**: Deliver materials to site in an undamaged condition. Store materials off the ground to provide protection against oxidation caused by ground contact.

1.4 Summary: This specification details the components and requirements for complete fence systems incorporating:

A. Privacy Link

1.4.1 Work Included: The contractor shall provide labor, materials and all necessary accessory items for the installation of the privacy fencing system specified herein.

1.5 Related Work:

- General Conditions
- Earthwork
- Concrete

1.6 System Description: The privacy fencing system shall be a complete system made up of chain link fence fabric with pre-inserted polyethylene slats, framework, fittings, gates and incidental accessory items.

1.7 Quality Assurance: Installer Qualifications: Company specializing in performing the work of this section with minimum five (5) years documented experience.

Manufacturer's Warranty: The manufacturer of the chain link fabric with pre-inserted polyethylene slats warrants its products to be free from defects as detailed in its written 15 year Pro-Rata Limited Warranty

2. PRODUCTS

2.1 Manufacturers

Privacy Link, Inc. P.O. BOX 295, HYDE PARK, UTAH 84318 shall manufacture the chain link fence fabric with pre-inserted slats. The manufacturer may be contacted at 800-574-1076, 435-563-1058 or via fax at 435-563-1062. The manufacturer's web site is located at http://www.eprivacylink.com and E-Mail may be sent to info@eprivacylink.com.

Various standard fence industry manufacturers shall manufacture all other components of the system such as framework, fittings and gates.

2.2 Materials

Chain link fence fabric with pre-inserted slats of the following product

Privacy Link

The chain link fabric shall be: 6'and, 7'high. Fabric Diameter & Finish 3-1/2" x 5" mesh by 9 ga. (0.148") galvanized before weaving per ASTM A392, Type II.

Fabric Color shall be brown, or redwood with vinyl coated chain link fabric.

The privacy slats, which are pre-inserted at the time of manufacture, shall be double wall, self-locking and approx. 3" wide to provide a tight fit in the fence fabric. The slats shall be manufactured from virgin, high-density polyethylene and shall be redwood, dark brown. Privacy Link provides approx. 95% screening.

2.3 Framework

Per ASTM F-1043 Standard Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework {special consideration to wind loading should be considered}

2.4 Fittings

Per ASTM F-626 Standard Specification for Fence Fittings

2.5 Swing Gates

Per ASTM F-900 Standard Specification for Industrial and Commercial Swing Gates

2.6 Slide Gates

Per ASTM F-1184 Standard Specification for Industrial and Commercial Horizontal Slide Gates

3 EXECUTION

3.1 Preparation

Prepare the grade and remove surface irregularities if any, which may interfere with the installation of the fence.

3.2 Installation

Per ASTM F-567 Standard Practice for Installation of Chain Link Fence

3.3 Clean Up

Contractor shall clean the job site of excess materials and debris. Material from posthole excavations shall be scattered uniformly away from the posts.

END OF SECTION 02811

SECTION 02810
FENCE, CHAIN-LINK

1. GENERAL

1.1 **REFERENCES**: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only. The latest edition of the publication shall be used.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 116 (1995) Zinc-Coated (Galvanized) Steel Woven Wire Fence Fabric
ASTM A121 (1992a) Zinc-Coated (Galvanized) Steel Barbed Wire
ASTM A 392 (1996) Zinc-Coated Steel Chain-Link Fence Fabric
ASTM A 585 (1992) Aluminum-Coated Steel Barbed Wire
ASTM A 641 (1992) Zinc-Coated (Galvanized) Carbon Steel Wire
ASTM A 789 (1995) Seamless and Welded Ferritic/Austenitic Stainless Steel Tubing for General Service
ASTM A 824 (1995) Metallic-Coated Steel Marcelled Tension Wire for Use With Chain Link Fence
ASTM C 94 (1997) Ready-Mixed Concrete
ASTM F 567 (1993) Installation of Chain-Link Fence
ASTM F 626 (1996a) Fence Fittings
ASTM F 668 (1996) Poly(Vinyl Chloride) (PVC)-Coated Steel Chain-Link Fence Fabric
ASTM F 900 (1994) Industrial and Commercial Swing Gates
ASTM F 969 (1996) Construction of Chain Link Tennis Court Fence
ASTM F 1043 (1995) Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework
ASTM F 1083 (1996) Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures
ASTM F 1184 (1994) Industrial and Commercial Horizontal Slide Gates

FEDERAL SPECIFICATIONS (FS)

FS FF-T-276B (Notice 1) (31 March '89) Thimbles, Rope
FS FF-T-791B (Amend 1) (31 March '89) Turnbuckle Assemblies and Fittings
FS RR-F-191 (Rev. K) (14 May '90) Fencing, Wire and Post Metal (and Gates, Chain-Link Fence Fabric, and Accessories)

1.2 **SUBMITTALS**: Submit the following in accordance with Section 01300, "Submittals."

1.2.1 SD-02, MANUFACTURER'S CATALOG DATA
- a.) Chain-link fencing components
- b.) Accessories

1.2.2 SD-04, DRAWINGS
- a.) Location of gate, corner, end, and pull posts

1.2.3 SD-06, INSTRUCTIONS
- a.) Fence

1.2.4 SD-13, CERTIFICATES
- a.) Chain Link Fence Statement signed by an official authorized to certify on behalf of the manufacturer attesting that the chain link fence and component materials meet the specified requirements.

1.3 **DELIVERY AND STORAGE**: Deliver materials to site in an undamaged condition. Store materials off the ground to provide protection against oxidation caused by ground contact.

2. PRODUCTS

2.1 **CHAIN-LINK FENCING & ACCESSORIES**: Products shall conform to FS RR-F-191 (Rev. K), and detailed specifications as referenced and other requirements as specified. When connecting to

existing fence, the type or class of fabric, gates, posts, and accessories shall be equivalent in materials and quality to existing fence. Type and class shall be uniform.

2.1.1 CHAIN-LINK FENCE FABRIC: Mesh size, 2 inches. Height of fabric, as indicated. The tolerance for fabric height is ±1 inch. The chain-link fence fabric shall be helically woven into a diamond mesh. The fabric shall be twisted and barbed on the top selvage and knuckled on the bottom selvage. Fabric height shall be 6 feet. The steel wire for the fabric shall be of such quality and purity that, when drawn to the gauge specified, the wire shall have a minimum tensile strength of 75,000 psi.

2.1.1.1 ZINC COATED STEEL CHAIN-LINK FENCE FABRIC: ASTM A 392, Class I, zinc-coated steel, 9-gage coated wire. The galvanized zinc coating on the steel mesh wire shall be 1.2 ounces of zinc per square foot of surface area.

2.1.1.2 POLYVINYL CHLORIDE (PVC) COATED STEEL CHAIN-LINK FENCE FABRIC: ASTM F 668, Class 2b, Polyvinyl chloride-coated steel fabric with 0.3 ounces of zinc coating per square foot, 9-gage core wire. The color of coated materials shall be selected by Contracting Officer from manufacturer's standard colors.

2.1.2 GATES: ASTM F 900 and/or ASTM F 1184. Gates shall be the type and swing shown on the drawings. Gate frames shall conform to strength and coating requirements of ASTM F 1083 for Group IA, steel pipe, with external coating Type A, nominal pipe size (NPS) 1-1/2. Gate frames shall conform to strength and coating requirements of ASTM F 1043, for Group IC, steel pipe with external coating Type A or Type B, pipe size (NPS) 1-1/2. Framing and bracing members of steel alloy. Steel member finish shall be zinc-coated or PVC-coated over zinc- or aluminum-coated steel. The frames shall be zinc-coated by the hot dip or metal spray method after fabrication. When frames are not zinc-coated after fabrication the welds shall be coated with a zinc rich paint.

Vertical members of gate leaves shall be spaced so that no members are more than 8 feet apart. Gate leaves more than 8 feet wide shall have either intermediate members and diagonal truss rods or shall have tubular members as necessary to provide rigid construction, free from sag or twist.

Gate fabric shall be as specified for chain-link fabric. Attach gate fabric to gate frame in accordance with manufacturer's standards, except that welding will not be permitted. Hardware items shall be furnished as required for the operation of the gate. Arrange padlocking latches to be accessible from both sides of gate, regardless of latching arrangement.

Coating for steel latches, stops, hinges, keepers, and accessories, shall be zinc-coated steel or PVC, minimum thickness of 0.10 inch. Single and double gate latches shall be fork type, gravity drop bar type with positive locking features, or plunger bar type of full gate height. Gate hinges shall be of adequate strength for the gate, and shall have large bearing surfaces for clamping or bolting in position. Hinge action shall be such that gates may be easily opened and closed by one person. Stops shall be provided for holding the gates in the open position.

2.1.3 POSTS: ASTM F 1083, zinc-coated, Group IA, with external coating Type A or PVC-coated over zinc- or aluminum-coated steel. Group IC steel pipe, zinc-coated with external coating Type A or Type B and Group IIA, formed steel sections shall meet the strength and coating requirements of ASTM F 1043. Group III, ASTM F 1043, steel H-sections may be used for line posts in lieu of line post shapes specified for other classes. Sizes shall be as specified in ASTM F 900 and/or ASTM F 1184 and as noted on the drawings.

Unless otherwise specified, posts shall conform to drawing and fence standards. Length of posts shall be compatible with the specified fence height, or shall be as specified. The term "Terminal posts" shall apply to end, corner, and pull posts. The term "Line posts" is defined as the vertical posts installed between terminal posts. The term "Gate posts" shall apply to the posts supporting the weight of the gate.

2.1.4 BRACES AND TOP RAILS: ASTM F 1083, zinc-coated, Group IA, steel pipe, size NPS 1-1/4 or PVC-coated over zinc- or aluminum-coated steel. Group IC steel pipe, zinc-coated, shall meet the strength and coating requirements of ASTM F 1043. Group IIA, formed steel sections, size 1.66 inch, may be used as braces and rails if Group IIA line posts are furnished. Braces shall be provided for gate posts and terminal posts. Braces extending to line posts shall be connected back

to the base of the braced post by a 5/16 inch minimum outside diameter truss rod and tightener. Top rails shall be provided continuous between line posts and connecting to terminal posts.

2.1.5 ACCESSORIES: ASTM F 626. Provide accessories with coatings similar to that specified for chain-link fabric or framework.

a.) Caps should fit snugly over the posts and exclude rain. Caps should be formed steel; malleable or cast iron, or aluminum alloy.

b.) Wire ties shall be provided for attaching fabric to line posts, and tension wire. Wire ties shall not be less than the fabric wire gauge size and of the same material and coatings. The minimum weight for zinc coated wire ties is 0.8 ounces of zinc per foot of coated surface area.

c.) Brace and tension bands shall be used to secure tension wire and brace ends to terminal posts. When tension bars are used, tension bands shall be used for securing chain-link fabric at each terminal post. Brace and tension bands shall be steel and shall be ¾ inch wide by 1/10 inch thick nominal.

d.) Tension bars for 2 inch mesh shall be no less than 3/16 by 3/4 inch or equivalent cross-sectional area. A tension bar shall be provided where chain-link fabric meets terminal posts. Tension bars shall be steel, of a continuous length compatible with the height of the fence and shall be threaded through the fabric and attached to the post by tension bands. Roll formed posts with integral loops for weaving fabric to posts are acceptable in lieu of tension bars.

e.) Tension wire, ASTM A 824, shall be used at the top and bottom of the fence. Tension wire shall be zinc-coated steel, all tension wire shall be 7 gauge wire size with an outside diameter of 0.177 inch. Steel tension wire shall be marcelled or crimped coil spring hard tempered carbon steel wire. The tension wire shall have a minimum tensile strength of 75,000 pounds per square inch. Tension wire shall be Type I or Type II, Class 2 coating.

f.) Truss rods shall be steel and have a minimum diameter of 5/16 inch. Truss rods shall be furnished for each terminal post. Truss rods shall be provided with turnbuckles or other equivalent provisions for adjustment.

g.) Barbed Wire Arms shall be pressed steel, cast iron or cast aluminum alloy fitted with clips or slots for attaching three strands of barbed wire. Arms shall be set outward on a 45 degree angle and be capable of supporting a 250 pound load at outer barbed wire connecting point without causing permanent deflection.

h.) Barbed Wire shall be commercial quality steel, 12-1/2 gage, two strand twisted line wire with 4 point barbs at 5 inch spacing. Coating shall consist of a minimum of 0.80 ounces of zinc per square foot of wire surface conforming to ASTM A 121 or a minimum of 0.30 ounces of aluminum per square foot of wire surface conforming to ASTM A 585.

i.) Miscellaneous Accessories: Unless otherwise specified, miscellaneous items, such as bolts, nuts, and washers shall be galvanized steel or aluminum alloy at the manufacturer's option.

Turnbuckles shall be Jaw and Jaw type sized in accordance with FS FF-T-791B to accommodate ¾ inch wire-rope and Type III thimbles

Thimbles shall be Type III, split oval heavy wire-rope thimbles, sized in accordance with FS FF-T-276B.

2.1.6 CONCRETE: ASTM C 94, using ¾ inch maximum size aggregate and having minimum compressive strength of 3,000 psi at 28 days. The government reserves the right to take compression cylinder samples any time. Grout shall consist of one part Portland cement to three parts clean, well-graded sand and the minimum amount of water to produce a workable mix.

3. **EXECUTION**

3.1 **INSTALLATION**

3.1.1 GENERAL: Install chain link fence in accordance with ASTM F 567 and with fence manufacturer's written installation instructions except as modified herein. For chain link tennis count fences, install in accordance with ASTM F 969. Fence shall be installed to the lines and grades indicated. The area on either side of the fence line shall be cleared to the extent indicated. All steps necessary to maintain fence continuity shall be taken.

3.1.2 EXCAVATION: Excavate to dimensions indicated for concrete-embedded items. Post holes shall be cleared of loose material. Waste material shall be spread where directed. The ground surface irregularities along the fence line shall be eliminated to the extent necessary to maintain a 1 inch clearance between the bottom of the fabric and finish grade.

3.1.3 POST SETTING: Line post shall be spaced equidistant at intervals not exceeding 10 feet. Provide terminal (corner, gate, and pull) posts, with bracing in both directions, for changes in direction of 15 degrees or more, or for abrupt changes in grade. Provide drawings showing location of gate, corner, end, and pull posts. Post shall be set plumb and in alignment. Concrete and grout shall be allowed to cure for 72 hours prior to attachment of any item to the posts. Posts shall be set in concrete to the depth indicated. Posts set in concrete shall be set in holes not less than indicated diameter.

3.1.3.1 EARTH: Provide concrete bases of dimensions indicated. Concrete and grout around each post shall be thoroughly consolidated, shall be free of voids and finished to form a dome.

3.1.3.2 CONCRETE SLABS AND WALLS: Set posts into zinc-coated sleeves, set in concrete slab or wall, to a minimum depth of 12 inches. Fill sleeve joint with lead, nonshrink grout, or other approved material. Set posts for support of removable fence sections into sleeves that provide a tight sliding joint and hold posts aligned and plumb without use of lead or setting material.

3.1.4 TOP RAIL shall be supported at each post in a manner that a continuous brace between terminal posts is formed. Where required, sections of top rail shall be joined using sleeves or couplings that will allow expansion.

3.1.5 BRACING AND TRUSS RODS: Braces and truss rods shall be installed as indicated and in conformance with the standard practice for the fence furnished. No bracing is required on fences 6 feet high or less if a top rail is installed. Brace each gate and terminal post back to adjacent line post(s) with horizontal center brace rail, and diagonal truss rods. Install brace rail 3 ½ feet above the ground one bay from terminal and gate posts. Maximum length of unbraced fence shall not exceed 500 feet. Pull and corner posts shall be braced both sides.

3.1.6 BOTTOM TENSION WIRES shall be installed prior to installing chain-link fabric. Tension wire shall be attached to the terminal posts of each stretch of the fence. Bottom tension wire shall be installed within the bottom 6 inches of the installed fabric. Tension wire shall be pulled taut and shall be free of sag.

3.1.7 CHAIN-LINK FABRIC: Chain-link fabric shall be attached on opposite side of posts from area being secured. Fabric shall be secured to terminal and gate posts using stretcher bars and tension bands or by integrally weaving to integral fastening loops of terminal and gate posts for the full length of each post. Fabric shall be continuous between terminal posts; however, runs between terminal posts shall not exceed 500 feet Spacing of tension bands on posts shall be at 15 inch intervals or less. Fabric shall be pulled taut to provide a smooth, uniform appearance free from sag without permanently distorting the fabric diamond or reducing the fabric height. Fabric shall be fastened to line posts at approximately 15 inch intervals and fastened to rails and tension wires at approximately 24 inch intervals. Fabric shall be cut by untwisting and removing pickets. Splicing shall be accomplished by weaving a single picket into the ends of the rolls to be joined. The bottom of the installed fabric shall be 1 inch plus or minus 1/2 inch above the ground.

3.2 ACCESSORIES INSTALLATION

3.2.1 POST CAPS shall be installed as recommended by the manufacturer. Post tops shall be of the design as required to accommodate the manufacturer's standard connections. Studs driven by low velocity explosive actuated tool shall not be used with gray iron or other material that will be fractured.

3.2.2 BARBED WIRE SUPPORTING ARMS AND BARBED WIRE: Barbed wire supporting arms and barbed wire shall be installed as indicated and as recommended by the manufacturer. Supporting arms shall be anchored to the posts in a manner to prevent easy removal with hand tools. Barbed wire shall be pulled taut and attached to the arms with clips or other means that will prevent easy removal.

3.2.3 GATES: Install gates with fabric to match fence. Install two hinges per leaf, latch, catches, retainer and locking clamp. Hinged gates shall be hinged to swing through 180 degrees from closed to open and mounted to swing as indicated. Latches, stops, and keepers shall be installed as required. Sliding gates shall be installed as recommended by the manufacturer. Hinge pins and hardware shall be welded or otherwise secured to prevent removal.

3.2.4 GROUNDING: Fences crossed by power lines of 600 volts or more shall be grounded at or near the point of crossing and at distances not exceeding 150 feet on each side of crossing. Ground conductor shall consist of No. 8 AWG solid copper wire. Grounding electrodes shall be 3/4 inch by 10 foot long copper-clad steel rod. Electrodes shall be driven into the earth so that the top of the electrode is at least 6 inches below the grade. Where driving is impracticable, electrodes shall be buried a minimum of 12 inches deep and radially from the fence. The top of the electrode shall be not less than 2 feet or more than 8 feet from the fence. Ground conductor shall be clamped to the fence and electrodes with bronze grounding clamps to create electrical continuity between fence posts, fence fabric, and ground rods. After installation the total resistance of fence to ground shall not be greater than 25 ohms.

END OF SECTION 02810

SECTION 02220

EXCAVATION, SUBGRADE PREPARATION AND GRADING

1. GENERAL

This guide specification covers the requirements for excavation, preparation of subgrade, and grading for foundation, asphalt and concrete work.

1.1 **REFERENCES**: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only. The latest edition of the publication shall be used.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 1556 (1990) Density and Unit Weight of Soil in Place by the Sand-Cone Method

ASTM D 1557 (1991) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft.)

ASTM D 2487 (1993) Classification of Soils for Engineering Purposes (Unified Soil Classification System)

MILITARY STANDARDS (MIL-STD)

MIL-STD-619B (1968) Unified Soil Classification System for Roads, Airfields, Embankments and Foundations

1.2 **DEFINITIONS**

1.2.1 SATISFACTORY FILL MATERIALS: Satisfactory Fill Materials include materials classified in MIL-STD-619 as GW, GC, SW and SC properly worked by the contractor to obtain optimum moisture and compaction.

1.2.2 UNSATISFACTORY MATERIALS: Unsatisfactory Materials for fill or for subgrade under paving includes materials classified in MIL-STD-619 as OH, CL, OL, PT and SP; however, materials of any classification that are determined by the Contracting Officer as too wet or too soft for providing a stable upgrade or stable foundation for pavements will be classified as unsatisfactory.

1.2.3 COHESIONLESS AND COHESIVE MATERIALS: Cohesionless materials include gravels and gravel sand mixtures (GW), sands, and gravelly sands (SW). Cohesive materials include clayey sands (SC), silts and fine sands. When results of compaction tests for moisture density relations are recorded on graphs, cohesionless soils will show fairly flat moisture-density curves, and cohesive soils will show normal moisture-density curves except for silt soils, which may exhibit very narrow ranges of moisture content within which optimum compaction can be obtained.

1.2.4 DEGREE OF COMPACTION: Required compaction is expressed as a percentage of the maximum density obtained by test procedure of ASTM D 1557.

1.3 **PROTECTION**

1.3.1 UTILITIES: Movement of construction machinery and equipment over pipes and utilities during construction shall be at the Contractor's risk. Excavation made with power-driven equipment is not permitted within two feet of known Government-owned utility or subsurface construction. For work immediately adjacent to or for excavations exposing a utility or other buried obstruction, excavate by hand. Report damage to utility lines or subsurface construction immediately to the Contracting Officer. The Contractor shall immediately repair any utility lines or pipes damaged by his operations. Repairs shall be acceptable to the Contracting Officer.

1.3.2 EROSION CONTROL: Turf areas disturbed during construction shall be graded to match existing surface, fertilized with ten pounds of 8-8-8 fertilizer per 1,000 SF and seeded.

1.4 **PAYMENT**: Payment items for the work of this contract on which the contract unit price payments will be made are listed in the Bid Schedule. The costs associated with removing top soil, excavating foundations, grading surrounding areas, and overall site restoration do not have specific unit costs in the Bid Schedule and therefore should be included in the overall price of the work.

2. PRODUCTS

2.1 **SOIL MATERIALS**: Provide soil materials as defined free of debris, roots, wood, scrap material, vegetable matter, refuse, soft unsound particles, ice, or other deleterious and objectionable materials. Satisfactory materials include materials classified in ASTM D 2487 as GW, GP, and SW.

2.1.1 BACKFILL: Bring trenches to grade indicated (existing surface elevations) using material excavated on the site of this project. This material will be considered unclassified and no testing other than for compaction will be required before use as backfill.

2.1.2 SPECIAL BACKFILL FOR STRUCTURES AND PAVEMENTS: Backfill trenches under roads, structures, and paved areas with sand material.

2.1.3 SAND: Clean coarse-grained sand classified as SW or SP by ASTM D 2487 for backfill as indicated.

2.1.4 TOPSOIL MATERIAL: Salvaged topsoil from stockpile. Free of subsoil, stumps, rocks larger than 3/4-inch in diameter, brush, weeds, toxic substances, and other material or substance detrimental to plant growth. Topsoil shall be a natural, friable soil representative of productive soils in the vicinity. Furnish additional topsoil from approved sources if stockpiled material is insufficient to complete work indicated.

3. EXECUTION

3.1 **SURVEY AND GRADE**: Contractor shall be responsible for laying out and setting grade stakes or any other survey work required to complete the work. No layout drawings will be given to the Contractor. The Contracting Officer will direct the Contractor as to the location, type and length of the fence.

3.2 **EXCAVATION**: The Contractor shall perform excavation of every type of materials encountered within the limits of the project, to the lines, grades, and elevations indicated and as specified herein. Excavation shall be performed to a depth equal to the depth of pavements or foundations to be placed or to the depth necessary to remove organic or other unsatisfactory materials as specified hereinafter.

Satisfactory excavated materials shall be transported to and placed in fill or embankment areas within the limits of the work. Unsatisfactory materials encountered within the limits of the work shall be excavated below grade and replaced with satisfactory materials as directed. Such excavated material and the satisfactory material ordered as replacement shall be included in excavation.

Surplus satisfactory excavated material not required for fill or embankment shall be disposed of in areas approved for surplus material storage or designated waste areas as directed by the Contracting Officer. Unsatisfactory excavated material shall be considered debris and disposed of outside the limits of Keesler AFB.

3.3 **SUBGRADE PREPARATION**: Subgrade shall be shaped to line, grade and cross section and compacted as specified. This operation shall include plowing, disking and any moistening or aerating required to obtain proper compaction. Soft or otherwise unsatisfactory material shall be removed and replaced with satisfactory material. Low areas resulting from removal of unsatisfactory material shall be brought up to the required grade with satisfactory material and the entire subgrade shaped as specified. Satisfactory material shall be placed in horizontal layers not exceeding eight (8) inches in depth and than compacted. No material shall be placed on surfaces that are muddy, frozen, or contain frost.

After rolling, surface of subgrade for paved areas shall not show deviation greater than one half inch when tested with a 12 foot straightedge applied both parallel and at right angles to centerline of area. Contractor shall obtain any required borrow material from sources outside the limits of Keesler AFB.

3.4 **COMPACTION**: Compaction, if required, shall be obtained by rolling with approved equipment suited to the particular soil being compacted. Material shall be moistened or aerated as necessary to provide the moisture content that will facilitate obtaining the specified compaction with the equipment utilized. Each layer shall be compacted to not less than the percentage of maximum density specified below determined in accordance with ASTM D 1557, Method D.

Fills, Embankments, and Subgrade Preparation	Cohesionless Soil	Cohesive Soil
Under paved areas, top 12 inches	95	90
Under paved areas, below top 12 inches	90	85
Under grassed areas	85	80

3.5 **TEST FOR COMPACTION**: Testing will be the responsibility of the Contractor when required by the Contracting Officer. Testing shall be performed in sufficient number to ensure that the specified density is being obtained. Laboratory tests for moisture density relations shall be determined in accordance with ASTM D 1557. Determination of density shall be in conformity with the requirements of ASTM D 1556.

3.6 **GRADING**: Grading shall be in conformance with the typical sections shown and shall be finished within a tolerance of ± 1" of the grades indicated except where more stringent requirements are specifically stated. Areas within 5 feet outside of each structure line shall be constructed true-to-grade, shaped to drain, and shall be maintained free of trash and debris until final inspection has been completed and the work has been accepted.

3.7 **SPREADING TOPSOIL**: Areas outside the structure lines from which topsoil has been removed shall be topsoiled. The surface shall be free of materials that would hinder planting or maintenance operations. The subgrade shall be pulverized to a depth of 2 inches by disking or plowing for the bonding of topsoil with the subsoil. Topsoil shall then be uniformly spread, graded, and compacted to the thickness, elevations, slopes indicated, and left free of surface irregularities. Topsoil shall not be placed when the subgrade is frozen, excessively wet, extremely dry, or in a condition otherwise detrimental to seeding, planting, or proper grading.

3.8 **PROTECTION**: Settlement or washing that occurs in graded, topsoiled, or backfilled areas prior to acceptance of the work shall be repaired and grades reestablished to the required elevations and slopes.

END OF SECTION 02220

Standard Specification for A570/A570M-96 Steel, Sheet and Strip, Carbon, Hot-Rolled, Structural Quality , 1. Scope 1.1 This specification covers hot-rolled carbon steel sheet and strip of structural quality in cut lengths or coils. This material is intended for structural purposes where mechanical test values are required, and is available in a maximum thickness of 0.229 in. [6.0 mm] except as limited by Specification A568/A568M and A749/A749M. The maximum thickness may be further limited by the capacity of the composition to meet the specified mechanical property requirements. 1.1.1 The following grades are covered in this specification: Mechanical Properties Yield Point, min, Tensile Strength, Grade ksi [MPa] min, ksi [MPa] 30 30 [205] 49 [340] 33 33 [230] 52 [360] 36 36 [250] 53 [365] 40 40 [275] 55 [380] 45 45 [310] 60 [415] 50 50 [345] 65 [450] 55 55 [380] 70 [480] 1.2 The values stated in either U.S. inch-pound units or SI (metric) units are to be regarded separately as standard. Within the text the SI units are shown in brackets. The values stated in each system are not exact equivalents, therefore each system must be used independently of the other. Combining values of the two systems may result in nonconformance with the specification.

Standard Specification for B695-91 Coatings of Zinc Mechanically Deposited on Iron and Steel , 1. Scope 1.1 This specification covers the requirements for a coating of zinc mechanically deposited on iron and steel basis metals. The coating is provided in several thicknesses up to and including 107 [mu]m. The seven thickest classes are usually referred to as "mechanically galvanized." 1.2 This standard does not purport to address the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Note 1-The performance of this coating complies with the requirements of Specification A153 and MIL-C-81562. 1.3 The values stated in SI units are to be regarded as the standard. The inch-pound equivalents of SI units may be approximate.

Standard Specification for A153/A153M-95 Zinc Coating (Hot-Dip) on Iron and Steel Hardware , 1. Scope 1.1 This specification covers zinc coatings applied by the hot-dip process on iron and steel hardware. 1.2 This specification is intended to be applicable to hardware items that are centrifuged or otherwise handled to remove excess galvanizing bath metal (free zinc). Coating thickness grade requirements reflect this. Note 1-If the galvanized material covered by this specification is bent or otherwise fabricated to the degree that causes the zinc coatings to stretch or compress beyond the limit of elasticity, some cracking or flaking of the coating may occur. 1.3 The values stated in inch-pound units are to be regarded as standard. The equivalent SI units may only be approximate. 1.4 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

Standard Specification for A653/A653M-96 Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process , 1. Scope 1.1 This specification covers steel sheet, zinc-coated (galvanized) or zinc-iron alloy-coated (galvannealed) by the hot-dip process in coils and cut lengths. 1.2 The product is produced in various zinc or zinc-iron alloy-coating weights [masses] or coating designations as shown in Table 1. 1.3 Product furnished under this specification shall conform to the applicable requirements of the latest issue of Specification A924/A924M, unless otherwise provided herein. 1.4 The product is produced in a number of designations, types, grades and classes pertaining to chemical composition and typical mechanical properties of the steel sheet which are designed to be compatible with differing application requirements. 1.5 This specification is applicable to orders in either inch-pound units (as A653) or SI units (as A653M). Values in inch-pound and SI units are not necessarily equivalent. Within the text, SI units are shown in brackets. Each system shall be used independently of the other. 1.6 Unless the order specifies the "M" designation (SI units), the product shall be furnished to inch-pound units.

Standard Specification for A924/A924M-96a General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process , 1. Scope 1.1 This specification covers the general requirements that, unless otherwise specified in the product specification, apply to steel sheet in coils and cut lengths, metallic-coated on continuous lines by the hot-dip process. The product is intended for applications requiring corrosion resistance and may require specific strength levels, heat resistance, paintability, or formability, or a combination thereof. 1.2 Subject to individual product specification provisions, steel sheet may be available in commercial quality (CQ), lock-forming quality (LFQ), drawing quality (DQ), drawing quality special killed (DQSK), structural quality (SQ), and high-strength, low-alloy (HSLA). Steel sheet can be produced with the following metallic coatings. Specific information on each of the following is contained in the individual product specification: 1.2.1 Zinc or zinc-iron alloy coated, 1.2.2 Zinc-5% aluminum alloy coated, 1.2.3 55% aluminum-zinc alloy coated, 1.2.4 Aluminum-coated, and 1.2.5 Terne (lead-tin alloy) coated. 1.3 Products covered by this general requirements specification are

described in the following product standards: Specifications A308; A463/A463M; A653/A 653M; A755/A755M; A792/A792M; A819; A875/A875M; and A929/A929M. 1.4 Metallic-coated steel sheet is produced to various coating designations, as shown in the individual product specifications. Except for differentially coated sheet, the coating is always expressed as the total coating of both surfaces. 1.5 In case of any conflict in requirements, the requirements of the individual product specifications shall prevail over those of this general specification. 1.6 The purchaser may specify additional requirements that do not negate any of the provisions of this general specification or of the individual product specifications. Such additional requirements, the acceptance of which are subject to negotiation with the supplier, should be included in the order information. 1.7 For purposes of determining conformance with this specification and the various product specifications referenced in 1.3, values shall be rounded to the nearest unit in the right-hand place of figures used in expressing the limiting values (except to the nearest 5 MPa for SI strength values) in accordance with the rounding method of Practice E29. 1.8 Metallic-coated steel sheet covered by this specification is produced to thickness requirements expressed to 0.001 in. [0.01 mm] for both coils and cut lengths. The thickness is the total of the base steel and the coating. 1.9 The values stated in inch-pound units or SI units are to be regarded separately as standard. Within the text, the SI units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other. Combining values from the two systems may result in nonconformance with this specification. 1.10 This specification and some of the applicable product specifications are expressed in both inch-pound and SI units. However, unless the order specifies the applicable "M" specification designation (SI units), the product shall be furnished to inch-pound units.

Standard Specification for A47-90(1995) Ferritic Malleable Iron Castings , 1. Scope 1.1 This specification covers ferritic malleable castings for general engineering usage at temperatures from normal ambient to approximately 750°F. 1.2 No precise quantitative relationship can be stated between the properties of the iron in various locations of the same casting and those of a test specimen cast from the same iron (see Appendix X1.). Note-A complete metric companion to Specification A47 has been developed-A47M; therefore, no metric equivalents are presented in this specification.

Standard Specification for A513-96 Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing , 1. Scope 1.1 This specification covers electric-resistance-welded carbon and alloy steel tubing for use as mechanical tubing. 1.2 This specification covers mechanical tubing made from hot- or cold-rolled steel. 1.3 This specification covers round, square, rectangular, and special shape tubing. Size Range Type (Round Tubing) Electric-Resistance-Welded Tubing outside diameter from 1/2 to 15 in. from Hot-Rolled Steel (19.0 to 381.0 mm) wall from 0.065 to 0.650 in. (1.65 to 16.50 mm) Electric-Resistance-Welded Tubing outside diameter from 3/4 to 8 in. from Cold-Rolled Steel (9.52 to 203.2 mm) wall from 0.022 to 0.134 in. (0.71 to 3.40 mm) 1.4 Optional supplementary requirements are provided and when desired, shall be so stated in the order. 1.5 The values stated in inch-pound units are to be regarded as the standard.

Standard Specification for C33-97 Concrete Aggregates , 1. Scope 1.1 This specification defines the requirements for grading and quality of fine and coarse aggregate (other than lightweight or heavyweight aggregate) for use in concrete. 1.2 This specification may be used by a contractor, concrete supplier, or other purchaser as part of the purchase document describing the material to be furnished. Note 1-This specification is regarded as adequate to ensure satisfactory materials for most concrete. It is recognized that, for certain work or in certain regions, it may be either more or less restrictive than needed. For example, where aesthetics are important, more restrictive limits may be considered regarding impurities that would stain the concrete surface. The specifier should ascertain that aggregates specified are or can be made available in the area of the work, with regard to grading, physical, or chemical properties, or combination thereof. 1.3 This specification may also be referenced in project specifications to define the quality of aggregate, the nominal maximum size of the aggregate, and other specific grading requirements. Those responsible for selecting the proportions for the concrete mixture shall have the responsibility of determining the proportions of fine and coarse aggregate and the addition of blending aggregate sizes if required or approved. 1.4 Units of Measurement: 1.4.1 With regard to sieve sizes and the size of aggregate as determined by the use of testing sieves, the values in inch-pound units are shown for the convenience of the user; however, the standard sieve designation shown in parentheses is the standard value as stated in Specification E11. 1.4.2 With regard to other units of measure, the values stated in inch-pound units are to be regarded as standard.

Standard Specification for C94-97 Ready-Mixed Concrete , 1. Scope 1.1 This specification covers ready-mixed concrete manufactured and delivered to a purchaser in a freshly mixed and unhardened state as hereinafter specified. Requirements for quality of concrete shall be either as hereinafter specified or as specified by the purchaser. In any case where the requirements of the purchaser differ from these in this specification, the purchaser's specification shall govern. This specification does not cover the placement, consolidation, curing, or protection of the concrete after delivery to the purchaser. 1.2 The values stated in inch-pound units are to be regarded as the standard. The values in parentheses are for information only. 1.3 As used throughout this specification the manufacturer shall be the contractor, subcontractor, supplier, or producer who furnishes the ready-mixed concrete. The purchaser shall be the owner or representative thereof.

ACI 318/318R (1995) Building Code Requirements for Structural Concrete and Commentary \$92.75$\X
ACI 318R/318RM (1989; Rev 1992) Building Code Requirements for Reinforced Concrete (Metric)
Standard Test Method for C39-96 Compressive Strength of Cylindrical Concrete Specimens
Scope1.1 This test method covers determination of compressive strength of cylindrical concrete specimens such as molded cylinders and drilled cores. It is limited to concrete having a unit weight in excess of 50 lb/ft (800 kg/m). 1.2 The values stated in inch-pound units are to be regarded as the standard. 1.3 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. 1.4 The text of this standard references notes which provide explanatory material. These notes shall not be considered as requirements of the standard.

ACI 318/318R (1995) Building Code Requirements for Structural Concrete and Commentary \$92.75$\X
ACI 318R/318RM (1989; Rev 1992) Building Code Requirements for Reinforced Concrete (Metric)

Standard Specification for A416/A416M-96 Steel Strand, Uncoated Seven-Wire for Prestressed Concrete , 1. Scope 1.1 This specification covers two types and two grades of seven-wire, uncoated steel strand for use in pretensioned and post-tensioned prestressed concrete construction. The two types of strand are low-relaxation and stress-relieved (normal-relaxation). Low-relaxation strand shall be regarded as the standard type. Stress-relieved (normal-relaxation) strand will not be furnished unless specifically ordered, or by arrangement between purchaser and supplier. Grade 250 [1725] and Grade 270 [1860] have minimum ultimate strengths of 250000 psi [1725 MPa] and 270000 psi [1860 MPa], respectively, based on the nominal area of the strand. 1.2 The values stated in either inch-pound units or SI units are to be regarded as standard. Within the text, the SI units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other. Combining values from the two systems may result in nonconformance with the specification.

Standard Specification for C494-92 Chemical Admixtures for Concrete
, 1. Scope 1.1 This specification covers materials for use as chemical admixtures to be added to portland cement concrete mixtures in the field for the purpose or purposes indicated for the seven types as follows: 1.1.1 Type A -Water-reducing admixtures, 1.1.2 Type B -Retarding admixtures, 1.1.3 Type C -Accelerating admixtures, 1.1.4 Type D -Water-reducing and retarding admixtures, 1.1.5 Type E -Water-reducing and accelerating admixtures, 1.1.6 Type F -Water-reducing, high range admixtures, and 1.1.7 Type G -Water-reducing, high range, and retarding admixtures. 1.2 This specification stipulates tests of an admixture with suitable concreting materials as described in 11.1 through 11.3 or with cement, pozzolan, aggregates, and an air-entraining admixture proposed for specific work (11.4). Unless specified otherwise by the purchaser, the tests shall be made using concreting materials as described in 11.1 through 11.3. Note 1-It is recommended that, whenever practicable, tests be made using the cement, pozzolan, aggregates, air-entraining admixture, and the mixture proportions, batching sequence, and other physical conditions proposed for the specific work (11.4) because the specific effects produced by chemical admixtures may vary with the properties and proportions of the other ingredients of the concrete. For instance, Types F and G admixtures may exhibit much higher water reduction in concrete mixtures having higher cement factors than that listed in 12.1.1. Mixtures having a high range water reduction generally display a higher rate of slump loss. When high-range admixtures are used to impart increased workability (6 to 8-in. slump), the effect may be of limited duration, reverting to the original slump in 30 to 60 min depending on factors normally affecting rate of slump loss. The use of chemical admixtures to produce high-slump (flowing) concrete is covered by Specification C1017. Note 2-The purchaser should ensure that the admixture supplied for use in the work is equivalent in composition to the admixture subjected to test under this specification (see Section 6, Uniformity and Equivalence). Note 3-Admixtures that contain relatively large amounts of chloride may accelerate corrosion of prestressing steel. Compliance with the requirements of this specification does not constitute assurance of acceptibility of the admixture for use in prestressed concrete. 1.3 This specification provides for three levels of testing. 1.3.1 Level 1 -During the initial approval stage, proof of compliance with the performance requirements defined in Table 1 demonstrates that the admixture meets the requirements of this specification. Uniformity and equivalence tests of Section 6 shall be carried out to provide results against which later comparisons can be made. 1.3.2 Level 2 -Limited retesting described in 5.2, 5.2.1 and 5.2.2 may be requested at intervals by the purchaser. Proof of compliance with the requirements of Table 1 demonstrates continued conformity of the admixture with the requirements of the specification. 1.3.3 Level 3 -For acceptance of a lot or for measuring uniformity within or between lots, when specified by the purchaser, the uniformity and equivalence tests of Section 6 shall be used. 1.4 The following precautionary caveat pertains only to the test method portion, Sections 11 through 18 of this Specification: This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. 1.5 The values stated in inch-pound units are to be regarded as the standard

Standard Specification for C1017-92 Chemical Admixtures for Use in Producing Flowing Concrete
, 1. Scope 1.1 This specification covers two types of chemical admixtures to be added to portland cement concrete mixtures for the purpose of producing flowing concrete. The types are as follows: 1.1.1 Type I -Plasticizing, and 1.1.2 Type II -Plasticizing and retarding. 1.2 This specification stipulates tests of a chemical admixture with reference concreting materials or with concrete-making materials proposed for specific work. Unless otherwise specified by the purchaser, the tests shall be made using reference concreting materials. 1.3 If a chemical admixture has been tested and found to comply with the provisions of this specification using reference materials, and is being considered for use with other materials for specific work, additional tests for such use may be agreed upon between the purchaser and the supplier and may not involve all the tests described herein. 1.4 This specification provides for three levels of testing. 1.4.1 Level 1 -During the initial approval stage, proof of compliance with the performance requirements defined in Table 1 demonstrates that the admixture meets the requirements of this specification. Uniformity and equivalence tests of Section 6 shall be carried out to provide results against which later comparisons can be made. 1.4.2 Level 2 -Limited retesting described in 5.2, 5.2.1 and 5.2.2 may be requested at intervals by the purchaser. Proof of compliance with the requirements of Table 1 demonstrates continued conformity of the admixture with the requirements of the specification. 1.4.3 Level 3 -For acceptance of a lot or for measuring uniformity within or between lots, when specified by the purchaser, the uniformity and equivalence tests of Section 6 shall be used. 1.5 The values stated in inch-pound units are to be regarded as standard. Note 1-It is recommended that, whenever practicable, tests be made using the concrete-making materials (cement, pozzolan, slag, aggregates, air-entraining admixture), the mixture proportions, and the batching sequence and other physical conditions proposed for the specific work. The specific effects produced by chemical admixtures may vary with the properties and proportions of the other ingredients of the concrete. Note 2-Temperature has a pronounced effect on time of setting of concrete. This may be exaggerated by the use of admixture Types I and II. If concrete temperatures to be expected on a particular job differ significantly from the conditions set forth in this specification, further testing may be desirable. Note 3-An unusually rapid loss of workability with time, sometimes termed "slump loss", can be experienced with these admixtures. The rate of slump loss will vary with the particular concreting materials and proportions, mixing equipment and procedures, and temperatures experienced on any particular job. At elevated temperatures, the slump may be retained for a longer period if a Type II admixture is used. Note 4-Admixtures that contain relatively large amounts of chloride may accelerate corrosion of prestressing steel. Compliance with the requirements of this specification does not constitute assurance of acceptability of the admixture for use in prestressed concrete (see ACI 318-83). Note 5-Admixtures that contain relatively large amounts of alkali ($Na_2O + 0.658\ K_2O$) may contribute to reaction with some aggregates. Compliance with the requirements of this specification does not assure acceptability when used with alkali-reactive aggregates and some cements. 1.6 The following precautionary caveat pertains only to the test method portion, Sections 8 through 17 of this specification: This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.
CCB PCI Mnl-116 (1985) Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products

PCI Mnl-120 (1992) PCI Design Handbook - Precast and Prestressed Concrete
PCI Mnl-122 (1989) Architectural Precast Concrete

Standard Specification for A82-97 Steel Wire, Plain, for Concrete Reinforcement , 1. Scope 1.1 This specification covers cold-drawn steel wire, as-drawn or galvanized, to be used as such, or in fabricated form, for the reinforcement of concrete, in sizes not less than 0.080 in. (2.03 mm) nominal diameter. 1.2 Supplement S1 describes high strength wire, which shall be furnished when specifically ordered. It shall be permissible to furnish high strength wire in place of regular wire if mutually agreed to by the purchaser and the supplier. 1.3 The values stated in either inch-pound units or SI units are to be regarded as the standard. Within the text the inch-pound units are shown in parentheses. The values stated in each system are not exact equivalents; therefore, each system shall be used independently of the other. Combining values may result in nonconformance with the specification.

Standard Specification for A153/A153M-95 Zinc Coating (Hot-Dip) on Iron and Steel Hardware , 1. Scope 1.1 This specification covers zinc coatings applied by the hot-dip process on iron and steel hardware. 1.2 This specification is intended to be applicable to hardware items that are centrifuged or otherwise handled to remove excess galvanizing bath metal (free zinc). Coating thickness grade requirements reflect this. Note 1-If the galvanized material covered by this specification is bent or otherwise fabricated to the degree that causes the zinc coatings to stretch or compress beyond the limit of elasticity, some cracking or flaking of the coating may occur. 1.3 The values stated in inch-pound units are to be regarded as standard. The equivalent SI units may only be approximate. 1.4 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

Standard Specification for A615/A615M-96a Deformed and Plain Billet-Steel Bars for Concrete Reinforcement , 1. Scope 1.1 This specification covers deformed and plain billet-steel concrete-reinforcement bars in cut lengths or coils. The standard sizes and dimensions of deformed bars and their number designations shall be those listed in Table 1. The text of this specification references notes and footnotes which provide explanatory material. The notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the specification. 1.2 Bars are of three minimum yield levels: namely, 40 000 [300 MPa], 60 000 [420 MPa], and 75 000 psi [520 MPa], designated as Grade 40 [300], Grade 60 [420], and Grade 75 [520], respectively. 1.3 Hot-rolled plain rounds, in sizes up to and including 2 in. [50.8 mm] in diameter in coils or cut lengths, when specified for dowels, spirals and structural ties or supports shall be furnished under this specification in Grade 40 [300], Grade 60 [420], and Grade 75 [520]. For ductility properties (elongation and bending), test provisions of the nearest smaller nominal diameter deformed bar size shall apply. Requirements providing for deformations and marking shall not be applicable. Note 1- Welding of the material in this specification should be approached with caution since no specific provisions have been included to enhance its weldability. When the steel is to be welded, a welding procedure suitable for the chemical composition and intended use or service should be used. The use of the latest edition of ANSI/AWS D1.4 is recommended. This document describes the proper selection of the filler metals, preheat/interpass temperatures, as well as, performance and procedure qualification requirements. 1.4 This specification is applicable for orders in either inch-pound units (as Specification A615) or in SI units (as Specification A615M). 1.5 The values stated in either inch-pound units or SI units are to be regarded as standard. Within the text, the SI units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other. Combining values from the two systems may result in nonconformance with the specification.

Standard Specification for C62-97 Building Brick (Solid Masonry Units Made From Clay or Shale) , 1. Scope 1.1 This specification covers brick intended for both structural and nonstructural masonry where external appearance is not a requirement. The brick are prismatic units available in a variety of sizes, shapes, textures, and colors. The specification does not cover brick intended for use as facing units or where surface appearance is a requirement, (see Specification C 216). This specification does not cover brick intended for use as paving brick (see Specification C 902). 1.2 The property requirements of this standard apply at the time of purchase. The use of results from testing of brick extracted from masonry structures for determining conformance or non-conformance to the property requirements (Section 3) of this standard is beyond the scope of this standard. 1.3 Brick are manufactured from clay, shale, or similar naturally occurring earthy substances and subjected to a heat treatment at elevated temperatures (firing). The heat treatment must develop sufficient fired bond between the particulate constituents to provide the strength and durability requirements of this specification. (See firing, fired bond, and incipient fusion in Terminology C43.) 1.4 Brick may be shaped during manufacture by molding, pressing, or extrusion, and the shaping method may be used to describe the brick (see Terminology C43). 1.5 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard. 1.6 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

Standard Specification for C90-97 Loadbearing Concrete Masonry Units , 1. Scope 1.1 This specification covers hollow and solid (see 5.4 and 5.5) concrete masonry units made from portland cement, water, and mineral aggregates with or without the inclusion of other materials. There are three classes of concrete masonry units: (1) normal weight, (2) medium weight, and (3) lightweight. There are two types of concrete masonry units: (1) Type I, moisture-controlled, and (2) Type II, nonmoisture-controlled. These units are suitable for both loadbearing and nonloadbearing applications. 1.2 Concrete masonry units covered by this specification are made from lightweight or normal weight aggregates, or both. 1.3 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard. 1.4 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only. Note 1-When particular features are desired such as surface textures for appearance or bond, finish, color, or particular properties such as weight classification, higher compressive strength, fire resistance, thermal performance or acoustical performance, these features should be specified separately by the purchaser. Local suppliers should be consulted as to the availability of units having the desired features.

Standard Specification for C91-96 Masonry Cement , 1. Scope 1.1 This specification covers three types of masonry cement for use where mortar for masonry is required. 1.2 The values stated in SI units are to be regarded as the standard. 1.3 The text of this standard refers to notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard. 1.4 The following safety hazards caveat pertains only to Sections 19 and 20 of this specification. This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

Standard Specification for C216-97 Facing Brick (Solid Masonry Units Made from Clay or Shale) , 1. Scope 1.1 This specification covers brick intended for use in masonry and supplying structural or facing components, or both, to the structure. 1.2 The property requirements of this standard apply at the time of purchase. The use of results from testing of brick extracted from masonry structures for determining conformance or nonconformance to the property requirements (Section 5) of this standard is beyond the scope of this standard. 1.3 The brick are prismatic units available in a variety of sizes, textures, colors, and shapes. This specification is not intended to provide specifications for paving brick (see Specification C 902). 1.4 Brick are manufactured from clay, shale, or similar naturally occurring earthy substances and subjected to a heat treatment at elevated temperatures (firing). The heat treatment must develop a fired bond between the particulate constituents to provide the strength and durability requirements of this specification (see firing, fired bond, and incipient fusion in Terminology C 43). 1.5 Brick are shaped during manufacture by molding, pressing, or extrusion, and the shaping method ia a way to describe the brick. 1.6 Three types of brick in each of two grades are covered. 1.7 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard. 1.8 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

Standard Specification for C270-97 Mortar for Unit Masonry , 1. Scope 1.1 This specification covers mortars for use in the construction of non-reinforced and reinforced unit masonry structures. Four types of mortar are covered in each of two alternative specifications: (1) proportion specifications and (2) property specifications. 1.2 The proportion or property specifications shall govern as specified. 1.3 When neither proportion or property specifications are specified, the proportion specifications shall govern, unless data are presented to and accepted by the specifier to show that mortar meets the requirements of the property specifications. 1.4 The text of this standard references notes and footnotes that provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard 1.5 The following safety hazards caveat pertains only to the test methods section of this specification: This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

Standard Specification for C494-92 Chemical Admixtures for Concrete
, 1. Scope 1.1 This specification covers materials for use as chemical admixtures to be added to portland cement concrete mixtures in the field for the purpose or purposes indicated for the seven types as follows: 1.1.1 Type A -Water-reducing admixtures, 1.1.2 Type B -Retarding admixtures, 1.1.3 Type C -Accelerating admixtures, 1.1.4 Type D -Water-reducing and retarding admixtures, 1.1.5 Type E -Water-reducing and accelerating admixtures, 1.1.6 Type F -Water-reducing, high range admixtures, and 1.1.7 Type G -Water-reducing, high range, and retarding admixtures. 1.2 This specification stipulates tests of an admixture with suitable concreting materials as described in 11.1 through 11.3 or with cement, pozzolan, aggregates, and an air-entraining admixture proposed for specific work (11.4). Unless specified otherwise by the purchaser, the tests shall be made using concreting materials as described in 11.1 through 11.3. Note 1-It is recommended that, whenever practicable, tests be made using the cement, pozzolan, aggregates, air-entraining admixture, and the mixture proportions, batching sequence, and other physical conditions proposed for the specific work (11.4) because the specific effects produced by chemical admixtures may vary with the properties and proportions of the other ingredients of the concrete. For instance, Types F and G admixtures may exhibit much higher water reduction in concrete mixtures having higher cement factors than that listed in 12.1.1. Mixtures having a high range water reduction generally display a higher rate of slump loss. When high-range admixtures are used to impart increased workability (6 to 8-in. slump), the effect may be of limited duration, reverting to the original slump in 30 to 60 min depending on factors normally affecting rate of slump loss. The use of chemical admixtures to produce high-slump (flowing) concrete is covered by Specification C1017. Note 2-The purchaser should ensure that the admixture supplied for use in the work is equivalent in composition to the admixture subjected to test under this specification (see Section 6, Uniformity and Equivalence). Note 3-Admixtures that contain relatively large amounts of chloride may accelerate corrosion of prestressing steel. Compliance with the requirements of this specification does not constitute assurance of acceptibility of the admixture for use in prestressed concrete. 1.3 This specification provides for three levels of testing. 1.3.1 Level 1 -During the initial approval stage, proof of compliance with the performance requirements defined in Table 1 demonstrates that the admixture meets the requirements of this specification. Uniformity and equivalence tests of Section 6 shall be carried out to provide results against which later comparisons can be made. 1.3.2 Level 2 -Limited retesting described in 5.2, 5.2.1 and 5.2.2 may be requested at intervals by the purchaser. Proof of compliance with the requirements of Table 1 demonstrates continued conformity of the admixture with the requirements of the specification. 1.3.3 Level 3 -For acceptance of a lot or for measuring uniformity within or between lots, when specified by the purchaser, the uniformity and equivalence tests of Section 6 shall be used. 1.4 The following precautionary caveat pertains only to the test method portion, Sections 11 through 18 of this Specification: This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. 1.5 The values stated in inch-pound units are to be regarded as the standard

Standard Test Method for C780-96 Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry , 1. Scope 1.1 This test method covers procedures for the sampling and testing of mortars for composition and for their plastic and hardened properties, either before or during their actual use in construction. 1.2 Preconstruction evaluation of mortars permits a comparison of mortar systems and an approximation, by more complete identification, of the mortar mixture which will be produced at the construction project. The preconstruction laboratory investigation permits the establishment of the compatibility of the individual materials in the mortar and the general strength characteristics of the mixture. 1.3 Construction-site testing procedures permit the establishment of

conformance to the proportion specifications and quality control of mortar production. Mix-composition measurements permit the rapid assessment of conformance with the proportion specification and quality control, whereas later-age strength testing provides verification that the mortar ingredients are compatible and are performing normally. The test results obtained under this test method are not required to meet the minimum compressive values in accordance with the property specifications in Specification C270. 1.4 This standard does not purport to address all of the safety concerns associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. For specific hazards statements, see Section 8.

Standard Specification for D1056-91 Flexible Cellular Materials-Sponge or Expanded Rubber , 1. Scope 1.1 This specification covers flexible cellular rubber products known as sponge rubbers and expanded rubbers but does not apply to latex foam rubbers. The base material used in their manufacture may be natural rubber, reclaimed rubber, synthetic rubber or rubber-like materials, alone or in combination. Ebonite cellular rubbers are not included. 1.2 Extruded or molded shapes of sizes too small for cutting standard test specimens are difficult to classify or test by these methods and will usually require special testing procedures. 1.3 In case of conflict between the provisions of this general specification and those of detailed specifications or methods of test for a particular product the latter shall take precedence. Reference to these methods for testing cellular rubber products should specifically state the particular test or tests desired. 1.4 The values stated in SI units are to be regarded as the standard. 1.5 The following safety hazards caveat pertains only to the test methods sections of this specification: This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.>

Standard Specification for D1667-76(1990) Flexible Cellular Materials-Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam) , 1. Scope 1.1 This specification applies to flexible closed-cell or noninterconnecting cellular products, the elastomer content of which is predominantly poly(vinyl chloride) or copolymers thereof. 1.2 In the case of conflict between the provisions of this specification and those of detailed specifications or methods of test for a particular product, the latter shall take precedence. 1.3 Reference to the methods for testing closed-cell poly(vinyl chloride) contained herein should specifically state the particular test or tests desired and not refer to these methods of test as a whole. 1.4 This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

Standard Specification for C150-97e1 Portland Cement
, 1. Scope 1.1 This specification covers eight types of portland cement, as follows (see Note 1): 1.1.1 Type I -For use when the special properties specified for any other type are not required. 1.1.2 Type IA -Air-entraining cement for the same uses as Type I, where air-entrainment is desired. 1.1.3 Type II -For general use, more especially when moderate sulfate resistance or moderate heat of hydration is desired. 1.1.4 Type IIA -Air-entraining cement for the same uses as Type II, where air-entrainment is desired. 1.1.5 Type III -For use when high early strength is desired. 1.1.6 Type IIIA -Air-entraining cement for the same use as Type III, where air-entrainment is desired. 1.1.7 Type IV -For use when a low heat of hydration is desired. 1.1.8 Type V -For use when high sulfate resistance is desired. 1.2 When both SI and inch-pound units are present, the SI units are the standard. The inch-pound units are approximations listed for information only.

Standard Specification for C1107-97 Packaged Dry, Hydraulic-Cement Grout (Nonshrink)
1. Scope 1.1 This specification covers three grades of packaged dry, hydraulic-cement grout (nonshrink) intended for use under applied load (such as to support a structure, a machine, and the like) where a change in height below initial placement height is to be avoided. 1.2 Grouts covered are composed of hydraulic cement, fine aggregate and other ingredients. They require only the addition of mixing water for use. 1.3 The values stated in inch-pound units are to be regarded as the standard. The SI units in parentheses are for information purposes only. 1.4 The following safety hazards caveat pertains only to the test method portion of this specification: This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

Standard Specification for C206-84(1992)e1 Finishing Hydrated Lime
, 1. Scope 1.1 This specification covers two types of finishing hydrated lime that are suitable for use in the scratch, brown, and finish coats of plaster, for stucco, for mortar, and as an addition to portland-cement concrete. The two types of lime sold under this specification shall be designated as follows: 1.1.1 Type N- Normal hydrated lime for finishing purposes, and 1.1.2 Type S- Special hydrated lime for finishing purposes. Note-Type N, normal finishing hydrated lime, is differentiated from Type S, special finishing hydrated lime, in that no limitation on the amount of unhydrated oxides is specified for Type N hydrate, and the plasticity requirement for Type N hydrate shall be determined after soaking for 16 to 24 h.

Standard Specification for C841-97 Installation of Interior Lathing and Furring , 1. Scope 1.1 This specification covers the minimum requirements for interior lathing and furring for full thick gypsum plastering. Other materials may be used provided that their physical characteristics and durability under conditions of usage are at least equal in performance to those described. Note 1-To secure desirable results, this specification should be coordinated with the provisions of Specification C 842. 1.2 The values stated in inch-pound units are to be regarded as the standard. The metric values shown in parentheses are provided for information purposes only. 1.3 For specific degree of fire resistance and the specific degree of sound control requirements see Annex A1.2 and A1.3. 1.4 General information regarding matters of a contractual nature concerning lathing and furring is contained in Annex A1. Technical information relating to lathing and furring materials is provided in Annex A2. Erection data for door frames installed in lath and plaster hollow partitions using prefabricated steel studs or channel studs is provided in Annex A3.

Standard Specification for C897-96 Aggregate for Job-Mixed Portland Cement-Based Plasters , 1. Scope 1.1 This specification covers natural or manufactured aggregate for use in job-mixed base and finish-coat full thickness portland cement, portland cement-lime and modified portland cement plasters. 1.2 The values stated in inch-pound units are to be regarded as the standard. The SI (metric) values given in parentheses are approximate and are provided for information purposes only. 1.3 The text of this specification references notes and footnotes that provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the specification.

Standard Specification for C926-95a Application of Portland Cement-Based Plaster , 1. Scope 1.1 This specification covers the requirements for the application of full thickness portland cement-based plaster for exterior (stucco) and interior work. 1.2 This specification sets forth tables for proportioning of various plaster mixes and plaster thickness. Note 1-General information will be found in Annex A1. Design considerations will be found in Annex A2. 1.3 The values stated in inch-pound units are the standard. The values in parentheses are for information only. 1.4 The text of this specification

references notes and footnotes that provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the specification.

MEASUREMENT AND PAYMENT\&&\. One method, which has been used, is\&&\ described \&here&\ in general terms and may be incorporated when necessary. To estimate the value of work completed during each period the zones are divided into the class of clearing involved. Class A clearing includes, as nearly as can be determined from aerial photographs or other means, all the wooded area with the exception of scattered trees, fringe growth along roads and fences, etc. Class B clearing contains all of the open, cultivated or pasture lands and those relatively open areas containing scattered trees, fringe growth along roads and fences, etc. The numbers of hectares (acreages) in each class should be estimated in advance and tabulated under the partial payment clause of the specification and thenceforth not be subject to change even if it is discovered that the original classification may have been in error. The most difficult class is arbitrarily assigned ninety work units for clearing, disposal, and clean-up. The number of work units in the other classes are estimated by comparison with the base class. The final estimate might be as follows: Class A, Zone 1 [_____] hectares (acres) x 60 = [_____] work units Class B, Zone 1 [_____] hectares (acres) x 15 = [_____] work units Class A, Zone 2 [_____] hectares (acres) x 90 = [_____] work units Class B, Zone 2 [_____] hectares (acres) x 25 = [_____] work units Total work units = [_____] The value of a work unit is determined by dividing the contract price by the above total. The value of the work completed during any period will be determined by multiplying the number of hectares (acres) of the various classes completed in each zone, as estimated by the Contracting Officer by planimetering areas from Government progress maps, by the work units in that class, totaling these figures and multiplying this total by the value of an individual unit as determined above. The estimate of the Contracting Officer will be final. For the purpose of apportioning the classes of work completed during any period, the felling and decking ready for burning or removal is considered as 50 percent of the work required and the removal and/or burning and clean-up will be considered as the remaining 50 percent.&\ 1.3 LUMP SUM PAYMENT ITEMS 1.3.1 General Payment items for the work of this contract for which contract lump sum payments will be made are listed in the BIDDING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 of 5

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
P00001	12-Feb-2003		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
81ST CONTRACTING SQUADRON TRACY O'CONNOR 310 KEESLER AFB MS 39534-2147	FA3010	See Item 6	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
CHAMPION HOWARD HOLLEY 679 #1 DENTON BLVD FORT WALTON BEACH FL 32547-5130		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. F22600-02-D-0013
	X	10B. DATED (SEE ITEM 13) 27-Sep-2002
CODE 0TRZ0	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 Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

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

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
FAR 52-243-4, CHANGES (AUG 1987)

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
SEE PAGES 2 - 5.

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

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) ROBERT F. WINLAND / FLIGHT A, TEAM A LEADER	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)	16C. DATE SIGNED 26-Feb-2003

EXCEPTION TO SF 30
APPROVED BY OIRM 11-84

30-105-04

STANDARD FORM 30 (Rev. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

SECTION SF 30 BLOCK 14 CONTINUATION PAGE
SUMMARY OF CHANGES

A. ADD TO SECTION J, LIST OF DOCUMENTST EXHIBITS AND OTHER ATTACHMENTS, "Attachment 5 Specifications Section 02830 – Ornamental Fences and Gates 03 22 JAN 03".

B. ADD TO IDQ SCREEN WALLS FENCES AND ENCLOSURES, PART I, SECTION B., SUPPLIES OR SERVICES AND PRICES, BID SCHEDULE, BASIC YEAR, PERIOD 27 SEP 02 THROUGH 31 AUG 03, LINE ITEMS 0049 THROUGH 0055.

BID SCHEDULE
BASIC YEAR

Contractor shall furnish all plant, labor, materials, and equipment to perform all work in strict accordance with the terms and conditions set forth in the contract specifications for screen walls, fences, and enclosures, at Keesler Air Force Base, Mississippi.

ITEM NO	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTALS
0049	CHAIN LINK FENCE, 6' (6' X 100') CHAIN LINK INDUSTRIAL FENCE, SCHEDULE 40 W/2" POST 10' O.C. 3 STRANDS OF BARB WIRE, SET IN CONCRETE, W/9 GAGE WIRE.	LF	100		
0050	PRIVACY-LINK VINYL COATED 6' (6' X 100') INDUSTRIAL SCHEDULE 40, W/2" POST 10' O.C., W/3 STRANDS OF BARB WIRE, SET IN CONCRETE, W/9 GAGE WIRE.	LF	100		
0051	PRIVACY-LINK VINYL COATED 7' (7' X 100') INDUSTRIAL SCHEDULE 40, W/2" POST 10' O.C., W/3 STRANDS OF BARB WIRE, SET IN CONCRETE, W/9 GAGE WIRE	LF	100		
0052	CONCRETE MASONARY WALL UNIT/WALL PANEL (8' X 100'), INCLUDES CONCRETE FOOTER 32" X 12" X 100', #4 REBAR, CONCRETE FILL WALL/COLUMNS	LF	100		
0053	ALUMINUM ORNAMENTAL FENCE, 4' (4 FEET TALL X 500 LINEAR FEET), WITH THREE (3) RAILS, AND CONCRETE FOOTINGS	LF	500		
0054	TUBULAR ALUMINUM GATE, 4' (4 FEET TALL X 4 FEET WIDE), WITH LATCH	EA	1		
0055	TUBULAR ALUMINUM GATE, 10' (2 EA 5' WIDE GATES), WITH LATCH	EA	1		

C. ADD TO IDQ SCREEN WALLS FENCES AND ENCLOSURES, PART I, SECTION B., SUPPLIES OR SERVICES AND PRICES, BID SCHEDULE, FIRST OPTION YEAR, PERIOD 01 SEP 03 THROUGH 31 AUG 04, LINE ITEMS 0049 THROUGH 0055.

BID SCHEDULE
FIRST OPTION PERIOD ONE (1) YEAR

Contractor shall furnish all plant, labor, materials, and equipment to perform all work in strict accordance with the terms and conditions set forth in the contract specifications for screen walls, fences, and enclosures, at Keesler Air Force Base, Mississippi.

ITEM NO	DESCTRIPTIONS	UNIT	QTY	UNIT PRICE	TOTAL
1049	CHAIN LINK FENCE, 6' (6' X 100') CHAIN LINK INDUSTRIAL FENCE, SCHEDULE 40 W/2" POST 10' O.C. 3 STRANDS OF BARB WIRE, SET IN CONCRETE, W/9 GAGE WIRE.	LF	100		
1050	PRIVACY-LINK VINYL COATED 6' (6' X 100') INDUSTRIAL SCHEDULE 40, W/2" POST 10' O.C., W/3 STRANDS OF BARB WIRE, SET IN CONCRETE, W/9 GAGE WIRE.	LF	100		
1051	PRIVACY-LINK VINYL COATED 7' (7' X 100') INDUSTRIAL SCHEDULE 40, W/2" POST 10' O.C., W/3 STRANDS OF BARB WIRE, SET IN CONCRETE, W/9 GAGE WIRE	LF	100		
1052	CONCRETE MASONARY WALL UNIT/WALL PANEL (8' X 100'), INCLUDES CONCRETE FOOTER 32" X 12" X 100', #4 REBAR, CONCRETE FILL WALL/COLUMNS	LF	100		
1053	ALUMINUM ORNAMENTAL FENCE, 4' (4 FEET TALL X 500 LINEAR FEET), WITH THREE (3) RAILS, AND CONCRETE FOOTINGS	LF	500		
1054	TUBULAR ALUMINUM GATE, 4' (4 FEET TALL X 4 FEET WIDE), WITH LATCH	EA	1		
1055	TUBULAR ALUMINUM GATE, 10' (2 EA 5' WIDE GATES), WITH LATCH	EA	1		

D. ADD TO IDQ SCREEN WALLS FENCES AND ENCLOSURES, PART I, SECTION B., SUPPLIES OR SERVICES AND PRICES, BID SCHEDULE, SECOND OPTION PERIOD, SIX (6) MONTHS, 01 SEP 04 THROUGH 28 FEB 05, LINE ITEMS 0049 THROUGH 0055.

BID SCHEDULE
SECOND OPTION PERIOD SIX (6) MONTHS

Contractor shall furnish all plant, labor, materials, and equipment to perform all work in strict accordance with the terms and conditions set forth in the contract specifications for screen walls, fences, and enclosures, at Keesler Air Force Base, Mississippi.

ITEM NO	DESCRIPTIONS	UNIT	QTY	UNIT PRICE	TOTAL
2049	CHAIN LINK FENCE, 6' (6' X 100') CHAIN LINK INDUSTRIAL FENCE, SCHEDULE 40 W/2" POST 10' O.C. 3 STRANDS OF BARB WIRE, SET IN CONCRETE, W/9 GAGE WIRE.	LF	100		
2050	PRIVACY-LINK VINYL COATED 6' (6' X 100') INDUSTRIAL SCHEDULE 40, W/2" POST 10' O.C., W/3 STRANDS OF BARB WIRE, SET IN CONCRETE, W/9 GAGE WIRE.	LF	100		
2051	PRIVACY-LINK VINYL COATED 7' (7' X 100') INDUSTRIAL SCHEDULE 40, W/2" POST 10' O.C., W/3 STRANDS OF BARB WIRE, SET IN CONCRETE, W/9 GAGE WIRE	LF	100		
2052	CONCRETE MASONARY WALL UNIT/WALL PANEL (8' X 100'), INCLUDES CONCRETE FOOTER 32" X 12" X 100', #4 REBAR, CONCRETE FILL WALL/COLUMNS	LF	100		
2053	ALUMINUM ORNAMENTAL FENCE, 4' (4 FEET TALL X 500 LINEAR FEET), WITH THREE (3) RAILS, AND CONCRETE FOOTINGS	LF	500		
2054	TUBULAR ALUMINUM GATE, 4' (4 FEET TALL X 4 FEET WIDE), WITH LATCH	EA	1		
2055	TUBULAR ALUMINUM GATE, 10' (2 EA 5' WIDE GATES), WITH LATCH	EA	1		

E. ADD TO IDQ SCREEN WALLS FENCES AND ENCLOSURES, PART I, SECTION B., SUPPLIES OR SERVICES AND PRICES, BID SCHEDULE, THIRD OPTION PERIOD, SIX (6) MONTHS, 01 MAR 05 THROUGH 31 AUG 05, LINE ITEMS 0049 THROUGH 0055.

BID SCHEDULE
THIRD OPTION PERIOD SIX (6) MONTHS

Contractor shall furnish all plant, labor, materials, and equipment to perform all work in strict accordance with the terms and conditions set forth in the contract specifications for screen walls, fences, and enclosures, at Keesler Air Force Base, Mississippi.

ITEM NO	DESCRIPTIONS	UNIT	QTY	UNIT PRICE	TOTAL
3049	CHAIN LINK FENCE, 6' (6' X 100') CHAIN LINK INDUSTRIAL FENCE, SCHEDULE 40 W/2" POST 10' O.C. 3 STRANDS OF BARB WIRE, SET IN CONCRETE, W/9 GAGE WIRE.	LF	100		
3050	PRIVACY-LINK VINYL COATED 6' (6' X 100') INDUSTRIAL SCHEDULE 40, W/2" POST 10' O.C., W/3 STRANDS OF BARB WIRE, SET IN CONCRETE, W/9 GAGE WIRE.	LF	100		
3051	PRIVACY-LINK VINYL COATED 7' (7' X 100') INDUSTRIAL SCHEDULE 40, W/2" POST 10' O.C., W/3 STRANDS OF BARB WIRE, SET IN CONCRETE, W/9 GAGE WIRE	LF	100		
3052	CONCRETE MASONARY WALL UNIT/WALL PANEL (8' X 100'), INCLUDES CONCRETE FOOTER 32" X 12" X 100', #4 REBAR, CONCRETE FILL WALL/COLUMNS	LF	100		
3053	ALUMINUM ORNAMENTAL FENCE, 4' (4 FEET TALL X 500 LINEAR FEET), WITH THREE (3) RAILS, AND CONCRETE FOOTINGS	LF	500		
3054	TUBULAR ALUMINUM GATE, 4' (4 FEET TALL X 4 FEET WIDE), WITH LATCH	EA	1		
3055	TUBULAR ALUMINUM GATE, 10' (2 EA 5' WIDE GATES), WITH LATCH	EA	1		

End Page

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 | 2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
P00002	01-Sep-2003		MAHG-02-2200

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
81ST CONTRACTING SQUADRON TRACY O'CONNOR 310 KEESLER AFB MS 39534-2147	FA3010	**See Item 6**	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
CHAMPION HOWARD HOLLEY 679 #1 DENTON BLVD FORT WALTON BEACH FL 32547-5130		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. F22600-02-D-0013
	X	10B. DATED (SEE ITEM 13) 27-Sep-2002

CODE 0TRZ0 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 Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

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

	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
X	D. OTHER (Specify type of modification and authority) CLAUSE 52.217-9, OPTION TO EXTEND THE TERM OF THE CONTRACT (MAR 2000) (UNILATERAL)

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.)
To Exercise the First Period Option (1 Year) to Extend the Term of the Contract.

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

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) ROBERT F. WINLAND / FLIGHT A, TEAM A LEADER	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)	16C. DATE SIGNED 15-Jul-2003

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

A. This modification is to exercise the First Option Period, which is for one (1) full year. This extends the term of the contract as provided in Federal Acquisition Regulation (FAR) Clause 52.217-9, Option to Extend the Term of the Contract (Mar 2000), for the period: 01 Sep 03 through 31 Aug 04.

B. The ordering period as stipulated in the contract at FAR Clause 52.216-18(b), is from 01 Sep 03 through 31 Aug 04.

C. The prices from the First (1st) Option Period (1 Year) will apply to Items/Clins: 1001 through 1055.

D. Funds will not be obligated by this modification. Funds will be obligated through the issuance of individual task order against the contract.

E. The attached General Wage Determination: MS030027 (Highway), Dated 06/13/2003, is applicable to the exercise of this option.