

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES 1 1
2. AMENDMENT/MODIFICATION NO. R0003	3. EFFECTIVE DATE 05/21/03	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)	
6. ISSUED BY US ARMY ENGINEER DISTRICT, AK CEPOA-CT-CM (DACA85) PO BOX 6898 ELMENDORF AFB, AK 99506-0898 ANDI MIESLER (907)753-2528	CODE J4P0000	7. ADMINISTERED BY (If other than Item 6) CODE US ARMY ENGINEER DISTRICT, AK CEPOA-CT-CM PO BOX 6898 ELMENDORF AFB, ALASKA 99506-6898		DACA85
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)			(X)	9A. AMENDMENT OF SOLICITATION NO. DACA85-03-B-0002
CODE 089C4 FACILITY CODE			X	9B. DATED (SEE ITEM 11) 04/23/03
				10A. MODIFICATION OF CONTRACT/ORDER NO.
				10B. DATED (SEE ITEM 13)

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

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

12. Accounting and Appropriation Data (If required)

PROJECT TITLE AND LOCATION: Whole Barracks Renewal, Phase 3, Ft Richardson, Alaska

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

<input checked="" type="checkbox"/>	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
<input type="checkbox"/>	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT 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).
<input type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)

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

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

BID OPENING DATE IS 29 MAY 2003, at 2:00 pm, local time, at the US Army Engineer District-Alaska, 2204 Third St, Elmendorf AFB, Alaska.

NOTICE TO OFFERORS: PLEASE MARK OUTSIDE OF ENVELOPE IN WHICH BID IS SUBMITTED TO SHOW AMENDMENTS RECEIVED. YOU ARE REQUIRED TO ACKNOWLEDGE RECEIPT OF THIS AMENDMENT ON THE REVERSE SIDE OF STANDARD FORM 1442.

IMPORTANT NOTE: Keep in mind that the base is still under tight security measures and access to non-DOD personnel is limited or restricted and requires extra time to process through the Boniface Gate

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 SIGNER (Type or print)	
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

CONTINUATION SHEET

Amendment No. R0003

Page: 2

a. The following drawings are substituted for the superseded drawings. The identifier "AM #3" appears before and after revised drawings as listed in SCR-5.

C0102.cal Sht 4 C1.02 SITE AND UTILITY PLAN

b. The following revised documents are substituted for the superseded documents. The identifier "AM #3" appears before and after new and revised material, except as noted below.

PROJECT TABLE OF CONTENTS

TECHNICAL SPECIFICATIONS:

SECTION 16710 PREMISES DISTRIBUTION SYSTEM

NOTE: Revisions within the following documents do not contain the above referenced identifiers.

PROJECT TABLE OF CONTENTS

c. The following section (including submittal register) are deleted.

NONE

d. The following section (including submittal register) are added.

NONE

e. NOTICE TO BIDDERS: PLEASE MARK OUTSIDE OF ENVELOPE IN WHICH BID IS SUBMITTED TO SHOW AMENDMENTS RECEIVED. YOU ARE REQUIRED TO ACKNOWLEDGE RECEIPT OF THIS AMENDMENT ON THE REVERSE SIDE OF STANDARD FORM 1442.

FTR151 WHOLE BARRACKS RENEWAL, PHASE 3
DACA85-03-B-0002
QUESTIONS & ANSWERS #1-22
Amendment #R0003

Q1. Section 15951, Direct Digital Control for HVAC.

The specifications for the last two barracks upgrades have required that the direct digital controls use the standard protocol developed by ASHRAE (American Society of Heating, Refrigerating and Air-conditioning Engineers) called BACnet. ATS Alaska is currently under contract to engineer, provide and install the controls for Phase II. We are using Alerton BACTalk controls. This system has adopted all levels of the BACnet protocol; this is referred to as a "native" BACnet system. Because of this, we can communicate with your existing system manufactured by Automated Logic Corporation (ALC). ALC also utilizes a "native" BACnet system. You allude to the need that the controls system should use BACnet as a communications protocol on the drawing M5.01. However, I could not find any reference to the BACnet requirement in the specification.

A1 See Specifications Section 15951 Paragraph 1.3 and 2.1, and Contract drawings M5.01 for specific requirements.

Q2.

For the project referenced above, specification section 08710, paragraph 2.3.6 states the Government will provide permanent cylinders with cores and keys for all locks. However, paragraph 2.3.8 outlines a keying system and the number of keys required. Will the Government will provide the permanent cores or will the hardware supplier be required to provide the permanent cores?

A2. Section 2.3.6. states that the contractor is responsible for "temporary cores and key sets. The government will furnish permanent cores and key sets.

Q3.

I have another question relating to the site utilities. I can not find the new storm drain lines and hook up from the new buildings to the existing Storm Drain System. Will this be clarified in the up-coming amendment?

A3 All of the FTR151 site grading drains to swales and catch basins that will be installed under FTR144, FY02 Barracks Phase 2 which is in another contract. There is no storm water work other than the site grading as shown on the drawings.

Q4.

For the project referenced above, the door schedule on drawing A5.01 sheet 68 has door mark E4 scheduled as an aluminum door in a hollow metal frame. Typically, aluminum doors are provided with aluminum frames. The frame details scheduled for this opening seem to show an aluminum frame. Please advise if this should be an aluminum door in an aluminum frame or a hollow metal door in a hollow metal frame or if it should remain as scheduled.

A4. The doors are Aluminum and the frames are Insulated Thermally Broken Aluminum frames.

Q5.

Our insurance company, who will be quoting the cost for builders risk on this project has requested information about the flood exposure at the project site. Unfortunately FEMA maps don't cover Ft. Richardson. We would like information that would tell us if the site is located within a 100 year flood plain - Zone A (100 yr flood plain) or Shaded X (100yr flood plain three special cases).

A5. The site is not in the flood plain.

Q6.

The drawing calls out some of the items to match with the Building of Phase-1. It is possible to get a sub/Supplier list of Phase -I.

A6. No. Match is defined as a supplier's submittal, which meets salient features of the specification.

Q7. Description (request): Per Section 16710 Page 7 Para. 1.7.2 Termination Hardware, a licensed copy of the cable management software, including documentation will be provided. What is the total number of users?

A7. Each data cable terminated shall be recorded. Only one copy of the software and documentation is required.

Q8. Description (request): Per Section 16710 Page 8 Para. 2.2.3.4 Terminal Blocks, The Paragraph states that terminal blocks shall be type 66 and shall be category 6 rated. I have found no manufacturer that makes a category 6 rated 66 block. Drawing E4.03 shows 210 blocks and 66 blocks in the barracks building but shows no 66 blocks in the community building

A8. Paragraph 2.2.3.4 will be changed by this amendment to type 210 blocks.

Q9. Description (request): Per Section 16710 Page 7 Para. 2.2.1 Backbone Cable, The Paragraph states that the backbone cable shall be category 6 100-ohm. Drawing E4.03 Telecommunications Room Backboard Layout (Community Building) shows 3 100 pair riser cables. What category is the riser cable?

A9. Paragraph 2.2.1 will be changed by this amendment to Category 5 cable.

Q10. SECTION 08800 Page 14, SCR-13- Insurance

A10. See Amendment #2; Q1/A1

Q11. Our Builder's Risk insurance company is asking information about the flood exposure at the project site. Unfortunately FEMA maps don't cover Ft. Richardson. Please provide the information/documents, which shows that the project site is located within a 100-year flood plain - Zone A, or Shaded X.

A11. See Q5/A5

Q12. DRAWING A2.08, A 2.10 and A 2.13- Wall Type -Detail 1/A2.08 shows wall between the sleeping units and all other walls within the module are Type 1A. The wall types 1A on sheet A2.10 shows up to deck or structure above. Section A/2.13 shows these walls up to ceiling only. Please clarify.

A12. Detail 2 and Section A on Sheet A2.13 show termination at the ceiling. There is no reason to carry the gypsum board to the underside of the structure

Q13. RE: Specification Section 07412 Non-Structural Metal Roofing
Paragraph 1.7.1 Contractor's Weather Tightness Warranty
This letter is to request that the Contractor's Weather Tightness Warranty be revised to reflect a two (2) year responsibility period for the roofing Contractor.

A13. No. Request denied.

Q14. There appears to be a Community Building power plan for the mechanical room in the bid set. If various other systems are included with this design, such as: lighting, fire detection, public address, telecommunications, etc. for the area, please provide the additional drawings.

A14. See sheets E3.02, E3.08, and FP3.02 for plans.

Q15. Clarification of rated construction.

A15. The exhaust chase in the barracks module bathrooms shall be 1 hour shaft walls conforming to UL # Design U415/ U467.

Q16. Detail 1/A2.08 shows wall between the sleeping units and all other walls within the modules are Type 1A. On sheet A2.1 wall Type 1A shown up to bottom of deck or structure above. Section on sheet A 2.13 shows wall Type 1A "up to ceiling only". Please clarify wall Type 1A will be up to bottom of structure or up to ceiling only.

A16. See Q12/A12

Q17. Spec section 16375 Electrical Distribution Underground, 2.6 thru 2.6.2.1 Conduit and Ducts: Spec section 16375 apparently prohibits the use of PVC, except where duct banks are concerned. Please confirm for the approval/not-approved usage of PVC for the Electrical Distribution Underground.

A17. Bid as specified, PVC will only be allowed in concrete duct banks.

Q18. Spec section 16528 Exterior Lighting, 2.5.1 and 2.5.2: Spec section 16528 prohibits the use of PVC with a requirement for metallic conduit to be plastic resin or epoxy coated. We request verification/clarification for the use of PVC as opposed to the use of plastic resin or epoxy coated metallic conduit.

A18. Bid as specified, PVC will only be allowed in concrete duct banks.

Q19. Spec section 16415 Electrical Work, Interior, 3.2.1.3, Below slab-on-grade: Spec section 16415 requires for metallic conduit to be wrapped or coated. We request verification/clarification for the use of PVC as opposed to the use of wrapped or coated metallic conduit.

A19. Bid as specified, PVC will only be allowed in concrete duct banks.

Q20. Spec section 16415 Electrical Work, Interior, 3.2.1.4, In slab: Spec section 16415 requires usage for metallic conduit, but without any wrapping or coating. We request verification/clarification for the use of PVC as opposed to the use of metallic conduit.

A20. Bid as specified, PVC will only be allowed in concrete duct banks.

Q21. Sheet 29, A2.12 is missing the title block information. Has this sheet been reissued ?

A21. No.

Q22. Sheet A2.12 gridlines don't appear to correspond to the plan view on Sheet A2.05. Example: Sheet A2.12 South Elevation, grid 'K' seems to match grid 'G' on Sheet A2.05. Which is correct ?

A22. No Grid error exists between Sheets A2.05 and Sheet A2.12. See Index D at the top of the Sheet A2.05 and A2.12 both contain Grid G and match.

SECTION 00800

SPECIAL CONTRACT REQUIREMENTS

DACA85-03-B-0002
 FY03 WHOLE BARRACKS RENEWAL
 FT. RICHARDSON, ALASKA

I-N-D-E-X

<u>CLAUSE</u>	<u>TITLE</u>	<u>PAGE</u>
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SCR-2	EXCLUSION OF PERIODS IN COMPUTING COMPLETION SCHEDULES	NOT USED 00800-1
SCR-3	LIQUIDATED DAMAGES-CONSTRUCTION	00800-1
SCR-4	TIME EXTENSIONS	NOT USED 00800-1
SCR-5	CONTRACT DRAWINGS AND SPECIFICATIONS	00800-1
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SCR-9	IDENTIFICATION OF GOVERNMENT-FURNISHED PROPERTY	NOT USED 00800-13
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SCR-13	INSURANCE - WORK ON A GOVERNMENT INSTALLATION	00800-14
SCR-14	SPECIAL SAFETY REQUIREMENTS	00800-14
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SCR-19	HAUL ROADS	NOT USED 00800-15
SCR-20	CONTRACTOR-PREPARED NETWORK ANALYSIS SYSTEM	NOT USED 00800-15
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<u>CLAUSE</u>	<u>TITLE</u>		<u>PAGE</u>
SCR-23	OBSTRUCTION OF NAVIGABLE WATERWAYS	NOT USED	00800-15
SCR-24	SIGNAL LIGHTS	NOT USED	00800-15
SCR-25	COMMUNICATION SECURITY		00800-15
SCR-26	PERMITS AND RESPONSIBILITIES	NOT USED	00800-15
SCR-27	SUPERINTENDENCE OF SUBCONTRACTORS	NOT USED	00800-15
SCR-28	PAYMENT FOR MOBILIZATION AND DEMOBILIZATION	NOT USED	00800-15
SCR-29	EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE		00800-15
SCR-30	RESERVED	NOT USED	00800-16
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SCR-38	YEAR 2000 COMPLIANCE		00800-17
SCR-39	RESERVED	NOT USED	00800-18
SCR-40	KEY PERSONNEL	NOT USED	00800-18
SCR-41	DESIGN-BUILD CONTRACT - ORDER OF PRECEDENCE	NOT USED	00800-18
SCR-42	PROPOSED BETTERMENTS	NOT USED	00800-18
SCR-43	SEQUENCE OF DESIGN-CONSTRUCTION	NOT USED	00800-18
SCR-44	RESPONSIBILITY OF THE CONTRACTOR FOR DESIGN	NOT USED	00800-18
SCR-45	SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385-1-1, U.S. ARMY CORPS OF ENGINEERS		00800-18
SCR-46 THRU SCR-111		NOT USED	00800-18
SCR-112	NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY		00800-18

ATTACHMENTS: CLIMATOLOGICAL SUMMARY
POLICY LETTER # 24-16
F.R. INSTALLATION PASS/ACCESS ROSTER REQUEST FORM
POLICY LETTER # 24-15

SECTION 00800
SPECIAL CONTRACT REQUIREMENTS

SCR-1 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984) (FAR 52.211-10):

See SECTION 00700.

SCR-2 NOT USED

SCR-3 LIQUIDATED DAMAGES-CONSTRUCTION (SEP 2000) (FAR 52.211-12):

See SECTION 00700.

SCR-4 NOT USED

SCR-5 CONTRACT DRAWINGS AND SPECIFICATIONS (Aug 2000) (DFARS 252.236-7001):

(a) The Government will provide 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 the 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 misdescription 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 misdescribed 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:

Drawing No.	Sheet No.	Title	Rev. No.	Date
		<u>GENERAL</u>		
None	None	Cover Sheet	None	17 April 2003
"	"	Index Sheet	"	"
F-16-06-4260	1	Location and Vicinity Map	"	"
		<u>LANDSCAPING</u>		
F-21-01-424	1	Landscape Plant Schedule	"	"
"	2	Landscape Plan	"	"
"	2A	Landscape Details	"	"
		<u>CIVIL</u>		
"	3	General Site Plan	"	"
AM #3...	4	Site and Utility Plan	1	15 MAY 2003
"	5	Grading Plan 1	NONE	AM #3... 17 April 2003
"	6	Grading Plan 2	"	"
"	7	Building Earthwork Sections and Details	"	"
"	8	Site Earthwork Details	"	"
"	9	Sanitary Sewer Plan and Profile	"	"
"	10	Water Service Details	"	"
"	11	Site Details	1	09 MAY 2003
	12	Soil Logs 1	NONE	17 APRIL 2003
	13	Soil Logs 2		
	14	Soil Logs 3		
		<u>ARCHITECTURAL</u>		
"	15	Symbols, Abbreviations, Notes and Materials	"	"
"	16	Barracks Building 1 Composite Code Analysis	"	"
"	17	Soldier Community Building 2 Composite Code Analysis Plan	"	"

Drawing No.	Sheet No.	Title	Rev. No.	Date
		<u>Barracks Building 1</u>		
F-21-01-424	18	Composite Floor Plans Barracks Building 1	None	17 April 2003
"	19	First Floor Plan Building 1 South Barracks Wing	"	"
"	20	First Floor Plan Building 1 North Barracks Wing	"	"
"	21	Second Floor Plan Building 1 South Barracks Wing and Exterior Sign Location Plan	"	"
"	22	Second Floor Plan Building 1 North Barracks Wing	"	"
"	23	Third Floor Plan Building 1 South Barracks Wing	"	"
"	24	Third Floor Plan Building 1 North Barracks Wing	"	"
"	25	Barracks Building 1 Enlarged Floor Plans	"	"
"	26	Barracks Building 1 Enlarged Stair Plans	"	"
"	27	Barracks Building 1 Wall Types	"	"
"	28	Barracks Building 1 and Soldier Community Building 2 Roof Plan and Details	"	"
"	29	Barracks Building 1 and Soldier Community Building 2 Exterior Elevations	"	"
"	30	Barracks Building 1 Building Section A	"	"
"	31	Barracks Building 1 Building Section B	"	"
"	32	Barracks Building 1 Building Sections C and D	"	"
"	33	Barracks Building 1 Wall Sections	"	"

Drawing No.	Sheet No.	Title	Rev. No.	Date
F-21-01-424	34	Barracks Building 1 Wall Sections and Section Thru Duct Shaft	None	17 April 2003
"	35	Barracks Building 1 Exterior Roof Details	"	"
"	36	Barracks Building 1 Building Sections at Connection	"	"
"	37	Barracks Building 1 Misc. Details	"	"
"	38	Barracks Building 1 Interior Module Bathroom Elevations, Sections, and Details	"	"
"	39	Barracks Building 1 Interior Module Elevations, Sections and Misc. Details	"	"
"	40	Barracks Building 1 Interior Elevations	"	"
"	41	Barracks Building 1 First Floor Reflected Ceiling Plan and Details	"	"
"	42	Barracks Building 1 Second Floor Reflected Ceiling Plan Third Floor Similar	"	"
		Soldier Community Building 2		
"	43	Soldier Community Building 2 Main Floor Plan	"	"
"	44	Soldier Community Building 2 Basement Floor Plan	"	"
"	45	Soldier Community Building 2 Enlarged Floor Plan North	"	"
"	46	Soldier Community Building 2 Enlarged Floor Plan South	"	"
"	47	Soldier Community Building 2 Building Section 1 Thru Entry	"	"
"	48	Soldier Community Building 2 Building Section 2 Thru Lounge	"	"

Drawing No.	Sheet No.	Title	Rev. No.	Date
F-21-01-424	49	Soldier Community Building 2 Building Section 3 Thru Mechanical	None	17 April 2003
"	50	Soldier Community Building 2 Building Section 4 Thru Corridor	"	"
"	51	Soldier Community Building 2 Porch, and Entry Sections	"	"
"	52	Soldier Community Building 2 Wall Sections and Details	"	"
"	53	Soldier Community Building 2 Main Floor Reflected Ceiling Plan	"	"
"	54	Soldier Community Building 2 Basement Reflected Ceiling Plan	"	"
"	55	Soldier Community Building 2 Interior Elevations	"	"
"	56	Soldier Community Building 2 Interior Elevations	"	"
"	57	Soldier Community Building 2 Interior Elevations	"	"
"	58	Soldier Community Building 2 Interior Elevations	"	"
"	59	Barracks and Soldier Community Building Casework and Details	"	"
"	60	Barracks and Soldier Community Building Casework and Details	"	"
"	61	Barracks and Soldier Community Building Details II	"	"
"	62	Barracks Building 1 and Soldier Community Building 2 Signage Schedule and Details	"	"
"	63	Barracks Building 1, and Soldier Community Building 2 Interior Finish Schedule	"	"

Drawing No.	Sheet No.	Title	Rev. No.	Date
F-21-01-424	64	Barracks Building 1 Soldier Community Building 2 Interior Wall Penetrations Details	None	17 April 2003
"	65	Barracks Building 1 Soldier Community Building 2 Exterior Sign Elevations and Details	"	"
"	66	Barracks Building 1 Soldier Community Building 2 Suspended Ceiling System Details	"	"
"	67	Barracks Building 1 Soldier Community Building 2 Misc. Wall Details	"	"
"	68	Barracks, and Soldier Community Building Door Schedule	"	"
"	69	Barracks, and Soldier Community Building Door Details	"	"
"	70	Barracks and Soldier Community Building Window and Storefront Types	"	"
"	71	Barracks, and Soldier Community Building Window and Storefront Details	"	"
"	72	Barracks Building 1 Details	"	"
"	73	Barracks Building 1 Soldier Community Building 2 Stair and Railing Details	"	"
"	74	Miscellaneous Roof Details	"	"
		<u>Accessory Buildings</u>		
"	75	Barbeque Kiosk Building 3 Plan, Sections and Elevation	"	"
	76	Mailbox Kiosk Building 4 Plan, Sections and Elevation		
	77	Dumpster and Storage Building Plans, Elevations and Sections		

Drawing No.	Sheet No.	Title	Rev. No.	Date
		<u>STRUCTURAL</u>		
		All Buildings		
F-21-01-424	78	General Notes & Abbreviations	None	17 April 2003
"	79	CMU & Beam Connection Details	"	"
		<u>Barracks</u>		
"	80	Barracks North Wing Foundation Plan	"	"
"	81	Barracks South Wing Foundation Plan	"	"
"	82	Barracks North Wing 2 nd & 3 rd Floor Framing Plan	"	"
"	83	Barracks South Wing 2 nd & 3 rd Floor Framing Plan	"	"
"	84	Barracks North Wing Roof Framing Plan	"	"
"	85	Barracks South Wing Roof Framing Plan	"	"
"	86	Framing Sections	"	"
"	87	Stair Framing & Details	"	"
"	88	Framing Connection Details I	"	"
"	89	Framing Connection Details II	"	"
"	90	Special Bar Joist Loading	"	"
"	91	Foundation Details	"	"
		<u>Soldier Community Building</u>		
"	92	Foundation Plan	"	"
"	93	Floor Framing Plan	"	"
"	94	Roof Framing Plan	"	"
"	95	Framing Section	"	"
"	96	HSS Truss Details	"	"

Drawing No.	Sheet No.	Title	Rev. No.	Date
F-21-01-424	97	HSS Truss Connection Details	None	17 April 2003
"	98	Foundation Details	"	"
"	99	AHU Platform Details	"	"
"	100	Framing Connection Details I	"	"
"	101	Framing Connection Details II	"	"
		<u>Accessory Buildings</u>		
"	102	Barbeque Details	"	"
	103	Mail Kiosk Details		
	104	Storage Shed/Dumpster Details		
		<u>MECHANICAL</u>		
		<u>General</u>		
"	105	Legend, Abbreviations and Plumbing Schedule	"	"
"	106	Equipment Schedule	"	"
"	107	Equipment Schedule	"	"
"	108	Control Legend	"	"
		<u>Barracks Building</u>		
"	109	First Floor Drain, Waste and Vent Plan	"	"
"	110	Second and Third Floor Drain, Waste and Vent Plan	"	"
"	111	First Floor Hot and Cold Water Supply Plan	"	"
"	112	Second and Third Floor Hot and Cold Water Supply Plan	"	"
"	113	Drain, Waste and Vent Isometrics	"	"
"	114	Hot and Cold Water Supply Isometrics	"	"
"	115	First Floor Heating Plan	"	"

Drawing No.	Sheet No.	Title	Rev. No.	Date
F-21-01-424	116	Second Floor Heating Plan	None	17 April 2003
"	117	Third Floor Heating Plan	"	"
"	118	First Floor Ventilation Plan	"	"
"	119	Second Floor Ventilation Plan	"	"
"	120	Third Floor Ventilation Plan	"	"
"	121	Roof Plan	"	"
"	122	Attic Tower Mechanical Plan	"	"
"	123	Attic Tower Mechanical Plan	"	"
"	124	Attic Tower Mechanical Plan	"	"
"	125	Attic Tower Mechanical Sections	"	"
"	126	Mechanical Equipment Piping Details	"	"
"	127	Mechanical Room Piping Schematic	"	"
"	128	Heating Control Diagram	"	"
"	129	Heating System Controls Equipment	"	"
"	130	Heating System Control Diagrams	"	"
"	131	Ventilation System Control Diagrams	"	"
"	132	Ventilation System Control Equipment	"	"
"	133	Ventilation System Control Diagrams	"	"
"	134	Ventilation System Control Equipment	"	"
"	135	Building DDC System Layout	"	"
		<u>Soldier Community Building</u>		
"	136	Drain, Waste and Vent Plan	"	"

Drawing No.	Sheet No.	Title	Rev. No.	Date
F-21-01-424	137	Hot and Cold Water Supply Plan	None	17 April 2003
"	138	Drain, Waste and Vent Isometric	"	"
"	139	Hot and Cold Water Supply Isometric	"	"
"	140	Basement and First Floor Heating Plans	"	"
"	141	Ventilation Plan	"	"
"	142	Mechanical Room Plan	"	"
"	143	Mechanical Room Plan	"	"
"	144	Common Equipment Details Equipment Piping Details	"	"
"	145	Common Equipment Details Equipment Piping Details	"	"
"	146	Common Equipment Details Seismic Details	"	"
"	147	Site DDC System Overall DDC Schematic	"	"
"	148	Site DDC System Overall DDC Layout and Sequence of Operations	"	"
		ELECTRICAL		
"	149	Symbols and Legend	"	"
"	150	Site Electrical Plan 1	"	"
"	151	Site Electrical Plan 2	"	"
	152	Site Electrical Plan 3		
"	153	Light Fixture Schedule	1	09 MAY 2003
"	154	Barracks - First Floor Lighting Plan	NONE	17 APRIL 2003
"	155	Barracks - Second and Third Floor Lighting Plan	"	"
"	156	Barracks - First Floor Power Plan	"	"

Drawing No.	Sheet No.	Title	Rev. No.	Date
F-21-01-424	157	Barracks - Second and Third Floor Power Plan	None	17 April 2003
"	158	Barracks - First Floor Signal Plan	"	"
"	159	Barracks - Second and Third Floor Signal Plan	"	"
"	160	Living Module	1	09 MAY 2003
"	161	Barracks Attic Mechanical Room	NONE	17 APRIL 2003
"	162	Community Building Kitchen Power Plan	"	"
"	163	Community Building North Half Lighting Plan	"	"
"	164	Community Building South Half Lighting Plan	"	"
"	165	Community Building North Half Power Plan	"	"
"	166	Community Building South Half Power Plan	"	"
"	167	Basement Lighting and Power Plan	"	"
"	168	Mechanical Room	"	"
"	169	Community Building North Half Signal Plan	"	"
"	170	Community Building South Half Signal Plan	"	"
"	171	Barbeque and Mail Kiosks Electrical Power Plans	"	"
"	172	Power One-Line Diagram	"	"
"	173	Cable Television Riser Diagram	"	"
"	174	Communication Riser Diagram	"	"
"	175	Details 1	"	"
"	176	Details 2	"	"

Drawing No.	Sheet No.	Title	Rev. No.	Date
F-21-01-424	177	Power Panel Schedule 1	None	17 April 2003
"	178	Power Panel Schedule 2	"	"
	179	Notification System		
		<u>FIRE PROTECTION</u>		
"	180	Fire Alarm Matrix	"	"
"	181	Fire Protection Plans	"	"
"	182	Mechanical Room Plans and Diagrams	"	"
"	183	Barracks - First Floor Fire Detection Plan	"	"
"	184	Barracks - Second and Third Floor Fire Detection Plan	"	"
"	185	Community Building North Half Fire Detection Plan	"	"
"	186	Community Building South Half Fire Detection Plan	"	"
"	187	Barracks Fire Detection Plans	"	"

SCR-6 BRAND NAME OR EQUAL (Aug 1999) (FAR 52.211-6):

See SECTION 00700.

SCR-7 CERTIFICATES OF COMPLIANCE:

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in 3 copies. Each certificate shall be signed by an official authorized to certify in behalf of the manufacturing company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

SCR-8 SUBMITTALS (ER 415-1-10, 30 May 1995):

Within 30 days after receipt of Notice to Proceed, the Contractor shall complete and submit to the Contracting Officer, in triplicate, submittal register ENG Form 4288 listing all submittals and dates. In addition to

those items listed on ENG Form 4288, the Contractor shall furnish submittals for any deviation from the plans or specifications. The scheduled need dates must be recorded on the document for each item for control purposes. In preparing the document, adequate time (minimum of 30 days) shall be allowed for review and, only when stipulated, approval and possible resubmittal. Scheduling shall be coordinated with the approved progress schedule. The Contractor's Quality Control representative shall review the listing at least every 30 days and take appropriate action to maintain an effective system. Copies of updated or corrected listing shall be submitted to the Contracting Officer at least every 60 days in the quantity specified. Payment will not be made for any material or equipment that does not comply with contract requirements.

SECTION 01330 includes an ENG Form 4288 listing technical items the Contractor shall submit to the Contracting Officer, as indicated in the contract requirements.

SCR-9 NOT USED

SCR-10 FORT RICHARDSON PHYSICAL DATA (APR 1984): Data and information furnished or referred to below are furnished 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. The indications of physical conditions on the drawings and in the specifications are the result of site investigation.

b. Location: Ft. Richardson is located approximately 6 miles east of downtown Anchorage, Alaska.

c. Transportation:

(1) Water: Anchorage is a port of call for scheduled and unscheduled commercial and military deep and shallow draft vessels in the Alaska trade.

(2) Air: Scheduled and chartered commercial airline services are available from airports in Anchorage.

(3) Land: Anchorage is connected to the primary and secondary state highway system and is accessible from the lower 48 states via the Alaska Highway.

(4) Railroad: The Alaska Railroad offers freight service from the 48 contiguous states and Canada via rail barge and trainship through Whittier, and from Seward, to Anchorage and Fairbanks. In addition to the freight service, scheduled passenger service and express service between Anchorage and Fairbanks, and passenger service between Anchorage and Whittier are also available. Fairbanks (including Eielson AFB and Ft. Wainwright) is the northern terminus, and Seward and Whittier are the southern terminals of the Alaska Railroad.

d. Communications: Telephone communications and services are under the jurisdiction of Alaska Communications Systems (ACS) (Bldg. 652). The Contractor shall make all arrangements for required communication service directly with the communications office and will be billed by that office for services received. The Government does not guarantee the adequacy or efficiency of the services received or the number of telephones that can be assigned to the Contractor.

e. Weather Data: A Climatological Summary for Ft. Richardson is attached to the end of this section.

SCR-11 AVAILABILITY AND USE OF UTILITY SERVICES (APR 1984) (FAR 52.236-14):

See SECTION 00700.

SCR-12 IDENTIFICATION OF EMPLOYEES AND MILITARY REGULATIONS:

(a) The Contractor shall be responsible for compliance with all regulations and orders of the Commanding Officer of the Military Installation, respecting identification of employees, movements on installation, parking, truck entry, and all other military regulations which may affect the work.

(b) The work under this contract is to be performed at an operating Military Installation with consequent restrictions on entry and movement of non-military personnel and equipment. See Installation Pass for Fort Richardson (Post Commander Policy #24-15) attached. These restrictions may be changed without advance notice.

AM #2...SCR-13 INSURANCE - WORK ON A GOVERNMENT INSTALLATION (JAN 1997) (FAR 52.228-5):

(a) The Contractor shall, at its own expense, provide and maintain during the entire performance of this contract, at least the following kinds and minimum amounts of insurance:

(1) Workman's Compensation and Employers' Liability Insurance: \$100,000.00.

(2) General Liability Insurance: A Bodily Injury, Comprehensive policy which provides \$500,000.00 per occurrence.

(3) Automobile Liability Insurance: A comprehensive policy which provides \$200,000.00 per person and \$500,000.00 per occurrence for bodily injury and \$20,000.00 per occurrence for property damage, covering the operation of its automobiles used in connection with the performance of the contract.

(4) Aircraft Public and Passenger Liability Insurance: Where aircraft are used in connection with the performance of the contract; \$200,000.00 per person, \$500,000.00 per occurrence for bodily injury, other than passenger liability, and \$200,000.00 per occurrence for property damage; \$200,000.00 per person for passenger liability/bodily injury aggregate equal to the total number of seats or number of passengers, whichever is greater.

(5) Vessel Collision Liability and Protection and Indemnity Liability Insurance: Where vessels are used in connection with the performance of the contract.

(b) Before commencing the work under this contract, the Contractor shall notify the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective (1) for such period as the laws of the State in which this contract is to be

performed prescribe, or (2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.

(c) The Contractor shall insert the substance of this clause, including this paragraph (c), in subcontracts under this contract that require work on a Government installation and shall require subcontractors to provide and maintain the insurance required above. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance, and shall make copies available to the Contracting Officer upon request....AM #2

SCR-14 SPECIAL SAFETY REQUIREMENTS:

The Safety and Health Requirements Manual referenced in paragraph Accident Prevention of the Contract Clauses is amended as indicated below. Copies of the manual can be ordered from the Superintendent of Documents, Government Printing Office, Washington DC, phone 202-512-1800, FAX 202-512-2250.

a. NOT USED

b. Paragraph 05.A.01: Add new paragraph 05.A.01 d.

d. Employers shall make reasonable efforts to accommodate employees with religious beliefs that may conflict with PPE requirements. However, when reasonable efforts to accommodate the employee's religious beliefs do not provide the necessary safe working environment (without PPE), then the employer shall require the employee to use the appropriate PPE or the employee will not be allowed to work in the area where he/she will be exposed to a hazard requiring such protection.

c. Paragraph 16.C: Add new paragraphs 16.C.21 and 16.C.22.

16.C.21. During personnel handling operations, load and boom hoist drum brakes, swing brakes, and locking devices such as pawls or dogs shall be engaged when the occupied platform is in a stationary working position.

16.C.22. During personnel handling operations, the load hoist drum shall have a system or device on the power train other than the load hoist brake, which regulates the lowering rate of speed of the hoist mechanism (controlled load lowering). Free fall is prohibited.

d. Paragraph 21.A.15: Add new paragraph 21.A.15 d.

d. Standard guardrails shall be installed on all intermediate floors and roofs, including flat roof areas more than 1.8 meters above adjacent areas, during construction or rehabilitation of the buildings. The use of safety nets and safety belts with life lines may be substituted on pitched roofs.

SCR-15 NOT USED

SCR-16 LAYOUT OF WORK (APR 1984) (FAR 52.236-17):

See SECTION 00700.

SCR-17 THRU SCR-20 NOT USED

SCR-21 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984) (FAR 52.236-1):

See SECTION 00700.

SCR-22 THRU SCR-24 NOT USED

SCR-25 COMMUNICATION SECURITY:

All communications with DOD organizations are subject to COMSEC review. Contractor personnel shall be aware that telecommunications networks are continually subject to intercept by unfriendly intelligence organizations. The DOD has authorized the military departments to conduct COMSEC monitoring and recording of telephone calls originating from or terminating at DOD organizations. Therefore, civilian Contractor personnel are advised that any time they place a call to or receive a call from Alaska District offices or Resident Engineer offices located on military installations, they are subject to COMSEC procedures. The Contractor will assume the responsibility for ensuring wide and frequent dissemination of the above information to all employees dealing with official DOD information.

SCR-26 THRU SCR-28 NOT USED

SCR-29 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (1999 JUNE HQ USACE) (EFARS 52.231-5000):

(a) This statement shall become operative only for negotiated contracts where cost or pricing data is requested, and for modifications to sealed bid or negotiated contracts where cost or pricing is requested. This clause does not apply to terminations. See 52.231-5001, Basis for settlement of proposals, and FAR Part 49.

(b) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a Contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the Contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the Contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule, Region IX. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the Contracting Officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply. (Individual copies of the regional schedules are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Any schedule can be ordered by telephoning (202) 512-1800 or via the internet at: [http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/ep1110-1-8\(vol9\)/toc.htm](http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/ep1110-1-8(vol9)/toc.htm) The cost is \$33.00 each. Vol. 9 is stock no. 008-022-00292-8.

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d) (ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the Contracting Officer shall request the Contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet.

SCR-30 THRU SCR-32 NOT USED

SCR-33 PAYMENT FOR MATERIALS DELIVERED OFF-SITE (1995 MAR HQ USACE) (EFARS 52.232-5000):

(a) Pursuant to FAR clause 52.232-5, Payments Under Fixed-Price Construction Contracts, materials delivered to the Contractor at locations other than the site of work may be taken into consideration in making payments if included in payment estimates and if all the conditions of the Contract Clauses are fulfilled. Payment for items delivered to locations other than the work site will be limited to: (1) materials required by the Technical Specifications; or (2) materials that have been fabricated to the point where they are identifiable to an item of work required under this contract.

(b) Such payment will be made only after receipt of paid or receipted invoices or invoices with cancelled check showing title to the items in the prime Contractor and including the value of materials and labor incorporated into the item. In addition to petroleum products, payment for materials delivered off-site is limited to the following items:

a. Building materials such as doors and windows, lumber, gypsum board, carpet and other finish materials, paving and masonry products, structural steel, roofing materials, paint, insulation, cabinets, appliances, and prefabricated panels.

b. Mechanical equipment and materials including piping; heating air conditioning and ventilation equipment; ductwork, tanks, air compressors, and pumps.

c. Electrical equipment and materials including wire, conduit, lighting fixtures, controls and alarms, panels, and generator sets.

SCR-34 AND SCR-35 NOT USED

SCR-36 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (ER 415-1-15, 31 Oct 1989):

1. This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the Contract Clause entitled "DEFAULT (FIXED PRICE CONSTRUCTION)". In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

a. The weather experienced at the project site during the contract period must be found to be unusually severe; that is, more severe than the adverse weather anticipated for the project location during any given month.

b. The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

2. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time

evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

Monthly Anticipated Adverse Weather Delay
(Work Days Based on a 5-Day Work Week)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
22	20	14	0	0	0	4	3	4	1	20	22

3. Upon acknowledgement of the Notice to Proceed and continuing throughout the contract, the Contractor shall record on the daily CQC report, the occurrence of adverse weather and the resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in Paragraph 2, above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the Contract Clause entitled "DEFAULT (FIXED-PRICE CONSTRUCTION)".

SCR-37 NONDOMESTIC CONSTRUCTION MATERIALS (OCT 1966) (FAR 25.202(a)(3)):

See SECTION 00700.

SCR-38 YEAR 2000 COMPLIANCE (OCT 1997) (FAR 39.106):

See SECTION 00700.

SCR-39 THRU SCR-44 NOT USED

SCR-45 SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385-1-1, U.S. ARMY CORPS OF ENGINEERS:

EM 385-1-1 and its changes are available at <http://www.hq.usace.army.mil> (at the HQ homepage, select Safety and Occupational Health).

The Contractor shall be responsible for complying with the current edition and all changes posted on the web (see web address above) as of the effective date of this solicitation and shall comply with the version in effect on the contract award date. This EM 385-1-1 shall remain in effect throughout the life of the contract.

SCR-46 THRU SCR-111 NOT USED

SCR-112 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999) (FAR 52.222-23):

See SECTION 00700.

ATTACHMENTS: CLIMATOLOGICAL SUMMARY
POLICY LETTER # 24-16
F.R. INSTALLATION PASS/ACCESS ROSTER REQUEST FORM
POLICY LETTER # 24-15

CLIMATOLOGICAL SUMMARY

FT. RICHARDSON (Period of record exceeds 25 years)

MEANS AND EXTREMES FOR PERIOD OF RECORD

Temperature	Mean Annual	35.0°	
	Highest Recorded	86° June 1969	
	Lowest Recorded	-43° Feb 1947	
	Maximum Freezing Index	3003° Days (1950-51)	
	Maximum Thawing Index	4040° 1958	
Precipitation	Mean Annual	16.24"	
	Mean Annual Snowfall	68.0"	
	Maximum Monthly	6.25" Sep 1961	
	Maximum Monthly Mean		
	Maximum Rainfall During 24 hr Period	3.21" May 1946	
	Maximum Snowfall During 24 hr Period	14.6" Nov 1956	
	Maximum Monthly Snowfall	40.1" Feb 1955	
Wind	Mean Hourly Speed	5 mph	
	Prevailing Direction	NORTH	
	Maximum Velocity	115 mph April 1945	
	Direction Maximum Velocity	NE.	
Annual Mean Number of Days	Sunrise to Sunset	Clear	73
		Partly Cloudy	60
		Cloudy	232
	Precipitation 0.01 inch or more		115
		Snow, Sleet, or Hail 1.0 inch or more	45
		Heavy Fog	7
		Thunderstorms	Less than 1 per year
	Max Temp	IV 70°	15
		IIA 32°	112
	Min Temp	IIA 32°	198
IIA Zero		39	

NPA Form 3
AUG 1958

APVR-RPC

06 November 2002

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Access Roster for Fort Richardson (Post Commander Policy #24-16)

1. Contractors and all other eligible non-DoD civilians requiring regular access for 12 months or less to Fort Richardson for official business must apply to be added to the Post Access Roster through their sponsoring activity or company. i.e. DOL, DPW, DOC, DCA, AAFES, JOC, etc. The request should be submitted on the Fort Richardson Installation Pass/Access Roster Request Form (enclosed) and will include the following information:

- a. Sponsoring Agency
- b. Contract number and contract expiration date, if applicable
- c. Company/agency name (of person requesting Installation Pass), address, and phone number
- d. Reason for requesting access to Fort Richardson
- e. Each individual's full name, social security number, driver's license number and state, and the individual's signature authorizing release of Privacy Act Information, are required on the request form. The list must include the required Privacy Act Statement (see enclosed Fort Richardson Installation Pass/Access Roster Request Form for the Privacy Act Statement). Requests not containing the Privacy Act Statement and each individual's signature acknowledging they have read and understand the Privacy Act Statement and consent to release of the requested information will be returned to the sponsoring activity without action.

2. Sponsoring units must designate an individual or individuals to authenticate their activity's lists of personnel requesting an Installation Pass. This designation must be on a DD Form 577, Signature Card, signed by the unit/directorate/activity chief and filed with the Post Operations and Provost Marshal's offices. Authentication consists of verification of the employment of the individuals on the roster. Once authenticated, the sponsoring unit's designee(s) will sign a cover memorandum verifying authentication of the list(s). Only sponsors on signature cards will be authorized to authenticate rosters and forward to the Provost Marshal.

3. After authentication the sponsor will fax the application to the Provost Marshal at 384-0807/0832 for a series of checks including, but not limited to, Wants and Warrants, Bars, and FBI screening. This process takes approximately 14 working days.

4. Once the screening process is complete the Provost Marshal will forward the application to Post Operations where the information will be logged and distributed back to the Provost Marshal where it will be added to the Post access roster.

APVR-RPC

SUBJECT: Access Roster for Fort Richardson (Post Commander Policy 24-16)

5. Once added to the Access Roster the applicant upon entering Ft. Richardson will proceed to the Visitors Center located at the main entrance building 47305 to obtain a temporary vehicle pass (USARAK Form 93). Applicants must provide a valid driver's license, proof of insurance, vehicle registration, current IM inspection results, if applicable, and be on the access roster.
6. This authorization for access is subject to change based upon current Force Protection Condition (FPCON) levels. Access can be denied to installation pass holders at Force Protection Delta or anytime the Post Commander determines an increased level of threat.
7. Point of contact for this memorandum is SFC Steger, Fort Richardson FPNCO at 384-2199.

ENCL:
as

//signed//
DAVID L. SHUTT
LTC, AR
Post Commander

DISTRIBUTION:
A (FRA)

Fort Richardson Installation Pass/Access Roster Request Form

(For Processing Requests from Contractors and Other Agencies with Large Numbers of Employees)

PRIVACY ACT STATEMENT

The Privacy Act requires that whenever personal information is requested from an individual which will be filed in such a manner that it will be retrievable by reference to the person's name, Social Security Number, or other personal identifier, the individual must be furnished a Privacy Act Statement that explains why the information is being collected so that the individual can make an informed decision whether to provide the requested information or not. The individuals' signatures below, signify they have read and understand this Privacy Act Statement and consent to the release of the requested information on this form.

Authority: 5 U.S.C. 301 Department Regulations; 10 U.S.C. 3013, Secretary of the Army; Army Regulation 190-13, The Army Physical Security Program and Executive Order 9397 (SSN)

Principle Purposes: To ensure positive identification of non-DoD individuals seeking access to U. S. Army Alaska Installations.

Routine Uses: None. The "Blanket Routine Uses" set forth at the beginning of the Army's Compilation of System Records Notices apply to this system.

Disclosure: Voluntary. However, failure to provide the requested information may result in denial of access to U. S. Army Alaska installations.

Company/Agency Name:

Company/Agency Address:

Company/Agency Phone Number:

Contract Number (If Applicable):

Contract Expiration Date (If Applicable):

Sponsoring US Army Alaska Agency:

Sponsoring Agency Authorized Signature:

Reason for requesting access to Fort Richardson:

APVR-RPC

06 November 2002

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Installation Pass for Fort Richardson (Post Commander Policy #24-15)

1. Contractors and all other eligible non-DoD civilians requiring regular access for 12 months or more to Fort Richardson for official business must apply for an Installation Pass through their sponsoring activity or company. i.e. DOL, DPW, DOC, DCA, AAFES, JOC, etc. The request should be submitted on the Fort Richardson Installation Pass/Access Roster Request Form (enclosed) and will include the following information:

- a. Sponsoring Agency
- b. Contract number and contract expiration date, if applicable
- c. Company/agency name (of person requesting Installation Pass), address, and phone number
- d. Reason for requesting access to Fort Richardson
- e. Each individual's full name, social security number, driver's license number and state, and the individual's signature authorizing release of Privacy Act Information, are required on the request form. The list must include the required Privacy Act Statement (see enclosed Fort Richardson Installation Pass/Access Roster Request Form for the Privacy Act Statement). Requests not containing the Privacy Act Statement and each individual's signature acknowledging they have read and understand the Privacy Act Statement and consent to release of the requested information will be returned to the sponsoring activity without action.

2. Sponsoring units must designate an individual or individuals to authenticate their activity's lists of personnel requesting an Installation Pass. This designation must be on a DD Form 577, Signature Card, signed by the unit/directorate/activity chief and filed with the Post Operations and Provost Marshal's offices. Authentication consists of verification of the employment of the individuals on the roster. Once authenticated, the sponsoring unit's designee(s) will sign a cover memorandum verifying authentication of the list(s). Only sponsors on signature cards will be authorized to authenticate rosters and forward to the Provost Marshal.

3. After authentication the sponsor will fax the application to the Provost Marshal at 384-0807/0832 for a series of checks including, but not limited to, Wants and Warrants, Bars, and FBI screening. This process takes approximately 14 working days.

4. Once the screening process is complete the Provost Marshal will forward the application to Post Operations where the information will be logged and distributed to the Installation Pass section, and Provost Marshal.

APVR-RPC

SUBJECT: Installation Pass for Fort Richardson (Post Commander Policy 24-15)

5. After receiving an Installation I.D. the applicant should then proceed to the Provost Marshal's Office to obtain a vehicle pass. Applicants must provide a valid installation pass, driver's license, proof of insurance, vehicle registration and current IM inspection results, if applicable.
6. This authorization for access is subject to change based upon current Force Protection Condition (FPCON) levels. Access can be denied to installation pass holders at Force Protection Delta or anytime the Post Commander determines an increased level of threat.
7. Point of contact for this memorandum is SFC Steger, Fort Richardson FPNCO at 384-2199.

ENCL:
as

//signed//
DAVID L. SHUTT
LTC, AR
Post Commander

DISTRIBUTION:
A (FRA)

--End of Special Contract Requirements--

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04200 MASONRY

DIVISION 05 - METALS

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05120 STRUCTURAL STEEL
05210 STEEL JOISTS
05300 STEEL DECKING
05400 COLD-FORMED STEEL FRAMING
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DIVISION 06 - WOODS & PLASTICS

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08900 GLAZED CURTAIN WALL

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SECTION 16710

PREMISES DISTRIBUTION SYSTEM

PART 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 basic designation only.

ELECTRONIC INDUSTRIES ALLIANCE (EIA)

EIA EIA/TIA-568-B	(1995; Addendum 1997, Addendum 1998) Commercial Building Telecommunications Wiring Standard
EIA ANSI/TIA/EIA-569-A	(1998) Commercial Building Standard for Telecommunications Pathways and Spaces
ANSI/TIA/EIA-606	(1993) Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
ANSI/TIA/EIA-607	(1994) Commercial Building Grounding and Bonding Requirements for Telecommunications
TIA/EIA TSB 67	(1995) Transmission Performance Specifications for Field Testing of Unshielded Twisted-Pair Cabling Systems

INSULATED CABLE ENGINEERS ASSOCIATION (ICEA)

ICEA S-80-576	(1994) Communications Wire and Cable for Wiring of Premises
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NATIONAL CABLE TELEVISION ASSOCIATION (NCTA)

NCTA-02	(1989; Revised Oct 1993) NCTA Recommended Practices for Measurements on Cable Television Systems
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NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(2002) National Electrical Code
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1.2 SYSTEM DESCRIPTION

The premises distribution system shall consist of inside-plant horizontal,

riser, and backbone cables and connecting hardware to transport telephone and data (including LAN) signals between equipment items in a building.

1.3 ENVIRONMENTAL REQUIREMENTS

Connecting hardware shall be rated for operation under ambient conditions of 32 to 140 degrees F and in the range of 0 to 95 percent relative humidity, non-condensing.

1.4 QUALIFICATIONS

1.4.1 Minimum Contractor Qualifications

All work under this section shall be performed by and all equipment shall be furnished and installed by a certified Telecommunications contractor, hereafter referred to as the Contractor. The Contractor shall have the following qualifications in Telecommunications Systems installation:

- a. Contractor shall have a minimum of 3 years' experience in the application, installation and testing of the specified systems and equipment.
- b. All supervisors and installers assigned to the installation of this system or any of its components shall have factory certification from each equipment manufacturer that they are qualified to install and test the provided products.
- c. All installers assigned to the installation of this system or any of its components shall have a minimum of 3 years' experience in the installation of the specified copper cable and components.

1.4.2 Minimum Manufacturer Qualifications

The equipment and hardware provided under this contract shall be from manufacturers that have a minimum of 3 years' experience in producing the types of systems and equipment specified.

1.5 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:

SD-02 Shop Drawings

Premises Distribution System; G.

Detail drawings including a complete list of equipment and material. Detail drawings shall contain complete wiring and schematic diagrams and other details required to demonstrate that the system has been coordinated and will function properly as a system. Drawings shall include vertical riser diagrams, equipment rack details, elevation drawings of

telecommunications closet walls, outlet face plate details for all outlet configurations, sizes and types of all cables, conduits, and cable trays. Drawings shall show proposed layout and anchorage of equipment and appurtenances, and equipment relationship to other parts of the work including clearance for maintenance and operation.

Record Drawings; G.

Record drawings for the installed wiring system infrastructure per ANSI/TIA/EIA-606. The drawings shall show the location of all cable terminations and location and routing of all backbone and horizontal cables. The identifier for each termination and cable shall appear on the drawings.

SD-03 Product Data

Record Keeping and Documentation; G.

Documentation on cables and termination hardware in accordance with ANSI/TIA/EIA-606.

Spare Parts; G.

Lists of spare parts, tools, and test equipment for each different item of material and equipment specified, after approval of detail drawings, not later than 1 month prior to the date of beneficial occupancy. The data shall include a complete list of parts and supplies, with current unit prices and source of supply, and a list of spare parts recommended for stocking.

Manufacturer's Recommendations; G.

Where installation procedures, or any part thereof, are required to be in accordance with the recommendations of the manufacturer of the material being installed, printed copies of these recommendations, prior to installation, shall be provided. Installation of the item will not be allowed to proceed until the recommendations are received and approved.

Test Plan; G.

Test plan defining the tests required to ensure that the system meets technical, operational and performance specifications, 30 days prior to the proposed test date. The test plan must be approved before the start of any testing. The test plan shall identify the capabilities and functions to be tested, and include detailed instructions for the setup and execution of each test and procedures for evaluation and documentation of the results.

Qualifications; G.

The qualifications of the manufacturer, Contractor, and the Installer to perform the work specified herein. This shall include proof of the minimum qualifications specified herein.

Operation And Maintenance Manuals; G, RE.

Commercial off the shelf manuals shall be furnished for operation, installation, configuration, and maintenance for all products provided as a part of the premises distribution system. Specification sheets for all cable, connectors, and other equipment shall be provided.

SD-06 Test Reports

Test Reports; G.

Test reports in booklet form with witness signatures verifying execution of tests. Test results shall also be provided on 3-1/2 inch diskettes in ASCII format. Reports shall show the field tests performed to verify compliance with the specified performance criteria. Test reports shall include record of the physical parameters verified during testing. Test reports shall be submitted within 14 days after completion of testing.

SD-07 Certificates

Premises Distribution System; G, ED.

Written certification that the premises distribution system complies with the EIA EIA/TIA-568-B, EIA ANSI/TIA/EIA-569-A, and ANSI/TIA/EIA-606 standards.

Materials and Equipment; G.

Where materials or equipment are specified to conform, be constructed or tested to meet specific requirements, certification that the items provided conform to such requirements. Certification by a nationally recognized testing laboratory that a representative sample has been tested to meet the requirements, or a published catalog specification statement to the effect that the item meets the referenced standard, will be acceptable as evidence that the item conforms. Compliance with these requirements does not relieve the Contractor from compliance with other requirements of the specifications.

Installers; G.

The Contractor shall submit certification that all the installers are factory certified to install and test the provided products.

1.6 DELIVERY AND STORAGE

Equipment delivered and placed in storage shall be stored with protection from the weather, humidity and temperature variation, dirt and dust or other contaminants.

1.7 RECORD KEEPING AND DOCUMENTATION

1.7.1 Cables

A record of all installed cable shall be provided on electronic media using Windows based computer cable management software, per ANSI/TIA/EIA-606. A

licensed copy of the cable management software including documentation, shall be provided. The cable records shall include the required data fields for each cable and complete end-to-end circuit report for each complete circuit from the assigned outlet to the entry facility per ANSI/TIA/EIA-606.

1.7.2 Termination Hardware

A record of all installed patch panels and outlets shall be provided on electronic media using Windows based computer cable management software per ANSI/TIA/EIA-606. A licensed copy of the cable management software, including documentation, shall be provided. The hardware records shall include only the required data fields per ANSI/TIA/EIA-606.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

Materials and equipment shall be the standard products of a manufacturer regularly engaged in the manufacture of the products and shall be the manufacturer's latest standard design that has been in satisfactory use for at least 1 year prior to installation. Materials and equipment shall conform to the respective publications and other requirements specified below and to the applicable requirements of NFPA 70.

2.2 UNSHIELDED TWISTED PAIR CABLE SYSTEM

2.2.1 Backbone Cable

AM #3...Backbone cable shall meet the requirements of ICEA S-80-576 and EIA EIA/TIA-568-B for Category 5 100-ohm unshielded twisted pair cable....**AM #3**

Cable shall be label-verified. Cable jacket shall be factory marked at regular intervals indicating verifying organization and performance level. Conductors shall be solid untinned copper 24 AWG. Cable shall be rated CMR or CMP per NFPA 70.

2.2.2 Horizontal Cable

Horizontal cable shall meet the requirements of EIA EIA/TIA-568-B for Category 6. Cable shall be label-verified. Cable jacket shall be factory marked at regular intervals indicating verifying organization and performance level. Cable shall be rated CMG or CMP, as appropriate, per NFPA 70.

2.2.3 Connecting Hardware

Connecting and cross-connecting hardware shall be the same category as the cable it serves. Hardware shall be in accordance with EIA EIA/TIA-568-B.

2.2.3.1 Telecommunications Outlets

Wall outlet plates shall come equipped with two modular jacks, with the top or left jack labeled "voice" and the bottom or right jack labeled "data". Modular jacks shall be the same category as the cable they terminate and

shall meet the requirements of EIA EIA/TIA-568-B. Modular jack pin/pair configuration shall be T568B per EIA EIA/TIA-568-B. Faceplates shall be provided and shall be ivory in color, impact resistant plastic. The modular jacks shall conform to the requirements of EIA EIA/TIA-568-B, and shall be rated for use with Category 6 cable in accordance with EIA EIA/TIA-568-B and shall meet the Link Test parameters as listed in TIA/EIA TSB 67 and supplemented by EIA EIA/TIA-568-B.

2.2.3.2 Patch Panels

Patch panels shall consist of eight-position modular jacks, with rear mounted type 110 insulation displacement connectors, arranged in rows or columns on wall mounted panels. Jack pin/pair configuration shall be T568B per EIA EIA/TIA-568-B. Panels shall be labeled with alphanumeric x-y coordinates. The modular jacks shall conform to the requirements of EIA EIA/TIA-568-B, and shall be rated for use with Category 6 cable in accordance with EIA EIA/TIA-568-B and shall meet the Link Test parameters as listed in TIA/EIA TSB 67 and supplemented by EIA EIA/TIA-568-B.

2.2.3.3 Patch Cords

Patch cords shall be cable assemblies consisting of flexible, twisted pair stranded wire with eight-position plugs at each end. Cable shall be label-verified. Cable jacket shall be factory marked at regular intervals indicating verifying organization and performance level. Patch cords shall be wired straight through; pin numbers shall be identical at each end and shall be paired to match T568B patch panel jack wiring per EIA EIA/TIA-568-B. Patch cords shall be factory assembled. Patch cords shall conform to the requirements of EIA EIA/TIA-568-B for Category 6.

2.2.3.4 Terminal Blocks

Terminal blocks shall be wall mounted wire termination units consisting of insulation displacement connectors mounted in plastic blocks, frames or housings. **AM #3...**Blocks shall be type 210 which meet the requirements of EIA EIA/TIA-568-B, and shall be rated for use with Category 6 cable in accordance with EIA EIA/TIA-568-B and shall meet the Link Test parameters as listed in TIA/EIA TSB 67 and supplemented by EIA EIA/TIA-568-B....AM #3 Blocks shall be mounted on standoffs and shall include cable management hardware. Insulation displacement connectors shall terminate 22 or 24 gauge solid copper wire as a minimum, and shall be connected in pairs so that horizontal cable and connected jumper wires are on separate connected terminals.

2.3 COAXIAL CABLE SYSTEM

2.3.1 Backbone Cable

Backbone cable shall meet the requirements of EIA EIA/TIA-568-B 10BASE5 for coaxial cable. Cable shall be label-verified. Cable jacket shall be factory marked at regular intervals indicating verifying organization and performance level. Cable shall be rated CMG per NFPA 70. Cable shall have band markings every 8 feet for transceiver tap placement.

2.3.2 Horizontal Cable

Horizontal cable shall meet the requirements of EIA EIA/TIA-568-B10BASE2 for coaxial cable. Cable shall be label-verified. Cable jacket shall be factory marked at regular intervals indicating verifying organization and performance level. Cable shall be rated CMG per NFPA 70.

2.4 EQUIPMENT MOUNTING BACKBOARD

Plywood backboards shall be provided, sized as shown, painted with white paint, AC grade plywood.

2.5 TELECOMMUNICATIONS OUTLET BOXES

Electrical boxes for telecommunication outlets shall be 4-11/16 inch square by 2-1/8 inches deep with minimum 3/8 inch deep single or two gang plaster ring as shown. Provide a minimum 1 inch conduit.

PART 3 EXECUTION

3.1 INSTALLATION

System components and appurtenances shall be installed in accordance with NFPA 70, manufacturer's instructions and as shown. Necessary interconnections, services, and adjustments required for a complete and operable signal distribution system shall be provided. Components shall be labeled in accordance with ANSI/TIA/EIA-606. Penetrations in fire-rated construction shall be firestopped in accordance with SECTION 07840 FIRESTOPPING. Conduits, outlets and raceways shall be installed in accordance with SECTION 16415 ELECTRICAL WORK, INTERIOR. Wiring shall be installed in accordance with EIA EIA/TIA-568-B and as specified in SECTION 16415 ELECTRICAL WORK, INTERIOR. Wiring, and terminal blocks and outlets shall be marked in accordance with ANSI/TIA/EIA-606. Cables shall not be installed in the same cable tray, utility pole compartment, or floor trench compartment with AC power cables. Cables not installed in conduit or wireways shall be properly secured and neat in appearance and, if installed in plenums or other spaces used for environmental air, shall comply with NFPA 70 requirements for this type of installation.

3.1.1 Horizontal Distribution Cable

The rated cable pulling tension shall not be exceeded. Cable shall not be stressed such that twisting, stretching or kinking occurs. Cable shall not be spliced. Copper cable not in a wireway shall be suspended a minimum of [8][_____] inches above ceilings by cable supports no greater than [60][_____] inches apart. Cable shall not be run through structural members or in contact with pipes, ducts, or other potentially damaging items. Placement of cable parallel to power conductors shall be avoided, if possible; a minimum separation of 12 inches shall be maintained when such placement cannot be avoided. Cables shall be terminated; no cable shall contain unterminated elements. Minimum bending radius shall not be exceeded during installation or once installed. Cable ties shall not be excessively tightened such that the transmission characteristics of the cable are altered.

3.1.2 Riser and Backbone Cable

Vertical cable support intervals shall be in accordance with manufacturer's recommendations. Cable bend radius shall not be less than ten times the outside diameter of the cable during installation and once installed. Maximum tensile strength rating of the cable shall not be exceeded. Cable shall not be spliced.

3.1.3 Telecommunications Outlets

3.1.3.1 Faceplates

As a minimum, each jack shall be labeled as to its function and a unique number to identify cable link.

3.1.3.2 Cables

Unshielded twisted pair cables shall have a minimum of 6 inches of slack cable loosely coiled into the telecommunications outlet boxes. Minimum manufacturer's bend radius for each type of cable shall not be exceeded.

3.1.3.3 Pull Cords

Pull cords shall be installed in all conduit serving telecommunications outlets which do not initially have cable installed.

3.1.4 Terminal Blocks

Terminal blocks shall be mounted in orderly rows and columns. Adequate vertical and horizontal wire routing areas shall be provided between groups of blocks. Industry standard wire routing guides shall be utilized.

3.1.5 Equipment Racks

Wall mounted racks shall be secured to the mounting surface to prevent fully loaded racks from separating from the mounting surface.

3.2 TERMINATION

Cables and conductors shall sweep into termination areas; cables and conductors shall not bend at right angles. Manufacturer's minimum bending radius shall not be exceeded. When there are multiple system type drops to individual work stations, relative position for each system shall be maintained on each system termination block or patch panel.

3.2.1 Unshielded Twisted Pair Cable

Each pair shall be terminated on appropriate outlets, terminal blocks or patch panels. No cable shall be unterminated or contain unterminated elements. Pairs shall remain twisted together to within the proper distance from the termination as specified in EIA EIA/TIA-568-B. Conductors shall not be damaged when removing insulation. Wire insulation shall not be damaged when removing outer jacket.

3.3 GROUNDING

Signal distribution system ground shall be installed in the telecommunications entrance facility and in each telecommunications closet in accordance with ANSI/TIA/EIA-607 and SECTION 16415 ELECTRICAL WORK, INTERIOR. Equipment racks shall be connected to the electrical safety ground.

3.4 ADMINISTRATION AND LABELING

3.4.1 Labeling

All labels shall be in accordance with ANSI/TIA/EIA-606.

3.4.1.1 Cable

All cables will be labeled using color labels on both ends with un-encoded identifiers per ANSI/TIA/EIA-606.

3.4.1.2 Termination Hardware

All work station outlets and patch panel connections shall be labeled using color coded labels with un-encoded identifiers per ANSI/TIA/EIA-606.

3.5 TESTING

Materials and documentation to be furnished under this specification are subject to inspections and tests. All components shall be terminated prior to testing. Equipment and systems will not be accepted until the required inspections and tests have been made, demonstrating that the signal distribution system conforms to the specified requirements, and that the required equipment, systems, and documentation have been provided.

3.5.1 Unshielded Twisted Pair Tests

All metallic cable pairs shall be tested for proper identification and continuity. All opens, shorts, crosses, grounds, and reversals shall be corrected. Correct color coding and termination of each pair shall be verified in the communications closet and at the outlet. Horizontal wiring shall be tested from and including the termination device in the communications closet to and including the modular jack in each room. Backbone wiring shall be tested end-to-end, including termination devices, from terminal block to terminal block, in the respective communications closets. These tests shall be completed and all errors corrected before any other tests are started.

3.5.2 Category 6 Circuits

All category 6 circuits shall be tested using a test set that meets the Class II accuracy requirements of TIA/EIA TSB 67 standard, including the additional tests and test set accuracy requirements of EIA EIA/TIA-568-B. Testing shall use the Basic Link Test procedure of TIA/EIA TSB 67, as supplemented by EIA EIA/TIA-568-B. Cables and connecting hardware which

contain failed circuits shall be replaced and retested to verify the standard is met.

3.5.3 Coaxial Cable

Cable shall be tested for continuity, shorts and opens. Characteristic impedance shall be verified over the range of intended operation. Cable length shall be verified. Cable shall be sweep tested for attenuation over the range of intended operation. The acceptance tests shall be performed in accordance with the approved Test Plan and conform to NCTA-02 and conducted in the presence of the Contracting Officer. All instruments, personnel, and transportation required for the tests shall be provided by the Contractor. Tests shall be performed on randomly selected equipment, components, and modules accepted by the Contracting Officer, to determine if the system meets the specified requirements. An end-to-end system test shall be coordinated to determine if the System Performance requirements have been met. Deficient portions of the system shall be repaired and retested at the Contractor's expense. After installation of the cable and before splicing in the system components, each cable section shall be tested using a time domain reflectometer (TDR) to determine shorts, open, kinks, and other impedance discontinuities and their locations. Cable sections showing adverse impedance discontinuities shall be replaced at the Contractor's expense. There shall be no cable splices between system components unless approved by the Contracting Officer.

-- End of Section --