

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES	
			J	1	2
2. AMENDMENT/MODIFICATION NO. 0006	3. EFFECTIVE DATE 17-Sep-2004	4. REQUISITION/PURCHASE REQ. NO. W68MD9-4201-7538		5. PROJECT NO.(If applicable)	
6. ISSUED BY USA ENGINEER DISTRICT, SEATTLE ATTN: CENWS-CT 4735 EAST MARGINAL WAY SOUTH SEATTLE WA 98134-2329	CODE W912DW	7. ADMINISTERED BY (If other than item 6) <b>See Item 6</b>		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)			X	9A. AMENDMENT OF SOLICITATION NO. W912DW-04-R-0039	
			X	9B. DATED (SEE ITEM 11) 19-Aug-2004	
				10A. MOD. OF CONTRACT/ORDER NO.	
				10B. DATED (SEE ITEM 13)	
CODE	FACILITY CODE		11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS		
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended.					
<p>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:</p> <p>(a) By completing Items 8 and 15, and returning <u>0</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.</p>					
12. ACCOUNTING AND APPROPRIATION DATA (If required)					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.					
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.					
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).					
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:					
D. OTHER (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) FY04 Boundary Fencing, Ft Richardson AK -- See Continuation.					
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.					
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)		
			TEL: _____ EMAIL: _____		
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
_____ (Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)		17-Sep-2004	

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

Continuation

A. The purposes of this amendment are as follows:

- (1) To provide a revised Bid Schedule; and
- (2) To provide a revised Section 01000.

B. The revised attached pages supersede pages of the same number and should be inserted in numerical sequence. All changes are generally identified, for your convenience, either by strikeout for deletions, and underlining of text for additions or single dark line in the margin. All portions of the revised or new pages shall apply to this contract whether or not changes have been indicated.

C. NOTICE TO OFFERORS: Offerors must acknowledge receipt of this amendment by number and date on Standard Form 1442, BACK, Block 19, or by telegram.

D. All amendments are available for download this date on the Army Corps of Engineers website at <http://www.nws.usace.army.mil/ct/>.

Enclosures:  
Revised Bid Schedule  
Revised Section 01000

**SCHEDULE**

<u>Item No.</u>	<u>Description of Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
<b>BASE WORK ITEMS</b>					
0001	Contractor Design (Design Build portion to include but not limited to design of fence foundations, geotech survey, site plat, site topography, Fence Alignment, and Perimeter Survey) (Item 0001 applies to Combination Security Fence alignment)	1	JOB	L.S.	\$_____
0002	All Work to Furnish and Install Combination Security Fence (CSF) including all clearing and grubbing (See Sections 01000 SCOPE OF WORK and 02231 CLEARING AND GRUBBING) (Item 0002 applies to Combination Security Fence alignment)	2,300	L.M.	\$_____	\$_____
0003	All Work to Retrofit <del>(Furnish and Install)</del> existing State of Alaska Department of Transportation Moose (Netwire) Fence <del>and Furnish and Install to become</del> Combination Security Fence (CSF) including all clearing and grubbing <del>and replacement of undersized line posts to the north of Artic Valley</del> (See Sections 01000 SCOPE OF WORK, 02231 CLEARING AND GRUBBING, and 02220 DEMOLITION) (Item 0003 applies to Combination Security Fence alignment)	3,700 4,400	L.M.	\$_____	\$_____
0004	All Work to Demolish existing State of Alaska Department of Transportation Moose (Netwire) Fence and Furninsh and Install Combination Security Fence (CSF) including all clearing and grubbing (See Sections 01000 SCOPE OF WORK, 02231 CLEARING AND GRUBBING, and 02220 DEMOLITION) (Item 0004 applies to Combination Security Fence alignment)	700	L.M.	\$_____	\$_____
00054	All Work to Furnish and Install Moose Gate per State of Alaska Department of Transportation as built design (See Section 02821 FENCING) (Item 0004 applies to Combination Security Fence alignment)	2	EA.	\$_____	\$_____

Item No.	Description of Item	Quantity	Unit	Unit Price	Amount
00065	All Work to Furnish and Install Manually Operated CSF Double Swing Gate 7.3 Meter (Max.) Opening: (Item 0005 applies to Combination Security Fence alignment)	5	EA.	\$_____	\$_____
00076	All Work to Furnish and Install Manually Operated CSF Double Swing Gate 4.2 Meter (Max.) Opening: (Item 0006 applies to Combination Security Fence alignment)	2	EA.	\$_____	\$_____
00087	All Work to Furnish and Install Warning Signs on CSF Fencing. See Detail Drawings. (Item 0007 applies to Combination Security Fence alignment)	JOB	LS.	\$_____	\$_____
00098	All Work to Furnish and Install Stationary Bollards (See Detail Drawings and Section 01000 SCOPE OF WORK) (Item 0008 applies to Combination Security Fence alignment)	JOB	LS.	\$_____	\$_____
0009	<del>DELETED</del>				
TOTAL BASE ITEMS					\$_____

**OPTIONAL WORK ITEMS**

0010	All work to complete FE-6 Chain Link Security Fence alignment along the North side of the Fort Richardson cantonment area between the Ammunition Supply Point (ASP) and the Glenn Highway (See Drawing Plate G-4 and Section 01000 SCOPE OF WORK):				
0010AA	Contractor Design (Design Build portion to include but not limited to design of fence foundations, geotech survey, design charrette, site plan, site topography, Fence Alignment and Perimeter Survey)	1	JOB	\$_____	\$_____
0010AB	All Work to Furnish and Install FE-6 Chain Link Security Fence including all clearing and grubbing (See Sections 01000 SCOPE OF WORK and 02231 CLEARING AND GRUBBING)	6,600	L.M.	\$_____	\$_____
0010AC	All Work to Furnish and Install Manually Operated Double Swing Vehicle Gate 7.3 Meter (Max.) Opening (See Detail Drawings and Section 01000	6	EA.	\$_____	\$_____

Item No.	Description of Item SCOPE OF WORK)	Quantity	Unit	Unit Price	Amount
0010AD	All Work to Furnish and Install Gate Signs (See Detail Drawings)	JOB	LS.	\$_____	\$_____
0010AE	All Work to Furnish and Install Warning Signs on FE-6 Chain Link Security Fence	JOB	LS.	\$_____	\$_____
TOTAL ITEM 0010					\$_____
0011	All work to complete Pipe Rail Fence alignment along the East side of Anchorage, East side of Far North Bicentennial Park and the North side of Stuckagain Heights. Alignment begins at the Southern terminus of the existing Pipe Rail Fence running North/South along the East side of Anchorage and terminates at the West rim of the North Fork of Campbell Creek canyon (See Drawing Plate G-4 and Section 01000 SCOPE OF WORK):				
0011AA	Contractor Design (Design Build portion to include but not limited to design of fence foundations, geotech survey, design charette, site plan, site topography, Fence alignment, and Perimeter Survey)	1	JOB	\$_____	\$_____
0011AB	All Work to Furnish and Install Pipe Rail Fence including all clearing and grubbing (See Sections 01000 SCOPE OF WORK and 02231 CLEARING AND GRUBBING)	6,700	L.M.	\$_____	\$_____
0011AC	All Work to Furnish and Install Manually Operated Steel Pipe Swing Gate 7.3 Meter (Max.) Opening (See Detail Drawings and Section 01000 SCOPE OF WORK)	7	EA.	\$_____	\$_____
0011AD	All Work to Furnish and Install Manually Operated Steel Pipe Swing Gate 4.6 Meter (Max.) Opening (See Detail Drawings and Section 01000 SCOPE OF WORK)	1	EA.	\$_____	\$_____
0011AE	All Work to Furnish and Install Stationary Bollards (See Detail Drawings and Section 01000 SCOPE OF	JOB	LS.	\$_____	\$_____

04040/11  
 Installation Boundary Fencing, Ft. Richardson, Ak.

<u>Item No.</u>	<u>Description of Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
	WORK)				
0011AF	All Work to Furnish and Install Gate Signs (See Detail Drawings)	JOB	LS.	\$_____	\$_____
0011AG	All Work to Furnish and Install Warning Signs on Pipe Rail Fence	JOB	LS.	\$_____	\$_____
0011AH	DELETED				
		TOTAL ITEM 0011			\$_____
0012	All work to complete Pipe Rail Fence alignment between the Southern end of Clunie Lake and the point where FE-6 Fence and CSF Fence begins along the West side of Glenn Highway (See Drawing Plate G-4 and Section 01000 SCOPE OF WORK):				

<u>Item No.</u>	<u>Description of Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
0012AA	Contractor Design (Design Build portion to include but not limited to design of fence foundations, geotech survey, design charrettr, site plan, site topography, Fence Alignment, and Perimeter Survey)	1	JOB	\$_____	\$_____
0012AB	All Work to Furnish and Install Pipe Rail Fence including all clearing and grubbing (See Sections 01000 SCOPE OF WORK and 02231 CLEARING AND GRUBBING)	11,300	L.M.	\$_____	\$_____
0012AC	All Work to Furnish and Install Manually Operated Steel Pipe Swing Gate 7.3 Meter (Max.) Opening (See Detail Drawings and Section 01000 SCOPE OF WORK)	3	EA.	\$_____	\$_____
0012AD	All Work to Furnish and Install Stationary Bollards (See Detail Drawings and Section 01000 SCOPE OF WORK)	JOB	LS.	\$_____	\$_____
0012AE	All Work to Furnish and Install Gate Signs (See Detail Drawings)	JOB	LS.	\$_____	\$_____
0012AF	All Work to Furnish and Install Warning Signs on Pipe Rail Fence	JOB	LS.	\$_____	\$_____
0012AG	DELETED				
			TOTAL ITEM 0012		\$_____
0013	All work to complete Pipe Rail Fence alignment between Knik Arm and the Northern side of Clunie Lake (See Drawing Plate G-4 and Section 01000 SCOPE OF WORK):				
0013AA	Contractor Design (Design Build portion to include but not limited to design of fence foundations, geotech survey, design charette, site plan, site topography, Fence Alignment, and Perimeter Survey)	1	JOB	\$_____	\$_____
0013AB	All Work to Furnish and Install Pipe Rail Fence including all clearing and grubbing (See Sections 01000 SCOPE OF WORK and 02231 CLEARING AND GRUBBING)	8,700	L.M.	\$_____	\$_____
0013AC	All Work to Furnish and Install Manually Operated Steel Pipe Swing Gate 4.6 Meter (Max) Opening. See	1	EA.	\$_____	\$_____

<u>Item No.</u>	<u>Description of Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
	Detail Drawings and Section 01000 SCOPE OF WORK.				
0013AD	All Work to Furnish and Install Manually Operated Steel Pipe Swing Gate 3.1 Meter (Max) Opening. See Detail Drawings and Section 01000 SCOPE OF WORK	1	EA.	\$_____	\$_____
0013AE	All Work to Furnish and Install Stationary Bollards (See Detail Drawings and Section 01000 SCOPE OF WORK)	JOB	LS.	\$_____	\$_____
0013AF	All Work to Furnish and Install Gate Signs (See Detail Drawings)	JOB	LS.	\$_____	\$_____
0013AG	All Work to Furnish and Install Warning Signs on Pipe Rail Fence	JOB	LS.	\$_____	\$_____
		TOTAL ITEM 0013		\$_____	
0014	All work to complete Pipe Rail Fence alignment along the East side of Glenn Highway between the Northern terminus of existing Pipe Rail Fence running North/South along the East side of Anchorage to the termination point to the East of the Anchorage Regional Lanfill. All work to also complete Pipe Rail Fence alignment along the Eastern Fort Richardson boundary to the East of the Anchorage Regional Landfill and the Glenn Highway (See Drawing Plate G-4 and Section 01000 SCOPE OF WORK):				
0014AA	Contractor Design (Design Build portion to include but not limited to design of fence foundations, geotech survey, design charrette, site plan, site topography, Fence Alignment, and Perimeter Survey)	1	JOB	\$_____	\$_____
0014AB	All Work to Fuurnish and Install Pipe Rail Fence including all clearing and grubbing (See Sections 01000 SCOPE OF WORK and 02231 CLEARING AND GRUBBING)	13,300	L.M.	\$_____	\$_____
0014AC	All Work to Furnish and Install Manually Operated Steel Pipe Swing Gate 7.3 Meter (Max.) Opening (See Detail Drawings and Section 01000	5	EA.	\$_____	\$_____

04040/11  
 Installation Boundary Fencing, Ft. Richardson, Ak.

<u>Item No.</u>	<u>Description of Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
	SCOPE OF WORK)				
0014AD	All Work to Furnish and Install Stationary Bollards (See Detail Drawings and Section 01000 SCOPE OF WORK)	JOB	LS.	\$_____	\$_____
0014AE	All Work to Furnish and Install Gate Signs (See Detail Drawings)	JOB	LS.	\$_____	\$_____
0014AF	All Work to Furnish and Install Warning Signs on Pipe Rail Fence	JOB	LS.	\$_____	\$_____
0014AG	DELETED				
		TOTAL ITEM 0014			\$_____
0015	All Work to Furnish and Install Boundary Monuments (See Section 01000 SCOPE OF WORK)	5	EA.	\$_____	\$_____
0016	All Work to Furnish and Install Additional Boundary Monuments (See Section 01000 SCOPE OF WORK)	5	EA.	\$_____	\$_____
		TOTAL OPTIONAL ITEMS			\$_____
		TOTAL BASE AND OPTIONAL ITEMS			\$_____

NOTE:

1. Bids shall not be submitted for quantities less than those specified for each line item. Bidders shall bid on all line items of the Schedule. Failure to include pricing for all quantities of all line items will result in rejection of the bid as non-responsive.
2. Optional Bid Items 0010 through 0014 include sub-items shown. They will be awarded or not, based on the amounts shown on the line "Total Item \_\_\_\_\_".

SECTION 01000

SCOPE OF WORK

1. GENERAL

This project is the design and construction of installation boundary fencing on Fort Richardson Army Installation, Alaska. The project consists of fencing foundation design appropriate for arctic conditions to minimize frost jack/heave, installation of fencing and gates, and all other work required to install fence.

1.1 Design and Construction of Installation Boundary Fencing

Contractor shall provide installation of fencing, gates, and bollards in accordance with attached fencing/gate/bollard detail drawings and specifications and provide all foundation design and installation. See attached specifications, site plan drawings, and detail drawings for description and approximate layout of Installation Boundary Fencing.

a. FENCE FOUNDATION DESIGN AND CRITERIA

Fence foundation design and criteria applies to both Base and Optional Work Items. Contractor shall provide 100% engineering and design of fencing foundations by a licensed professional engineer and installation appropriate for arctic conditions, including measures to minimize frost jack/heave of foundations. (See section 02821 FENCING, paragraph POST INSTALLATION). Retrofit elements of existing fencing shall be inspected by the government for unacceptable conditions such as structural deficiencies and excessive vertical lean (greater than approximately 5 degrees from the vertical as measured from the base). Unacceptable elements of existing fencing shall be replaced. The following foundation criteria shall be met by the Contractor's foundation design:

- (1) During extreme wind conditions, defined by design wind speed, no more than 3% deflection at the top of the fence post, measured from ground level, shall be allowed. Extreme wind condition design speed for Fort Richardson is 49 meters/second.
- (2) Top of Combination Security Fencing (CSF) and FE-6 Chain Link Security Fencing line posts shall be capable of withstanding a 91 Kilogram working point load applied horizontally, perpendicular to the fence line.
- (3) Top of Pipe Rail Fence line posts and top of bollards shall be capable of withstanding a 227 Kilogram working point load applied horizontally, perpendicular to the fence line.
- (4) Maximum distance between line posts shall be 3 meters.

b. ALIGNMENT DESCRIPTION

The fence alignment is described in terms of both Base and Optional Work Items. Fort Richardson's fence alignment shall consist of installation of Combination Security Fencing (CSF), FE-6 Chain Link Security Fencing (FE-6), Pipe Rail Fencing, gate installation, and fence removal and retrofit at various locations. All existing fencing shall remain in place, except where new Combination Security Fencing (CSF) encounters existing State of

Alaska Department of Transportation (AK DOT) Moose Fence (Netwire) along the West side of Glenn Highway (See Base Work Items 0001-0009 description below).

Where new Pipe Rail fencing encounters existing Pipe Rail fence, new Pipe Rail fence shall tie into the existing Pipe Rail fencing. Where new Pipe Rail fence encounters existing fence other than Pipe Rail, including existing Netwire fencing along the Glenn Highway, the new Pipe Rail fence shall be placed as close as possible, but within 1.5 meters behind the existing fencing on Fort Richardson property. Existing Netwire fence is composed of fence line posts with galvanized wire mesh attached to the line posts. See State of Alaska Department of Transportation as built Moose Fence Details drawing (Moose Fence Detail) in Specification Section 02821. Where any new fencing is placed along side existing fencing, new fencing shall be tied into the existing fencing at both termination/end points of the existing fencing to eliminate the through corridor created between the two fences. See drawing Plate C-21, drawing detail "New Fence Tie-In To Existing Fence".

Contractor shall coordinate all fence and gate placement during phases of design prior to start of construction. If adjustment greater than 150 mm is necessary during construction, final location shall be coordinated with the Contracting Officer prior to installation of fencing and gates.

Beginning with the Base Work Items, the following describes the approximate fence alignment in terms of Base and Optional Work Items.

#### Base Work Items 0001-0009

New Combination Security Fencing shall begin approximately at the Northern end of Camp Denali along the West side of Glenn Highway and shall head Southwest along the Glenn Highway ROW on Army property and shall continue Southwest until reaching the point where existing Netwire fencing ends near the installation boundary just Northeast of Anchorage. Contractor shall propose alignment of the fence along the Glenn Highway corridor for approval by the Contracting Officer.

Where new Combination Security fencing (CSF) encounters existing Alaska Department of Transportation (AK DOT) Moose Fence (Netwire) along the West side of Glenn Highway, the Contractor shall retrofit approximately ~~4,400~~700 meters of existing Netwire fence south of Artic Valley Road to become Combination Security Fence (CSF). The Contractor shall retrofit the existing Netwire fence by removing approximately ~~4,400~~700 meters of existing galvanized wire fencing from the existing line posts. ~~Whenever Existing Netwire fence line posts in this section have 100 mm (4 inches) outside diameter, and the Contractor shall therefore use the existing line posts and foundations to install new CSF fencing. Wherever the existing line posts have less than 100 mm (4 inches) outside diameter, the existing line posts shall be replaced with new 100 mm (4 inches) outside diameter line posts and the foundations shall be replaced. The Contractor shall not be held to the foundation criteria required by this contract for the existing Netwire fence foundations to be used in retrofitting the existing Netwire fence along the West side of the Glenn Highway. All removed galvanized wire fencing shall become the property of the Contractor and shall be removed from Fort Richardson property and disposed of offsite by the Contractor. All existing moose gates shall remain in place and new fencing shall be tied into existing moose gates. New CSF fencing retrofit~~

~~shall be built concurrently while removing existing netwire fence, so that there are no openings in the existing netwire fence that will allow moose passage, thus exposing the public to moose entering the Glen Highway.~~

Existing Netwire fence to the North of Artic Valley Road, approximately 3700 meters, has line posts less than 100 mm (4 inches) outside diameter, and the existing line posts shall be replaced with new 100 mm (4 inches) outside diameter line posts and the foundations shall be replaced in order to install new CSF fencing. In addition, the existing galvanized wire fencing must be removed from the existing line posts.

All removed galvanized wire fencing shall become the property of the Contractor and shall be removed from Fort Richardson property and disposed of offsite by the Contractor. All existing moose gates shall remain in place and new fencing shall be tied into existing moose gates. New CSF fencing retrofit shall be built concurrently while removing existing netwire fence, so that there are no openings in the existing netwire fence that will allow moose passage, thus exposing the public to moose entering the Glen Highway.

Before performing the work required on or near the AK DOT Netwire fencing, the Contractor shall obtain a construction permit through the AK DOT Right-of-Way Section and if the Contractor's work will be within 3 meters of the existing pedestrian/bike path running along the Glenn Highway, the Contractor shall obtain another special use permit through the AK DOT Right-of-Way Section.

Two new double moose gates, per Alaska Department of Transportation as built Moose Gate design, shall be installed by the Contractor in the Combination Security Fencing (CSF) running along the West side of Glenn Highway. See attached State of Alaska Department of Transportation Moose Fence Details drawing in Specification Section 02821 showing Moose Gates and Moose Gate details. See attached State of Alaska Department of Transportation Moose Fence Details Upper Moose Gate Hinge drawing in Specification Section 02821 for special grease requirements.

Five CSF Double Swing Gates with an opening of 7.3 meters shall be installed by the Contractor along the West side of Glenn Highway to modify existing and new double moose gates along Glenn Highway. Two CSF Double Swing Gates with an opening of 4.2 meters shall be installed by the Contractor along the West side of the Glenn Highway to modify existing single moose gates. Contractor shall propose gate placement for approval by the Contracting Officer. See attached Conceptual Drawing of Gate/Bollards Needed Along Glenn Highway at the end of this section.

Contractor shall install forty-eight Stationary Bollards in this fence alignment. Bollards shall be per design detail in the project drawings. Contractor shall propose exact bollard placement for approval by the Contracting Officer.

Modification of existing and new moose gates consists of the installation of CSF Double Swing Gates and bollards along the opening in the fence alignment required for moose access through the fence once the moose has entered into the moose gate complex. Bollards shall be spaced 760mm (30 inches) apart. See stationary bollard detail on drawing Plate C-19 and CSF Double Swing Gate detail on drawing Plate C-21. See attached

Conceptual Drawing of Gates/Bollards Needed Along Glenn Highway at the end of this section.

Optional Work Item 0010

FE-6 Chain Link Security fencing shall be installed along the North side of the Fort Richardson cantonment area. The new FE-6 fence shall start by tying into the existing chain link fencing on the North side of the Ammunition Storage Point (ASP). The new FE-6 fencing shall run East along the North side of the cantonment area along the North side of Camp Carroll until reaching the Glenn Highway and existing AK DOT Netwire fence (See drawing Plate C-1). The FE-6 fencing shall not encroach on the Glenn Highway ROW. The Contractor shall propose the placement of the FE-6 fence alignment along the North side of the cantonment area for approval by the Contracting Officer.

Once reaching the Glenn Highway and existing AK DOT Netwire fence, FE-6 Chain Link Security fencing shall head North until reaching the Northern Terminus of the existing AK DOT Netwire fence and shall head South along the West side of the Glenn Highway until reaching the Northern side of Camp Denali. The existing Netwire fencing encountered by the FE-6 fencing shall remain in place and the new FE-6 fencing shall be installed on Army property West of the existing Netwire fencing as close as possible but within 1.5 meters of the existing fence.

Six chain link manual Double Swing Vehicle Gates with an opening of 7.3 meters (max.) shall be installed in the FE-6 Chain Link Security fencing alignment along the North side of the cantonment area (See drawing Plate C-20). The approximate location of the gates are shown on the Cantonment Fencing and Combined Security Fence Option 10 map at the end of this section. Contractor shall propose exact gate placement for approval by the Contracting Officer.

Optional Work Item 0011

New Pipe Rail Fencing shall begin by tying into the Southern end of the existing Pipe Rail fencing running North/South along the Installation boundary on the Eastern side of Anchorage. New Pipe Rail fencing shall continue South along the Installation boundary on the Eastern side of Anchorage and Far North Bicentennial Park and will then head East along the boundary on the Northern side of Stuckagain Heights. The new Pipe Rail fence shall continue East along the Installation boundary toward the Chugach Mountains and shall terminate at approximately the West rim of the North Fork Campbell Creek canyon (See drawing Plate C-14 and USGS quadrangle map Anchorage (A-8) NE, Alaska 1979 revised 1993). Contractor shall propose the exact location of Pipe Rail fence termination in the Campbell Creek canyon area for approval by the Contracting Officer. See State of Alaska DNR letter dated 13 Sep 2004 at the end of this section for restrictions to the fence across the south fork of Chester Creek.

Contractor shall install seven Steel Pipe Swing Gates with an opening of 7.3 meters (max.) and one Steel Pipe Swing Gate with an opening of 4.6 meters (max) in this Pipe Rail Fence alignment. Contractor shall propose exact gate placement for approval by the Contracting Officer.

Contractor shall install seventeen Stationary Bollards in this Pipe Rail Fence alignment. Bollards shall be per design detail in the project

drawings. Contractor shall propose exact bollard placement for approval by the Contracting Officer.

Optional Work Item 0012

Pipe Rail fence shall begin along the Fort Richardson property boundary at the Southern end of Clunie Lake and shall continue South and then East along the installation boundary line, toward the Alaska Railroad tracks. The Alaska Railroad right-of-way (ROW) shall not be encroached upon. See drawing Plate C-2 and Real Estate documents. Contractor shall propose the exact Pipe Rail Fence starting point south of Clunie Lake for approval by the Contracting Officer.

Existing Pipe Rail fence begins on the East side of the Alaska Railroad track ROW (See drawing Plate C-1 and C-2 and Real Estate documents). The existing Pipe Rail fence shall remain in place. New Pipe Rail fence shall begin again by tying into the East end of the existing Pipe Rail fence and shall continue along the Installation boundary East toward the Glenn Highway and then turn South towards the town of Eagle River (See drawing Plate C-2, C-3, and C-4). Existing Netwire fencing runs along the Installation boundary just North of Eagle River and runs South along part of the Western side of Eagle River (See drawing Plate C-1). Where new Pipe Rail fence encounters existing Netwire fencing in this area, the existing Netwire fence shall remain in place and the new Pipe Rail fence shall be installed on the West side (secure side/Army property side) of the existing fence as close as possible, but within 1.5 meters.

Installation of Pipe Rail fence shall continue South past the town of Eagle River along the Installation boundary and South along the Army property side of the Glenn Highway ROW until reaching the Northern side of the Anchorage Regional Landfill. The Pipe Rail fence shall head West along the Northern side of the Anchorage Regional Landfill, then turn Southwest along the Western side of the Anchorage Regional Landfill, and then turn Southeast along the Southwestern side of the Anchorage Regional Landfill (See drawing Plate C-1 and C-4). The Pipe Rail fence shall continue Southeast along the Southwestern side of the Anchorage Regional Landfill until reaching the Glenn Highway ROW. The fence shall not encroach on the Glenn Highway ROW. Existing chain link fencing surrounds the Anchorage Regional Landfill and shall remain in place (See drawing Plate C-1). Where new Pipe Rail fence encounters the existing chain link fence around the Anchorage Regional Landfill, the new Pipe Rail fence shall be installed on the Army property side of the existing fence as close as possible, but within 1.5 meters.

Starting at approximately the Southwestern corner of the Anchorage Regional Landfill, Pipe Rail Fencing shall be installed along the West side of the Glenn Highway and shall head Southwest towards Anchorage along the Glenn Highway until approximately the location that existing AK DOT Netwire fencing begins (See drawing Plate C-1). New fencing shall not encroach on the Glenn Highway ROW and shall be placed on Army property. Contractor shall propose placement of the fence along the Glenn Highway corridor for approval by the Contracting Officer.

Before performing the work required near the Glenn Highway AK DOT ROW, the Contractor shall obtain a construction permit through the AK DOT Right-of-Way Section and if the Contractor's work will be within 3 meters of the existing pedestrian/bike path running along the Glenn Highway, the

Contractor shall obtain another special use permit through the AK DOT Right-of-Way Section.

Contractor shall install three Steel Pipe Swing Gates with an opening of 7.3 meters (max.) in this Pipe Rail Fence alignment. Contractor shall propose exact gate placement for approval by the Contracting Officer.

Contractor shall install thirty-four Stationary Bollards in this Pipe Rail Fence alignment. Bollards shall be per design detail in the project drawings. Contractor shall propose exact bollard placement for approval by the Contracting Officer.

Optional Work Item 0013

New Pipe Rail Fence shall begin at the Northeastern corner of the Fort Richardson property boundary near the Knik Arm and follow the property boundary south until reaching Clunie Lake. The fence alignment shall terminate at Clunie Lake and not continue around the edge of Clunie Lake (See drawing Plate C-1, C-2, and C-4).

Contractor shall install one Steel Pipe Swing Gate with an opening of 4.6 meters (max.) and one Steel Pipe Swing Gate with an opening of 3.1 meters (max) in this Pipe Rail Fence alignment. Steel Pipe Swing Gates with 4.6 meter and 3.1 meter openings shall each have a galvanized steel post installed to lock the gates open to when the gate is fully opened. Contractor shall propose exact gate placement for approval by the Contracting Officer.

Contractor shall install seventeen Stationary Bollards in this Pipe Rail Fence alignment. Bollards shall be per design detail in the project drawings. Contractor shall propose exact bollard placement for approval by the Contracting Officer.

Optional Work Item 0014

New Pipe Rail Fencing shall be installed along the Eastern side of the Glenn Highway ROW on Army property, heading Southwest towards Anchorage, until reaching the Installation boundary. When the new Pipe Rail fence reaches the Installation boundary along the East side of Anchorage, the Pipe Rail fence shall turn South, then West, and then South following the Installation boundary until reaching the Northern end of existing Pipe Rail fencing running North/South along the Installation boundary on the Eastern side of Anchorage. The existing Pipe Rail fence is located on the Eastern side of the Muldoon area of Anchorage. The new Pipe Rail fence shall terminate by tying into the Northern end of the existing Pipe Rail Fencing (See drawing Plate C-1).

New fencing shall not encroach on the Glenn Highway ROW and shall be placed on Army property. Contractor shall coordinate placement of the fence along the Glenn Highway corridor with the Contracting Officer. Before performing the work required near the Glenn Highway AK DOT ROW, the Contractor shall obtain a construction permit through the AK DOT Right-of-Way Section and if the Contractor's work will be within 3 meters of the existing pedestrian/bike path running along the Glenn Highway, the Contractor shall obtain another special use permit through the AK DOT Right-of-Way Section.

Across from the Anchorage Regional Landfill on the Eastern side of Glenn Highway, new Pipe Rail Fence shall be installed along the Installation boundary. The new Pipe Rail fence shall not encroach on the Glenn Highway ROW and shall head East and then South following the Installation boundary and tie into the Chugach Mountain slopes. The Contractor shall propose the exact location of the Pipe Rail fence termination in this area (See drawing Plate C-4) for approval by the Contracting Officer.

Contractor shall install five Steel Pipe Swing Gates with an opening of 7.3 meters (max.) in this Pipe Rail Fence alignment. Contractor shall propose exact gate placement for approval by the Contracting Officer.

Contractor shall install seventy-five Stationary Bollards in this Pipe Rail Fence alignment. Bollards shall be per design detail in the project drawings. Contractor shall propose exact bollard placement for approval by the Contracting Officer. See attached Conceptual Drawing of Gates/Bollards Needed Along Glenn Highway at the end of this section.

c. ALIGNMENT CRITERIA

The alignment criteria stated below apply to both Base and Optional Work Items.

(1) See specifications section 00800, Special Contract Requirements paragraph SCR-10 and Appendix A for real estate information. Compliance with all existing right-of-ways is the responsibility of the Contractor.

(2) Fence alignment depicted in contract drawings is of a general nature and an approximation. The Contractor shall propose the final fence alignment for approval by the Contracting Officer. All fencing shall be installed within 300 mm (12 inches) of the actual Fort Richardson property line on Army property, unless existing real estate (rights-of-way, etc...), terrain considerations, or other alignment criteria dictate otherwise. To avoid encroachment on private property, this measurement shall apply to the distance between the Fort Richardson property line and the barbed wire overhang of the boundary fence, where applicable. Where fence alignment does not follow the installation boundary property line, it shall be located approximately as shown and described in site plan drawings. Final alignments shall be proposed by the Contractor for approval by the Contracting Officer.

(3) Where fence alignment runs approximately parallel to rivers, all fencing shall be setback a minimum of 1.5 meters from the high water mark of the river. If vegetation along the river is growing beyond 1.5 meters from the high water mark, fence shall be installed along the vegetation line, unless otherwise directed by the Contracting Officer. If criteria 3 conflicts with criteria 2, criteria 3 shall be followed, except in instances where fence alignment would no longer be located on Government Land. If such case exists, Contractor shall notify Contracting Officer to obtain guidance. A permit from Alaska Department of Natural Resources (DNR) is required if construction activities will occur below the ordinary high water mark. If construction activities require work below the ordinary high water mark, any required permits will be obtained by the Government. The Contractor must have in his possession copies of the required permits prior to commencement of any work below the ordinary high water mark.

(4) The Government will provide delineation of wetland areas on Army property. The Contractor shall closely coordinate the alignment of the fence and construction activities in these wetland areas with the Contracting Officer. All construction activities in wetland areas shall be conducted in the winter when the ground is frozen a minimum depth of 300mm. Mechanical clearing of vegetation in designated wetland areas shall occur during winter months to prevent wetland disturbance. Vegetation shall be cleared when a minimum of 152 mm of snow is on the ground and the ground is frozen a minimum depth of 300 mm. Contractor shall not perform any grubbing activities in designated wetland areas. If construction activities in wetland areas require permits, any required permits will be obtained by the Government. If permits are required before construction begins in wetland areas, the Contractor must have in his possession copies of the required permits prior to beginning fence construction in wetland areas. Of the total fence alignment length, approximately 4,200 meters of it will occur in wetlands. See attached Approximate Location and Distances for Fence and Wetland Intersection map at the end of this section.

(5) Fence alignment shall not cross any rivers, creeks, or other waterways, including Eagle River, Ship Creek, Chester Creek, and the North Fork of Campbell Creek. All fencing shall terminate 1.5 meters beyond the high water mark of the waterway. Vegetation to be cleared along the secure side of the fence alignment for the 9.1 meter corridor on Army property, shall not be cleared to the edge of waterways. A strip of natural riparian vegetation will be left intact along the banks of waterways. The Contractor shall propose the clearing termination point near waterways for the approval of the Contracting Officer.

(6) Waterways shall not be crossed by construction equipment unless the waterway is frozen sufficiently enough to support construction equipment. A permit from Alaska Department of Natural Resources (DNR) is required before crossing of any waterways when frozen. If construction activities require crossing of frozen waterways, any required permits will be obtained by the Government. The Contractor must have in his possession copies of the required permits prior to crossing any frozen waterways.

(7) If contaminated soil is discovered while performing construction activities related to fence removal or installation, Contractor shall notify Contracting Officer immediately to receive handling and disposal guidance before performing additional work. Established USAG-AK and Alaska Department of Environmental Conservation procedures shall be followed.

(8) Fence alignment vertical clearance shall comply with the National Electrical Safety Code IEEE C2-2002 Table 234-1.

(9) If during excavation or other construction activities any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, all activities that may damage or alter such resources shall be temporarily suspended. Resources covered by this paragraph include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, the Contractor shall immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination

made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in impact to or the destruction of these resources. The Contractor shall secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources.

(10) Contractor shall revegetate all disturbed areas with a mix of Alaskan ryegrass and fescue after the fence is installed. Contractor shall coordinate specific mix requirements with the Contracting Officer.

(11) Contractor shall contact homeowners adjacent to the intended construction zone prior to commencement of construction.

(12) Contractor shall protect existing electrical and mechanical services and utilities. Contractor shall request locates and obtain clearances from utilities prior to any fence installation work that may impact existing utilities.

(13) Where new fencing is installed along/near roadways, required clear zones shall be followed per State of Alaska Department of Transportation Alaska Highway Preconstruction Manual (PCM) or Washington State Department of Transportation Design Manual if additional guidance is needed, unless otherwise directed by the Contracting Officer. Where new gates are installed, required decision sight distances shall be followed per State of Alaska Department of Transportation Alaska Highway Preconstruction Manual (PCM) or Washington State Department of Transportation Design Manual if additional guidance is needed, unless otherwise directed by the Contracting Officer.

#### d. WARNING AND GATE SIGNS

Warning signs apply to fencing in both Base and Optional Work Items. Warning signs shall be placed at 91 meter intervals along the entire length of the fence. Gate signs apply to all Double Swing Vehicle Gates and Steel Pipe Swing Gates in Optional Work Items. Gate signs shall be placed on both sides of all Double Swing Vehicle Gates and Steel Pipe Swing Gates. See detail drawings.

### 1.2 PERIMETER SURVEY REQUIREMENTS

1.2.1 Scope. Survey requirements apply to Base Work Item 0009 and Optional Work Items 0011AH, 0012AG, 0014AG, 0015, and 0016. Work consists of land surveying services to determine accurate property corners along the boundary of Fort Richardson, Alaska, where security fencing will be installed. Contractor shall locate all property corners and set intervisible points along the boundary line and fence alignment for a total of approximately 18,500 meters. Surveying is necessary to determine the Fort Richardson Installation boundary south of the Eagle River area, areas where new fence will be installed along the Glenn Highway Right-of-Way, along the Southern Fort Richardson Installation boundary, and along Fort Richardson Eastern boundary across from the Anchorage Regional Landfill.

a. Contractor shall recover horizontal control monuments sufficient in density to enable them to search for, and to re-set, if required, monuments required to re-establish any boundary lines. Locate and tie in to existing primary control network and existing established section corners.

b. Monuments shall be placed at all major corners of the exterior boundary of the property unless already marked or referenced by an existing monument. Contractor shall tie monuments previously installed by others.

c. Visually identify and stake proposed boundary monument locations and section corners in project area at Fort Richardson.

d. Coordinate with the Fort Richardson Directorate of Public Works (DPW) to have them verify the staked locations prior to digging for new monumentation installation.

e. Install new monuments at intervisible locations, as necessary along property boundary.

1.2.2 Special Requirements. The following specifications are project specific and intended to supplement technical requirements in the basic contract.

a. Horizontal control surveys shall meet third order standards in accordance with EM 1110-1-1004, Geodetic and Control Surveying, dated 1 June 2002.

(see <http://www.usace.army.mil/publications/eng-manuals/em1110-1-1004/toc.htm>)

b. An Alaska-registered professional land surveyor must perform or supervise replacement of survey monuments and/or establishment of monuments and all boundary lines.

c. All monument work must comply with AS 34.65.040 and meet standards in the latest version of the Alaska Society of Professional Land Surveyors' Standards of Practice Manual.

d. Contractor shall walk the boundaries with the Fort Richardson Directorate of Public Works, and stake the locations of each proposed boundary corner.

e. Fort Richardson Public Works shall provide permission to dig at each staked location within two (2) working days of Contractor's request. Contractor shall notify the Contracting Officer of any delays to this process.

f. Contractor is responsible for acquiring all additional survey data such as boundaries, topography and profiles, plus establishment of undefined boundaries and/or Right-of-Way beyond what has been provided by Government Furnished Materials to the Contractor.

g. Any existing permanent survey markers disturbed, destroyed or removed by Contractor activities shall be replaced in-kind and referenced at the expense of the Contractor. Note - see Item b. above, in reference to Alaska Registered Land Surveyor.

h. Specifications for boundary monuments are as follows:

(1) Monument type shall be the following or equivalent: Bernsten A1NBF30 Pipe Monument or Sectional Drive Monument HRRR3, minimum depth 2.4 meters or refusal. The selection of the pipe monument vs. sectional drive rod shall be based on soil conditions found

at each site. Each survey monument shall have a 1.8 meter Carsonite Post (CBM2072) with witness post decal affixed and driven to a depth of 0.6 meters below the surface of the ground, in accordance with EM 1110-1-1002, Survey Markers and Monumentation, dated 14 Sep 90.

(see <http://www.usace.army.mil/inet/usace-docs/eng-manuals/em1110-1-1002/toc.htm>)

(2) Each monument cap will be stamped to identify the project and corner number, i.e., "FTR174-[corner number 1, 2, 3, etc.]," clockwise from the point of beginning around entire boundary perimeter. For cadastral corners follow Manual of Survey Instructions 1973, Dept. of Interior, BLM.

(3) All monumentation shall be provided by the Contractor.

i. Field Notebook Standards:

(1) Field books shall be neat, legible and sequential. They will also show names of crew members and date, temperature and weather conditions at the beginning of each day.

(2) Each field book shall have an index. The serial number and type of instruments used will be shown on this page.

(3) There will be no more than one (1) horizontal set-up per page.

(4) Field notebooks shall be Rite-in-the-Rain, Level No. 311, or equivalent.

(5) Field notebooks shall be marked as follows:

FORT RICHARDSON  
Perimeter Survey  
FTR 174 Boundary Fencing Project  
PARCEL NO. xxxx  
Contract No. xxxx  
FY03 - (Date)  
File No. xxxx Bk (xx\_of xx)

j. Control will be based on Alaska State Plane Coordinate System, Zone 4, horizontal NAD 83/91 and vertical NAVD 88. All measurement will be in meters.

k. Fort Richardson Public Works POC is George May, telephone no. (907) 384-1853. All on-post activities must be coordinated through this office.

l. Contractor shall show areas of conflict and/or encroachment and prepare a Record of Survey to be filed on the Government's behalf.

m. Contractor shall label each monument with an Alaska State Plane Coordinate.

1.2.3 Government-furnished Material: The Contractor may request through the Contracting Officer various maps and Fort Richardson boundary legal descriptions of the project area from USACE Alaska District Real Estate Section for incorporation into the final product. All provided maps and

documents are to be returned to the Contracting Officer upon completion of work.

1.2.4 Submittals/Acceptance:

a. Initial Submittal: The Contractor shall provide a data file and hard copy of three (3) survey map for review to assure compliance with project specifications.

b. Pre-Final Submittal: The Contractor shall provide survey data files and (3) hard copies of all maps depicting boundary monument and section corner locations.

c. Final Submittal: The Contractor shall provide survey data files and hard copies of all maps depicting boundary monument and section corner locations, containing revisions required as a result of the Pre-Final review conference. This submittal shall consist of:

- 1) All items in paragraph c. above.
- 2) Compact Disc containing all survey map files in AutoDesk Land development R.3 or later format and files containing all electronic data collection, computations and closures.
- 3) Three (3) hard copies of each sheet.
- 4) Original field notebooks.

Alaska registered professional land surveyor shall file a record of survey with the appropriate agencies.

1.2.5 Submittal Schedule. The Contractor shall furnish sufficient technical and supervision and administration personnel to ensure the execution of the work. Schedule will commence on the date the Contractor receives notice-to-proceed.

1.2.6 Submittals. Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

Initial Submittal; G  
Pre-Final Submittal; G  
Final Submittal; G

Contract shall provide weekly status updates on progress of survey monument installation and data collection.

1.2.7 Delays. The Contractor shall keep the Government advised at all times about delays or difficulties that may prohibit the completion of any part or the whole of their project on schedule.

1.3 GEOTECHNICAL ASSESSMENT

This paragraph applies to both Base and Optional Work Items. The Contractor shall provide all necessary geotechnical exploration and analysis, including sampling, testing, and classifying, to install fence foundations throughout

alignment appropriately for arctic conditions including, but not limited to minimizing frost jack/heave of foundations.

#### 1.4 SITE DEVELOPMENT

This paragraph applies to both Base and Optional Work Items. Site work shall include all required clearing and grubbing 9.1 meters wide along secure side of the fence on Army property and removal of indicated existing fencing segments. See Specification sections 02220 and 02231 for additional requirements.

#### Attachments

- Conceptional Drawing of Gates/Bollards Needed Along Glenn Highway
- Approximate Location and Distances for Fence and Wetland Intersection map
- Contonment Fencing and Combined Security Fence Option 10 map
- State of Alaska DNR letter dated 13 September 2004

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