US Army Corps of Engineers®

IFB No. W912DW-04-B-0014

Seattle District

IDIQ Repair and Maintenance of Roofs, Fort Lewis and Yakima Training Center, Washington

Construction Solicitation and Specifications

This is a 100% Small Business Set-Aside

August 2004

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BIDDING DOCUMENTS: Register for solicitations at the Internet site: http://www.nws.usace.army.mil/ct/

PLANHOLDER'S LISTS: Lists may also be obtained from the same site.

FOR INQUIRIES, CONTACT THE FOLLOWING INDIVIDUAL Monday through Friday between the hours of 7:30 a.m. and 4:00 p.m.:

ADMINISTRATIVE MATTERS:

Cynthia Diama, Phone: (206) 764-6806, Fax: (206) 764-6817, E-Mail: cynthia.p.diama@usace.army.mil

(Mail) Seattle District Corps of Engineers, P.O. Box 3755, Seattle, WA 98124-3755

(Street) 4735 E. Marginal Way S., Seattle, WA 98134-2385

TECHNICAL INQUIRIES ARE TO BE SUBMITTED VIA THE INTERNET to the DRChecks bidder inquiry system. Registration and password are required, and may be obtained at <http://65.204.17.188/projnet/home/version1/index.cfm?RESETAGENCY=USACE>.

Upon receipt of your password, log in to www.projnet.org and **Click** on **Bidder Inquiry**, **fill out the form** provided and click **Continue**. Select **NWS Seattle District**, click **Continue**. Select project, click **Continue**. Select **Bidder Inquiry** phase, click **Continue**.

Enter your questions and click **Submit Inquiry**. You will receive an acknowledgement of your question via email, followed by an answer to your question after our technical team has processed it.

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NOTICE: THIS ABSTRACT IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. This abstract was for the previous IFB W912DW-04-B-0005, issued 29 June 2004 and canceled 16 August 2004.

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ABSTRACT OF OFFERS - CONSTRUCTION

1. Solicitation No. W912DW-04-B-0005

2. Date Issued: 29 June 2004

3. Date Opened: 29 July 2004

4. Issuing Office:

Department of the Army
Corps of Engineers, Seattle District
P.O. Box 3755
Seattle, WA 98124-2255

5. Project: IDIQ Repair & Maintenance of Roofs, Ft. Lewis and Yakima Training Center, WA

Restricted: 100 Percent Small Business Set-Aside

PA: $10,000,000

6. Number of Amendments Issued: Six (6)

*All bids are well over the Independent Government Estimate. The IGE has been revised.

IFB No. W912DW-04-B-0005 is canceled, and will be reissued under

IFB No. W912DW-04-B-0014.

% Difference From GE:

I CERTIFY that I have opened, read, and recorded on this abstract all offers receivd in response to this solicitation.

SIGNATURE: Cynthia P. Diama August 5, 2004

Cynthia P. Diama
Bid Opening Officer

ORIGINAL SIGNED THIS DATE: 08/05/2004

8. GOVERNMENT ESTIMATE (Check A, B or C and Complete D, E F)			
A. Hired Labor			
B. Reasonable Contract (w/out profit)			
C. Reasonable Contract (w/ profit)		XX	
7A. ITEM NUMBER	**7B. DESCRIPTION OF OFFERED ITEM**	**7C. Coefficient**	**7D. TOTAL: For CLIN 0005**
BASE ITEMS			
0001	All work except periodic maintenance, Roof Condition Updates, and Service Orders at Fort Lewis, WA	1.00	
0002	Periodic maintenance and Roof Condition Updates at Fort Lewis, WA	1.00	
0003	All work except periodic maintenance and Roof Condition Updates at YTC, WA	0.98	
0004	Periodic maintenance and Roof Condition Updates at YTC, WA	0.98	
0005	Emergency Service Order Response at Fort Lewis, WA		$56,400.00
Basis of Award:	**[(CLIN 0001 + CLIN 0002 + CLIN 0003 + CLIN 0004) x $2,000,000] + CLIN 0005 = X**		
Gov. Est. = [(3.96) * 2,000,000] + 56,400 = $7,976,400.00			
GRAND TOTAL	***Refer to Block 6 of Page 1.**		**$7,976,400.00**

9. OFFERS

NO. 1	NO. 2	NO. 3
A. COMPANY: Bosnick Roofing, Inc. ADDRESS: POB 64640 CITY, STATE: University Place, WA 98464 PHONE NUMBER: 253-565-4500 FAX NUMBER: 253-565-1659	A. COMPANY: Southwest Construction ADDRESS: POB 5410 CITY, STATE: So San Francisco, CA 94083 PHONE NUMBER: 415-977-0861 FAX NUMBER: 415-977-0863	A. COMPANY: ROOFUSA ADDRESS: 859 Industry Dr Bldg 23 CITY, STATE: Tukwila, WA 98188 PHONE NUMBER: 206-575-7699 FAX NUMBER: 206-575-2274
B. Bid Security: (Type/Amt.)/BUS Size Bid Bond / SVOB	B. Bid Security (Type/Amt.)/BUS Size Bid Bond / SNAB	B. Bid Security (Type/Amt.)/BUS Size Bid Bond / SB
C. Amend Acknowledged: Yes No. of Amendments - Six	C. Amend Acknowledged: Yes No. of Amendments - Six	C. Amend Acknowledged: Yes No. of Amendments - Six

D. ITEM NO.			E. AMOUNT	D. ITEM NO.			E. AMOUNT	D. ITEM NO.			E. AMOUNT
ASE ITEMS											
0001			39	0001			1.83	0001			1.5
0002			39	0002			1.2	0002			1.5
0003			39	0003			1.84	0003			1.7
0004			39	0004			1.2	0004			1.7
0005			$61,200.00	0005			$72,000.00	0005			$59,700.00
			$312,061,200.00				$12,212,000.00				$12,859,700.00
			3812.30% > GE				53.10% > GE				61.22% > GE

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TABLE OF CONTENTS

CAUTION TO BIDDERS

SECTION TITLE

SF1442 - Pages 00010-1 thru 00010-5 (00010-3 is reserved for use at a later time)

00100 Instructions, Conditions and Notice to Bidders

00600 Representations and Certifications and other Statements of Bidders, and Pre-Award Information

00700 Contract Clauses

00800 Special Clauses, which include the following:

a) Special Clauses Section 00800 Pages 00800-1 thru - 12

00801 b) Technical Exhibit 1 and 2, Section 00801 Pages 1 thru 34

c) Davis- Bacon General Wage Decision No. WA20030002
d) Davis-Bacon General Wage Decision No. WA20030013

01000 Technical Specifications:

01001 thru 07920

RETURN THE FOLLOWING WITH YOUR BID:

SF1442 - Pages 00010-1 thru 00010-5 (00010-3 is reserved for use at a later time)

Section 00100 – Requirements for Bid Bond (A Surety Letter is required.)

Section 00600 - Representations and Certifications and Pre-Award Information

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!!!CAUTION TO BIDDERS !!!

1. **TELEPHONES:** Limited telephone service is provided in the lobby. Only two public telephones may be used by bidders for completing bids.

2. **BUSINESS HOURS:** For the Seattle District Corps of Engineers are from 7:30 A.M. to 4:00 P.M., Monday through Friday.

3. **AVAILABILITY OF FUNDS:** Funds are not presently available for this acquisition. No contract award will be made until appropriated funds are made available from which payment for contract purposes can be made.

BEFORE SIGNING AND MAILING THIS BID, PLEASE TAKE NOTE OF THE FOLLOWING, AS FAILURE TO PERFORM ANY ONE OF THESE ACTIONS MAY CAUSE YOUR BID TO BE REJECTED

4. **AMENDMENTS: Have you acknowledged receipt of ALL** amendments? If in doubt as to the number of amendments issued, please contact the representative listed on the Information Page.

5. **AMENDED BID PAGES: If any of the amendments furnished amended bid pages, the amended bid pages must be used** in submitting your bid.

6. **BID GUARANTEE:** Refer to Section 00100, Enclosure 1.

7. **INDIVIDUAL SURETIES:** Please note requirements for Individual Sureties in Section 00100.

8. **MISTAKE IN BID:** Have you reviewed your bid price for possible errors in calculation or work left out?

9. **TELEGRAPHIC MODIFICATIONS:** The Seattle District does not have the capability of receiving commercial telegrams directly. Bidders who wish to modify their bid by telegram are urged to ensure that telegrams are submitted within enough time to arrive at the bid opening room prior to the time specified for bid opening. Any doubt as to time should be resolved in favor of **EXTRA TIME.** Transmission by Fax to this office is **NOT ACCEPTABLE**.

10. **BID ACCEPTANCE PERIOD:** The minimum bid acceptance period is specified in block 13D of SF1442 (page 00010-1), Solicitation, Offer and Award. Please ensure that you allow at least the stated number of calendar days for the Government to accept your bid.

11. **BID RESULTS:** Bid results are usually available after 4:00 P.M., the day of the bid opening by accessing the Seattle District Contracting Home Page: http://www.nws.usace.army.mil/ct/

12. **CENTRAL CONTRACTOR REGISTRATION:** Per DFARS Clause 252.204-7004, REQUIRED CENTRAL CONTRACTOR REGISTRATION, in Section 00700, registration is required prior to award of any contract from a Solicitation issued after May 31, 1998. No Contract Award will be made to an unregistered contractor. Internet access allows contractors to register by completing an electronic on-line registration application from CCR homepage at

http://www.ccr.gov/. For further assistance in completing your on-line registration, contact the nearest Procurement Technical Assistance Center (PTAC) near you. A list of the nearest PTAC is located at: http://www.rcacwv.com/ptac.htm.

13. **HUBZONE CERTIFICATION**: Per FAR Clause 52.219-4, NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS (JAN 1999) in Section 00700. A HUBZone small business concern, as used in this clause, means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration Reference: https://el.sba.gov:90000/prodhubzone/hubzone/approval.st.

14. **COMMERCIAL VEHICLE ACCESS TO FORT LEWIS - REGISTERED AND PREVIOUSLY ID'D (RAPID) GATE PROGRAM: Contractors are urged to review Section 1001 thoroughly as new regulations are in place concerning commercial vehicle access to military sites.**

SOLICITATION, OFFER, AND AWARD *(Construction, Alteration, or Repair)*	1. SOLICITATION NUMBER W912DW-04-B-0014	2. TYPE OF SOLICITATION ☒ SEALED BID *(IFB)* ☐ NEGOTIATED *(RFP)*	3. DATE ISSUED 30 August 2004	PAGE OF PAGES 1

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

4. CONTRACT NUMBER	5. REQUISITION/PURCHASE REQUEST NUMBER W68MD9-4134-4275	6. PROJECT NUMBER

7. ISSUED BY CODE W912DW

Seattle District, Corps of Engineers
ATTN: CENWS-CT-CB-MU
PO Box 3755
Seattle, WA 98124-3755

8. ADDRESS OFFER TO

Seattle District, Corps of Engineers
PO Box 3755 ATTN: CENWS-CT-CB-MU
Seattle, WA 98124-3755

HAND CARRY: Seattle District Corps of Engineers
Contracting Division
4735 East Marginal Way South
Seattle, WA 98134-2329

9. FOR INFORMATION CALL ▶	A. NAME CYNTHIA DIAMA	B. TELEPHONE NUMBER *(Include area code) (NO COLLECT CALLS)* 206-764-6806

SOLICITATION

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

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS *(Title, identifying number, date):*

Furnish all labor, materials and equipment and perform all work for IDIQ Repair and Maintenance of Roofs, Ft. Lewis and Yakima Training Center, Washington in accordance with the attached Contract Clauses, Special Clauses, Technical Specifications.

11. The Contractor shall begin performance within 10 calendar days and complete it within * calendar days after receiving ☐ award, ☒ notice to proceed. This performance period is ☒ mandatory, ☐ negotiable. *(See* * Paragraph SC-1, 00800 *.)*

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

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and 3 copies to perform the work required are due at the place specified in Item 8 by 11:00 a.m. *(hour)* local time 29 September 2004 *(date).* If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed envelope containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

B. An offer guarantee ☒ is, ☐ is not required.

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

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

OFFER *(Must be fully completed by offeror)*

14. NAME AND ADDRESS OF OFFEROR *(Include ZIP Code)*	15. TELEPHONE NUMBER *(Include area code)* Fax No.:
Tax ID No: DUNS No: eMail: CODE FACILITY CODE	16. REMITTANCE ADDRESS *(Include only if different than Item 14)*

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

AMOUNTS ▶ See Page 00010-5

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

19. ACKNOWLEDGEMENT OF AMENDMENTS
(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.										
DATE										

20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER *(Type or print)*	20B. SIGNATURE	20C. OFFER DATE

AWARD *(To be completed by Government)*

21. ITEMS ACCEPTED

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA
24.SUBMIT INVOICES TO ADDRESS SHOWN IN ▶ ITEM 26 *(4 copies unless otherwise specified)*	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO ☐ 10 U.S.C. 2304(c) ( ) ☐ 41 U.S.C. 253(c) ( )
26. ADMINISTERED BY CODE USACE - Seattle District Northwest Area Office PO Box 92146 Tillicum, WA 98492-0146	27. PAYMENT WILL BE MADE BY US Army Corps of Engineers Finance Center CEFC-AO-P 5722 Integrity Drive Millington, TN 38054-500

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☐ 28. NEGOTIATED AGREEMENT *(Contractor is required to sign this document and return _____ copies to the issuing office.)* Contractor agrees to furnish and deliver all items or perform all work requirements identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.

☐ 29. AWARD. *(Contractor is not required to sign this document.)* Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN *(Type or print)*		31A. NAME OF CONTRACTING OFFICER *(Type or print)* ROSE N.S. OLDS	
30B. SIGNATURE	30C. DATE	31B. UNITED STATES OF AMERICA BY	31C. AWARD DATE

STANDARD FORM 1442 BACK (REV. 4-85)

CORPORATE CERTIFICATE

I, _____, certify that I am the _____ Secretary of the Corporation named as Contractor herein; that _____, who signed this contract on behalf of the Contractor was then _____of said corporation; that said contract was duly signed for and on behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

_____ (CORPORATE
(Secretary) SEAL)

AUTHORITY TO BIND PARTNERSHIP

This is to certify that the names, signatures and Social Security Numbers of all partners are listed below and that the person signing the contract has authority actually to bind the partnership pursuant to its partnership agreements. Each of the partners individually has full authority to enter into and execute contractual instruments on behalf of said partnership with the United States of America, except as follows: (state "none" or describe limitations, if any)
_____

This authority shall remain in full force and effect until such time as the revocation of authority by any cause whatsoever has been furnished in writing to, and acknowledged by, the Contracting Officer.

(Names, Signatures and Social Security Numbers of all Partners)

NAME	SIGNATURE	SOCIAL SECURITY NO.
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

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BID SCHEDULE

ITEM NO.	DESCRIPTION	CONTRACTOR'S COEFFICIENT
	(See Paragraph 1, DESCRIPTION OF WORK, page 01010-1, of the SUMMARY OF WORK.) Provide all plant, labor, logistics, tools, equipment and materials to perform all work as required by the specifications for facilities on Fort Lewis and at the Yakima Training Center (YTC), for the unit price shown on the Work Item Price List multiplied by the following Adjustment coefficients. Contractor's Coefficient shall be adjusted for option periods in accordance with Specification Section 00800, SC-18.4, "Coefficient Factors For Option Years."	

In the spaces below provide the coefficient to be utilized ONLY for awarding Task Orders:

0001.	All work except periodic maintenance, Roof Condition Updates, and Service Orders at Fort Lewis, WA.	_____
0002.	Periodic maintenance and Roof Condition Updates at Fort Lewis, WA.	_____
0003.	All work except periodic maintenance and Roof Condition Updates at YTC, WA.	_____
0004.	Periodic maintenance and Roof Condition Updates at YTC, WA.	_____

Contractor's Unit Price For Emergency Service Order Response shall be adjusted for option periods in accordance with Specification Section 00800, SC-18.7, "UNIT PRICE FOR EMERGENCY SERVICE ORDER RESPONSE FOR OPTION YEARS."

Fixed Item – Fort Lewis only:

ITEM NO.	DESCRIPTION	QNTY	UOM	UNIT	TOTAL PRICE
0005.	Emergency Service Order Response at Fort Lewis, WA	12	Months	$_____	$_____

Basis of Award: Refer to Section 00800, Paragraphs SC-18.1 through SC-18.4 for guidance on coefficient.

∑(coefficient factors) x $2,000,000 (Maximum dollar amount per period), plus total from Item 0005.

For Example Purposes Only:
[(CLIN 0001 + CLIN 0002 + CLIN 0003 + CLIN 0004) x $2,000,000] + CLIN 0005 = X

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Section 00100 - Bidding Schedule/Instructions to Bidders

SECTION 00100 INDEX

52.211-2	Availability of Specifications Listed in the DoD Index of Specifications and Standards (DODISS) and Descriptions Listed in the Acquisition Management Systems and Data Requirements Control List, DOD 5010.12-L	DEC 2003
52.214-3	Amendments To Invitations For Bids	DEC 1989
52.214-4	False Statements In Bids	APR 1984
52.214-5	Submission Of Bids	MAR 1997
52.214-6	Explanation To Prospective Bidders	APR 1984
52.214-7	Late Submissions, Modifications, and Withdrawals of Bids	NOV 1999
52.214-18	Preparation of Bids-Construction	APR 1984
52.214-19	Contract Award-Sealed Bidding-Construction	AUG 1996
52.214-34	Submission Of Offers In The English Language	APR 1991
52.214-35	Submission Of Offers In U.S. Currency	APR 1991
52.214-4001	Public Opening of Bids	JAN 2000
52.214-4002	Modifications Prior to Date Set for Opening Bids	JAN 2000
52.214-4021	Award	DEC 1999
52.214-4022	Basis of Award	DEC 1999
52.214-5000	Apparent Clerical Mistakes	MAY 1999
52.216-1	Type Of Contract	APR 1984
52.219-2	Equal Low Bids	OCT 1995
52.225-10	Notice of Buy American Act Requirement--Construction Materials	MAY 2002
52.228-4001	Information Regarding Performance and Payment Bonds	FEB 2001
52.228-4003	Individual Sureties	DEC 1999
52.233-2	Service Of Protest	AUG 1996
252.204-7001	Commercial And Government Entity (CAGE) Code Reporting	AUG 1999

CLAUSES INCORPORATED BY FULL TEXT

52.211-2 AVAILABILITY OF SPECIFICATIONS LISTED IN THE DOD INDEX OF SPECIFICATIONS AND STANDARDS (DODISS) AND DESCRIPTIONS LISTED IN THE ACQUISITION MANAGEMENT SYSTEMS AND DATA REQUIREMENTS CONTROL LIST, DOD 5010.12-L (DEC 2003)

Copies of specifications, standards, and data item descriptions cited in this solicitation may be obtained--

(a) From the ASSIST database via the Internet at http://assist.daps.dla.mil; or

(b) By submitting a request to the--Department of Defense Single Stock Point (DoDSSP), Building 4, Section D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Telephone (215) 697-2179, Facsimile (215) 697-1462.

(End of provision)

52.214-3 AMENDMENTS TO INVITATIONS FOR BIDS (DEC 1989)

(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

(b) Bidders shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date in the space provided for this purpose on the form for submitting a bid, (3) by letter or telegram, or (4) by facsimile, if facsimile bids are authorized in the solicitation. The Government must receive the acknowledgment by the time and at the place specified for receipt of bids.

(End of provision)

52.214-4 FALSE STATEMENTS IN BIDS (APR 1984)

Bidders must provide full, accurate, and complete information as required by this solicitation and its attachments. The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

(End of provision)

52.214-5 SUBMISSION OF BIDS (MAR 1997)

(a) Bids and bid modifications shall be submitted in sealed envelopes or packages (unless submitted by electronic means) (1) addressed to the office specified in the solicitation, and (2) showing the time and date specified for receipt, the solicitation number, and the name and address of the bidder.

(b) Bidders using commercial carrier services shall ensure that the bid is addressed and marked on the outermost envelope or wrapper as prescribed in subparagraphs (a)(1) and (2) of this provision when delivered to the office specified in the solicitation.

(c) Telegraphic bids will not be considered unless authorized by the solicitation; however, bids may be modified or withdrawn by written or telegraphic notice.

(d) Facsimile bids, modifications, or withdrawals, will not be considered unless authorized by the solicitation.

(e) Bids submitted by electronic commerce shall be considered only if the electronic commerce method was specifically stipulated or permitted by the solicitation.

(End of provision)

52.214-6 EXPLANATION TO PROSPECTIVE BIDDERS (APR 1984)

Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing soon enough to allow a reply to reach all prospective bidders before the submission of their bids. Oral explanations or instructions given before the award of a contract will not be binding. Any information given a prospective bidder concerning a solicitation will be furnished promptly to all other prospective bidders as an amendment to the solicitation, if that information is necessary in submitting bids or if the lack of it would be prejudicial to other prospective bidders.

(End of provision)

52.214-7 LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWALS OF BIDS (NOV 1999)

(a) Bidders are responsible for submitting bids, and any modifications or withdrawals, so as to reach the Government office designated in the invitation for bids (IFB) by the time specified in the IFB. If no time is specified in the IFB, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that bids are due.

(b)(1) Any bid, modification, or withdrawal received at the Government office designated in the IFB after the exact time specified for receipt of bids is “late” and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late bid would not unduly delay the acquisition; and--

(i) If it was transmitted through an electronic commerce method authorized by the IFB, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of bids; or

(ii) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of bids and was under the Government's control prior to the time set for receipt of bids.

(2) However, a late modification of an otherwise successful bid that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(c) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the bid wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(d) If an emergency or unanticipated event interrupts normal Government processes so that bids cannot be received at the Government office designated for receipt of bids by the exact time specified in the IFB and urgent Government requirements preclude amendment of the IFB, the time specified for receipt of bids will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

(e) Bids may be withdrawn by written notice received at any time before the exact time set for receipt of bids. If the IFB authorizes facsimile bids, bids may be withdrawn via facsimile received at any time before the exact time set for receipt of bids, subject to the conditions specified in the provision at 52.214-31, Facsimile Bids. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for receipt of bids, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid.

(End of provision)

52.214-18 PREPARATION OF BIDS--CONSTRUCTION (APR 1984)

(a) Bids must be (1) submitted on the forms furnished by the Government or on copies of those forms, and (2) manually signed. The person signing a bid must initial each erasure or change appearing on any bid form.

(b) The bid form may require bidders to submit bid prices for one or more items on various bases, including--

(1) Lump sum bidding;

(2) Alternate prices;

(3) Units of construction; or

(4) Any combination of subparagraphs (1) through (3) above.

(c) If the solicitation requires bidding on all items, failure to do so will disqualify the bid. If bidding on all items is not required, bidders should insert the words "no bid" in the space provided for any item on which no price is submitted.

(d) Alternate bids will not be considered unless this solicitation authorizes their submission.

(End of provision)

52.214-19 CONTRACT AWARD--SEALED BIDDING--CONSTRUCTION (AUG 1996)

(a) The Government will evaluate bids in response to this solicitation without discussions and will award a contract to the responsible bidder whose bid, conforming to the solicitation, will be most advantageous to the Government, considering only price and the price-related factors specified elsewhere in the solicitation.

(b) The Government may reject any or all bids, and waive informalities or minor irregularities in bids received.

(c) The Government may accept any item or combination of items, unless doing so is precluded by a restrictive limitation in the solicitation or the bid.

(d) The Government may reject a bid as nonresponsive if the prices bid are materially unbalanced between line items or subline items. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the Government even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

(End of provison)

52.214-34 SUBMISSION OF OFFERS IN THE ENGLISH LANGUAGE (APR 1991)

Offers submitted in response to this solicitation shall be in the English language. Offers received in other than English shall be rejected.

(End of provision)

52.214-35 SUBMISSION OF OFFERS IN U.S. CURRENCY (APR 1991)

Offers submitted in response to this solicitation shall be in terms of U.S. dollars. Offers received in other than U.S. dollars shall be rejected.

(End of provision)

Public Opening of Bids

Bids will be publicly opened at the time set for opening in the invitation for bids. Their content will be made public for the information of bidders and others interested, who may be present either in person or by representative.

Modifications Prior to Date Set for Opening Bids

The right is reserved, as the interest of the Government may require, to revise or amend the specifications or drawings or both prior to the date set for opening bids. Such revisions and amendments, if any, will be announced by an amendment or amendments to this Invitation for Bids. If the revisions and amendments are of a nature which require material changes in quantities or prices bid or both, the date set for opening bids may be postponed by such number of days as in the opinion of the issuing officer will enable bidders to revise their bids. In such cases, the amendment will include an announcement of the new date for opening bids.

Award (52.214-4021)

Notwithstanding any other provisions of this solicitation, the Government intends to make award to only one bidder. Failure to include a price for all items in the schedule will result in the bid/offer being rejected as nonresponsive.

Basis of Award (52.214-4022)

Notwithstanding any other provision of this invitation, the Government will award all base bid items as a minimum.

52.214-5000 APPARENT CLERICAL MISTAKES (MAR 1995)--EFARS

(a) For the purpose of initial evaluations of bids, the following will be utilized in the resolving arithmetic discrepancies found on the face of bidding schedule as submitted by the bidder:

(1) Obviously misplaced decimal points will be corrected;

(2) Discrepancy between unit price and extended price, the unit price will govern;

(3) Apparent errors in extension of unit prices will be corrected;

(4) Apparent errors in addition of lump-sum and extended prices will be corrected.

(b) For the purpose of bid evaluation, the government will proceed on the assumption that the bidder intends his bid to be evaluated on basis of the unit prices, the totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.

(c) These correction procedures shall not be used to resolve any ambiguity concerning which bid is low.

(End of statement)

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a Firm-Fixed Price (FFP) contract resulting from this solicitation.

(End of clause)

52.219-2 EQUAL LOW BIDS. (OCT 1995)

(a) This provision applies to small business concerns only.

(b) The bidder's status as a labor surplus area (LSA) concern may affect entitlement to award in case of tie bids. If the bidder wishes to be considered for this priority, the bidder must identify, in the following space, the LSA in which the costs to be incurred on account of manufacturing or production (by the bidder or the first-tier subcontractors) amount to more than 50 percent of the contract price.

_____

_____

(c) Failure to identify the labor surplus area as specified in paragraph (b) of this provision will preclude the bidder from receiving priority consideration. If the bidder is awarded a contract as a result of receiving priority consideration under this provision and would not have otherwise received award, the bidder shall perform the contract or cause the contract to be performed in accordance with the obligations of an LSA concern.

52.225-10 NOTICE OF BUY AMERICAN ACT REQUIREMENT--CONSTRUCTION MATERIALS (MAY 2002)

(a) Definitions. Construction material, domestic construction material, and foreign construction material, as used in this provision, are defined in the clause of this solicitation entitled “Buy American Act--Construction Materials” (Federal Acquisition Regulation (FAR) clause 52.225-9).

(b) Requests for determinations of inapplicability. An offeror requesting a determination regarding the inapplicability of the Buy American Act should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of the clause at FAR 52.225-9 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(c) Evaluation of offers. (1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act, based on claimed unreasonable cost of domestic construction material, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(3)(i) of the clause at FAR 52.225-9.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) Alternate offers.

(1) When an offer includes foreign construction material not listed by the Government in this solicitation in paragraph (b)(2) of the clause at FAR 52.225-9, the offeror also may submit an alternate offer based on use of equivalent domestic construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of the clause at FAR 52.225-9 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of the clause at FAR 52.225-9 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic construction material, and the offeror shall be required to furnish such domestic construction material. An offer based on use of the foreign construction material for which an exception was requested--

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of provision)

INFORMATION REGARDING PERFORMANCE AND PAYMENT BONDS (FAR 28.102) (52.228-4001) FEB 2001

Within 10 days after the prescribed forms are presented to the bidder to whom award is made, unless a shorter time is prescribed in the contract, two bonds, namely a performance bond (Standard Form 25) and a payment bond (Standard Form 25A), shall be executed and furnished to the Government, each with good and sufficient surety or sureties acceptable to the Government. The penal sums of such bonds shall be as follows:

(1) Performance Bond. The penal sum of the performance bond shall equal one hundred percent (100%) of the contract price.
(2) Payment Bond. The penal sum of the payment bond shall equal one hundred percent (100%) of the contract price.

Any bonds furnished must be furnished by the Contractor to the Government prior to commencement of contract performance.

INDIVIDUAL SURETIES (52.228-4003) DEC 1999

As prescribed in FAR 28.203, individual sureties are acceptable for all types of bonds except position schedule bonds.

One individual surety is adequate support for a bond, provided the unencumbered value of the assets pledged by that individual surety equal or exceed the amount of the bond. An offeror may submit up to three individual sureties for each bond, in which case the pledged assets, when combined, must equal or exceed the penal amount of the bond. Each individual surety must accept both joint and several liability to the extent of the penal amount of the bond.

An individual surety may be accepted only if a security interest in acceptable assets is provided to the Government by the individual surety. THE SECURITY INTEREST SHALL BE FURNISHED WITH THE BOND.

Acceptable assets include:

(a) Cash, or certificates of deposit, or other cash equivalents with a federally insured financial institution;

(b) United States Government securities at market value.

(c) Stocks and bonds actively traded on a national U.S. security exchange with certificates issued in the name of the individual surety. (See FAR 28.203-2(b)(3) for list of acceptable exchanges).

(d) Real property owned in fee simple by the surety without any form of concurrent ownership, escept as provided in FAR 28.203-2(c) (3)(iii), and located within the 50 United States, its territories, or possessions. These assets will be accepted at 100% of the most current tax assessment value (exclusive of encumbrances) or 75% of the properties' unencumbered market value provided a current appraisal is furnished. (See clause entitled "Pledges of Assets").

(e) Irrevocable letters of credit (ILC) issued by a federally insured financial institution in the name of the contracting agency and which identify the agency and solicitation or contract number for which the ILC is provided.

Unacceptable assets include but are not limited to:

(a) Notes or accounts receivable;
(b) Foreign securities;
(c) Real property as follows:
(1) Real property located outside the United States, its territories, or possessions.
(2) Real property which is a principal residence of the surety.
(3) Real property owned concurrently regardless of the form of co-tenancy (including joint tenancy, tenancy by the entirety, and tenancy in common) except where all co-tenants agree to act jointly.
(4) Life estates, leasehold estates, or future interests in real property.
(d) Personal property other than that listed as acceptable assets above (e.g., jewelry, furs, antiques);
(e) Stocks and bonds of the individual surety in a controlled, affiliated, or closely held concern of the offeror/contractor;
(f) corporate assets (e.g., plant and equipment);
(g) Speculative assets (e.g., mineral rights);
(h) Letters of credit, except as provided above.

In order for the Contracting Officer to determine the acceptability of individuals proposed as sureties, all bidders/offerors who submit bonds which are executed by individual sureties shall furnish with the bonds:

(a) SF28, Affidavit of Individual Surety,

(b) Security interest provided to the Government for all pledged assets (See clause entitled "Pledge of Assets") and

(c) A current list of all other bonds (including Bid Bonds) on which each individual surety is a surety and bonds for which the individual is requesting to be a surety, together with a statement as to the percent of completion of these bonded jobs. The list will include Contract or Solicitation Numbers, the name, address and telephone number of the contracting office, the type of bond (bid, performance or payment), and the amount of each original obligation. (Note: Performance and Payment bonds must be listed separately.)

Failure to furnish this information may result in non-approval of the surety and a determination of nonresponsibility.

52.233-2 SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from

Cheryl A. Anderson
Office of the Chief
United States Army Corps of Engineers
POB 3755
Seattle, WA 98124-3755

Or

4735 East Marginal Way South
Seattle, WA 98134-2329

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

252.204-7001 COMMERCIAL AND GOVERNMENT ENTITY (CAGE) CODE REPORTING (AUG 1999)

(a) The offeror is requested to enter its CAGE code on its offer in the block with its name and address. The CAGE code entered must be for that name and address. Enter “CAGE” before the number.

(b) If the offeror does not have a CAGE code, it may ask the Contracting Officer to request one from the Defense Logistics Information Service (DLIS). The Contracting Officer will--

(1) Ask the Contractor to complete section B of a DD Form 2051, Request for Assignment of a Commercial and Government Entity (CAGE) Code;

(2) Complete section A and forward the form to DLIS; and

(3) Notify the Contractor of its assigned CAGE code.

(c) Do not delay submission of the offer pending receipt of a CAGE code.

(End of provision)

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REQUIREMENTS FOR BID BOND

In lieu of a Bid Bond, a contractor is required to submit confirmation of firm commitment for bond support by good and sufficient surety or sureties acceptable to the government under Department of Treasury regulations. The confirmation may come in the form of a letter from the surety on the surety's company letterhead.

A Performance and Payment Bond will be required for each individual Task Order action of $100,000 or more. A Payment Bond will be required for each individual Task Order action of $25,000 or more. Refer to FAR Clause 52.228-15 – PERFORMANCE AND PAYMENT BONDS -- CONSTRUCTION (JUL 2000).

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Section 00600 - Representations & Certifications

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CLAUSES INCORPORATED BY FULL TEXT

52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

(a) The offeror certifies that --

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to –

(i) Those prices,

(ii) The intention to submit an offer, or

(iii) The methods of factors used to calculate the prices offered:

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory --

(1) Is the person in the offeror's organization responsible for determining the prices offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provison _____ (insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies subparagraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of clause)

52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this Certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989,--

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all

recipients of subcontract awards in excess of $100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision, shall be subject to a civil penalty of not less than $10,000, and not more than $100,000, for each such failure.

(End of provision)

52.204-3 TAXPAYER IDENTIFICATION (OCT 1998)

(a) Definitions.

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

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

(b) All offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal Acquisition Regulation (FAR) 4.904, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(d) Taxpayer Identification Number (TIN).

___ TIN:._____

___ TIN has been applied for.

___ TIN is not required because:

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

___ Offeror is an agency or instrumentality of a foreign government;

___ Offeror is an agency or instrumentality of the Federal Government.

(e) Type of organization.

___ Sole proprietorship;

___ Partnership;

___ Corporate entity (not tax-exempt);

___ Corporate entity (tax-exempt);

___ Government entity (Federal, State, or local);

___ Foreign government;

___ International organization per 26 CFR 1.6049-4;

___ Other _____

(f) Common parent.

___ Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.

___ Name and TIN of common parent:

Name _____

TIN _____

(End of provision)

52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (DEC 2001)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that-

(i) The Offeror and/or any of its Principals -

(A) Are ( ) are not ( ) presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have ( ) have not ( ), within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are ( ) are not ( ) presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision.

(ii) The Offeror has ( ) has not ( ), within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (MAY 2004)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 238160.

(2) The small business size standard is $12 million.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it ( ) is, ( ) is not a small business concern.

(2) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, that it ( ) is, ( ) is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a women-owned small business concern.

(4) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a veteran-owned small business concern.

(5) (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (b)(4) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a service-disabled veteran-owned small business concern.

(6) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, as part of its offer, that--

(i) It ( ) is, ( ) is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It ( ) is, ( ) is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. (The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture:_____.) Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(c) Definitions. As used in this provision--

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern," means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern," means a small business concern--

(1) That is at least 51 percent owned by one or more women; in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice.

(1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (MAY 2004) - ALTERNATE I (APR 2002)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 238160.

(2) The small business size standard is $12 million.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it ( ) is, ( ) is not a small business concern.

(2) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, that it ( ) is, ( ) is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a women-owned small business concern.

(4) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a veteran-owned small business concern.

(5) (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (b)(4) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a service-disabled veteran-owned small business concern.

(6) [Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.] The offeror represents, as part of its offer, that--

(i) It ( ) is, ( ) is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It ( ) is, ( ) is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. (The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture:_____.) Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(7) (Complete if offeror represented itself as disadvantaged in paragraph (b)(2) of this provision.) The offeror shall check the category in which its ownership falls:

____ Black American.

____ Hispanic American.

____ Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).

____ Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).

____ Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).

____ Individual/concern, other than one of the preceding.

(c) Definitions. As used in this provision--

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern," means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern," means a small business concern --

(1) That is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; or

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice.

(1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

52.219-4 NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS (JAN 1999)

(a) Definition. HUBZone small business concern, as used in this clause, means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

(b) Evaluation preference. (1) Offers will be evaluated by adding a factor of 10 percent to the price of all offers, except--

(i) Offers from HUBZone small business concerns that have not waived the evaluation preference;

(ii) Otherwise successful offers from small business concerns;

(iii) Otherwise successful offers of eligible products under the Trade Agreements Act when the dollar threshold for application of the Act is exceeded (see 25.402 of the Federal Acquisition Regulation (FAR)); and

(iv) Otherwise successful offers where application of the factor would be inconsistent with a Memorandum of Understanding or other international agreement with a foreign government.

(2) The factor of 10 percent shall be applied on a line item basis or to any group of items on which award may be made. Other evaluation factors described in the solicitation shall be applied before application of the factor.

(3) A concern that is both a HUBZone small business concern and a small disadvantaged business concern will receive the benefit of both the HUBZone small business price evaluation preference and the small disadvantaged business price evaluation adjustment (see FAR clause 52.219-23). Each applicable price evaluation preference or adjustment shall be calculated independently against an offeror's base offer.

These individual preference amounts shall be added together to arrive at the total evaluated price for that offer.

(c) Waiver of evaluation preference. A HUBZone small business concern may elect to waive the evaluation preference, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraph (d) of this clause do not apply if the offeror has waived the evaluation preference.

___ Offeror elects to waive the evaluation preference.

(d) Agreement. A HUBZone small business concern agrees that in the performance of the contract, in the case of a contract for

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other HUBZone small business concerns;

(2) Supplies (other than procurement from a nonmanufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other HUBZone small business concerns;

(3) General construction, at least 15 percent of the cost of the contract performance incurred for personnel will be will be spent on the concern's employees or the employees of other HUBZone small business concerns; or

(4) Construction by special trade contractors, at least 25 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns.

(e) A HUBZone joint venture agrees that in the performance of the contract, the applicable percentage specified in paragraph (d) of this clause will be performed by the HUBZone small business participant or participants.

(f) A HUBZone small business concern nonmanufacturer agrees to furnish in performing this contract only end items manufactured or produced by HUBZone small business manufacturer concerns. This paragraph does not apply in connection with construction or service contracts.

(End of clause)

52.219-19 SMALL BUSINESS CONCERN REPRESENTATION FOR THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM (OCT 2000)

(a) Definition.

"Emerging small business" as used in this solicitation, means a small business concern whose size is no greater than 50 percent of the numerical size standard applicable to the North American Industry Classification System (NAICS) code assigned to a contracting opportunity.

(b) [Complete only if the Offeror has represented itself under the provision at 52.219-1 as a small business concern under the size standards of this solicitation.] The Offeror [ ] is, [ ] is not an emerging small business.

(c) (Complete only if the Offeror is a small business or an emerging small business, indicating its size range.)

Offeror's number of employees for the past 12 months (check this column if size standard stated in solicitation is expressed in terms of number of employees) or Offeror's average annual gross revenue for the last 3 fiscal years (check this column if size standard stated in solicitation is expressed in terms of annual receipts). (Check one of the following.)

No. of Employees Avg. Annual Gross Revenues

____ 50 or fewer ____ $1 million or less

____ 51 - 100 ____ $1,000,001 - $2 million

____ 101 - 250 ____ $2,000,001 - $3.5 million

____ 251 - 500 ____ $3,500,001 - $5 million

____ 501 - 750 ____ $5,000,001 - $10 million

____ 751 - 1,000 ____ $10,000,001 - $17 million

____ Over 1,000 ____ Over $17 million

(End of provision)

52.219-21 SMALL BUSINESS SIZE REPRESENTATION FOR TARGETED INDUSTRY CATEGORIES UNDER THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM (MAY 1999)

(Complete only if the Offeror has represented itself under the provision at 52.219-1 as a small business concern under the size standards of this solicitation.)

Offeror's number of employees for the past 12 months (check this column if size standard stated in solicitation is expressed in terms of number of employees) or Offeror's average annual gross revenue for the last 3 fiscal years (check this column if size standard stated in solicitation is expressed in terms of annual receipts). (Check one of the following.)

No. of Employees Avg. Annual Gross Revenues

____ 50 or fewer ____ $1 million or less

____ 51 - 100 ____ $1,000,001 - $2 million

____ 101 - 250 ____ $2,000,001 - $3.5 million

____ 251 - 500 ____ $3,500,001 - $5 million

____ 501 - 750 ____ $5,000,001 - $10 million

____ 751 - 1,000 ____ $10,000,001 - $17 million

____ Over 1,000 ____ Over $17 million

(End of provision)

52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)

The offeror represents that --

(a) ( ) It has, ( ) has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;

(b) ( ) It has, ( ) has not, filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

52.222-38 COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING REQUIREMENTS (DEC 2001)

By submission of its offer, the offeror represents that, if it is subject to the reporting requirements of 38 U.S.C. 4212(d) (i.e., if it has any contract containing Federal Acquisition Regulation clause 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans), it has submitted the most recent VETS-100 Report required by that clause.

(End of provision)

52.223-13 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (AUG 2003)

(a) Executive Order 13148, of April 21, 2000, Greening the Government through Leadership in Environmental Management, requires submission of this certification as a prerequisite for contract award.

(b) By signing this offer, the offeror certifies that--

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: (Check each block that is applicable.)

( ) (i) The facility does not manufacture, process, or otherwise use any toxic chemicals listed in 40 CFR 372.65;

( ) (ii) The facility does not have 10 or more full-time employees as specified in section 313.(b)(1)(A) of EPCRA 42 U.S.C. 11023(b)(1)(A);

( ) (iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

( ) (iv) The facility does not fall within the following Standard Industrial Classification (SIC) codes or their corresponding North American Industry Classification System sectors:

(A) Major group code 10 (except 1011, 1081, and 1094.

(B) Major group code 12 (except 1241).

(C) Major group codes 20 through 39.

(D) Industry code 4911, 4931, or 4939 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce).

(E) Industry code 4953 (limited to facilities regulated under the Resource Conservation and Recovery Act, Subtitle C (42 U.S.C. 6921, et seq.), 5169, 5171, or 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis); or

( ) (v) The facility is not located within the United States or its outlying areas.

(End of clause)

52.236-28 PREPARATION OF PROPOSALS--CONSTRUCTION (OCT 1997)

(a) Proposals must be (1) submitted on the forms furnished by the Government or on copies of those forms, and (2) manually signed. The person signing a proposal must initial each erasure or change appearing on any proposal form.

(b) The proposal form may require offerors to submit proposed prices for one or more items on various bases, including--

(1) Lump sum price;

(2) Alternate prices;

(3) Units of construction; or

(4) Any combination of paragraphs (b)(1) through (b)(3) of this provision.

(c) If the solicitation requires submission of a proposal on all items, failure to do so may result in the proposal being rejected without further consideration. If a proposal on all items is not required, offerors should insert the words “no proposal” in the space provided for any item on which no price is submitted.

(d) Alternate proposals will not be considered unless this solicitation authorizes their submission.

(End of provision)

252.209-7001 DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST

COUNTRY (MAR 1998)

(a) "Definitions."

As used in this provision --

(a) "Government of a terrorist country" includes the state and the government of a terrorist country, as well as any political subdivision, agency, or instrumentality thereof.

(2) "Terrorist country" means a country determined by the Secretary of State, under section 6(j)(1)(A) of the Export Administration Act of 1979 (50 U.S.C. App. 2405(j)(i)(A)), to be a country the government of which has repeatedly provided support for such acts of international terrorism. As of the date of this provision, terrorist countries include: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

(3) "Significant interest" means --

(i) Ownership of or beneficial interest in 5 percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding 5 percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;

(ii) Holding a management position in the firm, such as a director or officer;

(iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;

(iv) Ownership of 10 percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or

(v) Holding 50 percent or more of the indebtness of a firm.

(b) "Prohibition on award."

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary or, in the case of a subsidiary, the firm that owns the subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) "Disclosure."

If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the Offeror shall disclosure such interest in an attachment to its offer. If the Offeror is a subsidiary, it shall also disclose any significant interest the government of a terrorist country has in any firm that owns or controls the subsidiary. The disclosure shall include --

(1) Identification of each government holding a significant interest; and

(2) A description of the significant interest held by each government.

(End of provision)

252.223-7001 HAZARD WARNING LABELS (DEC 1991)

(a) "Hazardous material," as used in this clause, is defined in the Hazardous Material Identification and Material Safety Data clause of this contract.

(b) The Contractor shall label the item package (unit container) of any hazardous material to be delivered under this contract in accordance with the Hazard Communication Standard (29 CFR 1910.1200 et seq). The Standard requires that the hazard warning label conform to the requirements of the standard unless the material is otherwise subject to the labeling requirements of one of the following statutes:

(1) Federal Insecticide, Fungicide and Rodenticide Act;

(2) Federal Food, Drug and Cosmetics Act;

(3) Consumer Product Safety Act;

(4) Federal Hazardous Substances Act; or

(5) Federal Alcohol Administration Act.

(c) The Offeror shall list which hazardous material listed in the Hazardous Material Identification and Material Safety Data clause of this contract will be labeled in accordance with one of the Acts in paragraphs (b)(1) through (5) of this clause instead of the Hazard Communication Standard. Any hazardous material not listed will be interpreted to mean that a label is required in accordance with the Hazard Communication Standard.

MATERIAL (If None, Insert "None.")	ACT
_____	_____
_____	_____

(d) The apparently successful Offeror agrees to submit, before award, a copy of the hazard warning label for all hazardous materials not listed in paragraph (c) of this clause. The Offeror shall submit the label with the Material Safety Data Sheet being furnished under the Hazardous Material Identification and Material Safety Data clause of this contract.

(e) The Contractor shall also comply with MIL-STD-129, Marking for Shipment and Storage (including revisions adopted during the term of this contract).

(End of clause)

252.225-7031 SECONDARY ARAB BOYCOTT OF ISRAEL (APR 2003)

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

(1) Foreign person means any person (including any individual, partnership, corporation, or other form of association) other than a United States person.

(2) United States person is defined in 50 U.S.C. App. 2415(2) and means--

(i) Any United States resident or national (other than an individual resident outside the United States who is employed by other than a United States person);

(ii) Any domestic concern (including any permanent domestic establishment of any foreign concern); and

(iii) Any foreign subsidiary or affiliate (including any permanent foreign establishment) of any domestic concern that is controlled in fact by such domestic concern.

(b) Certification. If the offeror is a foreign person, the offeror certifies, by submission of an offer, that it--

(1) Does not comply with the Secondary Arab Boycott of Israel; and

(2) Is not taking or knowingly agreeing to take any action, with respect to the Secondary Boycott of Israel by Arab countries, which 50 U.S.C. App. 2407(a) prohibits a United States person from taking.

(End of provision)

252.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it:

____ (1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

____ (2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

SUBMIT THE FOLLOWING INFORMATION WITH YOUR OFFER
NOTICE TO OFFERORS REGARDING PRE-AWARD INFORMATION

It is requested that the following information be provided with your bid:

1. Company Name and Address: _____

_____

_____

2. Point of Contact:

Name:_____ Phone: (_____)_____

Alt Phone: (_____) _____ Fax: (_____)_____

3. Electronic Transfer Payments will now be required for all new contracts. Do you currently receive Electronic Transfer Payments from this agency? (agency codes 00005524/00006482)

Yes(__) NO(__)

4. Name of Bank and Branch _____

_____

Personal Banker _____

Telephone Number _____

Fax Number _____

5. Name of Bonding Agent Company _____

Agents Name _____

Telephone _____

6. List three projects that are substantially complete or have been completed within the last two years that are similar to this project. Projects should be listed in the following order: Federal Projects, state projects, city and county projects, than commercial projects. Please provide in the following format:

a) Title & Location of Project _____

Agency/Company _____

Award Amount _____

Point of Contact (Name & Title) _____

Telephone Number _____
Year of Completion_____

b) Title & Location of Project _____

Agency/Company _____

Award Amount _____

Point of Contact (Name & Title) _____

Telephone Number _____
Year of Completion_____

c) Title & Location of Project _____

Agency/Company _____

Award Amount _____

Point of Contact (Name & Title) _____

Telephone Number _____
Year of Completion_____

7) List all outstanding uncompleted projects, in the following format:

a) Title of Project _____

Agency/Company _____

Est. Completion Date _____

Award Amount _____

b) Title of Project _____

Agency/Company _____

Est. Completion Date _____

Award Amount _____

c) Title of Project _____

Agency/Company _____

Est. Completion Date _____

Award Amount _____

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CLAUSES INCORPORATED BY FULL TEXT

Successor Contracting Officers (52.201-4001)

The Contracting Officer who signed this contract is the primary Contracting Officer for the contract. Neverthless, any Contracting Officer assigned to the Seattle District and acting within his/her authority may take formal action on this contract when a contract action needs to be taken and the primary Contracting Officer is unavailable.

52.202-1 DEFINITIONS (JUL 2004)

(a) When a solicitation provision or contract clause uses a word or term that is defined in the Federal Acquisition Regulation (FAR), the word or term has the same meaning as the definition in FAR 2.101 in effect at the time the solicitation was issued, unless--

(1) The solicitation, or amended solicitation, provides a different definition;

(2) The contracting parties agree to a different definition;

(3) The part, subpart, or section of the FAR where the provision or clause is prescribed provides a different meaning; or

(4) The word or term is defined in FAR Part 31, for use in the cost principles and procedures.

(b) The FAR Index is a guide to words and terms the FAR defines and shows where each definition is located. The FAR Index is available via the Internet at http://www.acqnet.gov at the end of the FAR, after the FAR Appendix.

(End of clause)

52.203-3 GRATUITIES (APR 1984)

(a) The right of the Contractor to proceed may be terminated by written notice if, after notice and hearing, the agency head or a designee determines that the Contractor, its agent, or another representative--

(1) Offered or gave a gratuity (e.g., an entertainment or gift) to an officer, official, or employee of the Government; and

(2) Intended, by the gratuity, to obtain a contract or favorable treatment under a contract.

(b) The facts supporting this determination may be reviewed by any court having lawful jurisdiction.

(c) If this contract is terminated under paragraph (a) of this clause, the Government is entitled--

(1) To pursue the same remedies as in a breach of the contract; and

(2) In addition to any other damages provided by law, to exemplary damages of not less than 3 nor more than 10 times the cost incurred by the Contractor in giving gratuities to the person concerned, as determined by the agency head or a designee. (This subparagraph (c)(2) is applicable only if this contract uses money appropriated to the Department of Defense.)

(d) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.203-5 COVENANT AGAINST CONTINGENT FEES (APR 1984)

(a) The Contractor warrants that no person or agency has been employed or retained to solicit or obtain this contract upon an agreement or understanding for a contingent fee, except a bona fide employee or agency. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of the contingent fee.

(b) "Bona fide agency," as used in this clause, means an established commercial or selling agency, maintained by a contractor for the purpose of securing business, that neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds itself out as being able to obtain any Government contract or contracts through improper influence.

"Bona fide employee," as used in this clause, means a person, employed by a contractor and subject to the contractor's supervision and control as to time, place, and manner of performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds out as being able to obtain any Government contract or contracts through improper influence.

"Contingent fee," as used in this clause, means any commission, percentage, brokerage, or other fee that is contingent upon the success that a person or concern has in securing a Government contract.

"Improper influence," as used in this clause, means any influence that induces or tends to induce a Government employee or officer to give consideration or to act regarding a Government contract on any basis other than the merits of the matter.

(End of clause)

52.203-7 ANTI-KICKBACK PROCEDURES. (JUL 1995)

(a) Definitions.

"Kickback," as used in this clause, means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided, directly or indirectly, to any prime Contractor, prime Contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a subcontract relating to a prime contract.

"Person," as used in this clause, means a corporation, partnership, business association of any kind, trust, joint-stock company, or individual.

"Prime contract," as used in this clause, means a contract or contractual action entered into by the United States for the purpose of obtaining supplies, materials, equipment, or services of any kind.

"Prime Contractor," as used in this clause, means a person who has entered into a prime contract with the United States.

"Prime Contractor employee," as used in this clause, means any officer, partner, employee, or agent of a prime Contractor.

"Subcontract," as used in this clause, means a contract or contractual action entered into by a prime Contractor or subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind under a prime contract.

"Subcontractor," as used in this clause, (1) means any person, other than the prime Contractor, who offers to furnish or furnishes any supplies, materials, equipment, or services of any kind under a prime contract or a subcontract entered into in connection with such prime contract, and (2) includes any person who offers to furnish or furnishes general supplies to the prime Contractor or a higher tier subcontractor.

"Subcontractor employee," as used in this clause, means any officer, partner, employee, or agent of a subcontractor.

(b) The Anti-Kickback Act of 1986 (41 U.S.C. 51-58) (the Act), prohibits any person from -

(1) Providing or attempting to provide or offering to provide any kickback;

(2) Soliciting, accepting, or attempting to accept any kickback; or

(3) Including, directly or indirectly, the amount of any kickback in the contract price charged by a prime Contractor to the United States or in the contract price charged by a subcontractor to a prime Contractor or higher tier subcontractor.

(c)(1) The Contractor shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in paragraph (b) of this clause in its own operations and direct business relationships.

(2) When the Contractor has reasonable grounds to believe that a violation described in paragraph (b) of this clause may have occurred, the Contractor shall promptly report in writing the possible violation. Such reports shall be made to the inspector general of the contracting agency, the head of the contracting agency if the agency does not have an inspector general, or the Department of Justice.

(3) The Contractor shall cooperate fully with any Federal agency investigating a possible violation described in paragraph (b) of this clause.

(4) The Contracting Officer may (i) offset the amount of the kickback against any monies owed by the United States under the prime contract and/or (ii) direct that the Prime Contractor withhold, from sums owed a subcontractor under the prime contract, the amount of any kickback. The Contracting Officer may order the monies withheld under subdivision (c)(4)(ii) of this clause be paid over to the Government unless the Government has already offset those monies under subdivision (c)(4)(i) of this clause. In either case, the Prime Contractor shall notify the Contracting Officer when the monies are withheld.

(5) The Contractor agrees to incorporate the substance of this clause, including this subparagraph (c)(5) but excepting subparagraph (c)(1), in all subcontracts under this contract which exceed $100,000.

52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) If the Government receives information that a contractor or a person has engaged in conduct constituting a violation of subsection (a), (b), (c), or (d) of Section 27 of the Office of Federal Procurement Policy Act (41 U.S.C. 423) (the Act), as amended by section 4304 of the 1996 National Defense Authorization Act for Fiscal Year 1996 (Pub. L. 104-106), the Government may--

(1) Cancel the solicitation, if the contract has not yet been awarded or issued; or

(2) Rescind the contract with respect to which--

(i) The Contractor or someone acting for the Contractor has been convicted for an offense where the conduct constitutes a violation of subsection 27(a) or (b) of the Act for the purpose of either--

(A) Exchanging the information covered by such subsections for anything of value; or

(B) Obtaining or giving anyone a competitive advantage in the award of a Federal agency procurement contract; or

(ii) The head of the contracting activity has determined, based upon a preponderance of the evidence, that the Contractor or someone acting for the Contractor has engaged in conduct constituting an offense punishable under subsections 27(e)(1) of the Act.

(b) If the Government rescinds the contract under paragraph (a) of this clause, the Government is entitled to recover, in addition to any penalty prescribed by law, the amount expended under the contract.

(c) The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law, regulation, or under this contract.

(End of clause)

52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) The Government, at its election, may reduce the price of a fixed-price type contract and the total cost and fee under a cost-type contract by the amount of profit or fee determined as set forth in paragraph (b) of this clause if the head of the contracting activity or designee determines that there was a violation of subsection 27 (a), (b), or (c) of the Office of Federal Procurement Policy Act, as amended (41 U.S.C. 423), as implemented in section 3.104 of the Federal Acquisition Regulation.

(b) The price or fee reduction referred to in paragraph (a) of this clause shall be--

(1) For cost-plus-fixed-fee contracts, the amount of the fee specified in the contract at the time of award;

(2) For cost-plus-incentive-fee contracts, the target fee specified in the contract at the time of award, notwithstanding any minimum fee or "fee floor" specified in the contract;

(3) For cost-plus-award-fee contracts--

(i) The base fee established in the contract at the time of contract award;

(ii) If no base fee is specified in the contract, 30 percent of the amount of each award fee otherwise payable to the Contractor for each award fee evaluation period or at each award fee determination point.

(4) For fixed-price-incentive contracts, the Government may--

(i) Reduce the contract target price and contract target profit both by an amount equal to the initial target profit specified in the contract at the time of contract award; or

(ii) If an immediate adjustment to the contract target price and contract target profit would have a significant adverse impact on the incentive price revision relationship under the contract, or adversely affect the contract financing provisions, the Contracting Officer may defer such adjustment until establishment of the total final price of the contract. The total final price established in accordance with the incentive price revision provisions of the contract shall be reduced by an amount equal to the initial target profit specified in the contract at the time of contract award and such reduced price shall be the total final contract price.

(5) For firm-fixed-price contracts, by 10 percent of the initial contract price or a profit amount determined by the Contracting Officer from records or documents in existence prior to the date of the contract award.

(c) The Government may, at its election, reduce a prime contractor's price or fee in accordance with the procedures of paragraph (b) of this clause for violations of the Act by its subcontractors by an amount not to exceed the amount of profit or fee reflected in the subcontract at the time the subcontract was first definitively priced.

(d) In addition to the remedies in paragraphs (a) and (c) of this clause, the Government may terminate this contract for default. The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JUN 2003)

(a) Definitions.

"Agency," as used in this clause, means executive agency as defined in 2.101.

"Covered Federal action," as used in this clause, means any of the following Federal actions:

(1) The awarding of any Federal contract.

(2) The making of any Federal grant.

(3) The making of any Federal loan.

(4) The entering into of any cooperative agreement.

(5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

"Indian tribe" and "tribal organization," as used in this clause, have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) and include Alaskan Natives.

"Influencing or attempting to influence," as used in this clause, means making, with the intent to influence, any communication to or appearance before an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.

"Local government," as used in this clause, means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government.

"Officer or employee of an agency," as used in this clause, includes the following individuals who are employed by an agency:

(1) An individual who is appointed to a position in the Government under Title 5, United States Code, including a position under a temporary appointment.

(2) A member of the uniformed services, as defined in subsection 101(3),Title 37, United States Code.

(3) A special Government employee, as defined in section 202, Title 18, United States Code.

(4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, Title 5, United States Code, appendix 2.

"Person," as used in this clause, means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit, or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Reasonable compensation," as used in this clause, means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

"Reasonable payment," as used in this clause, means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

"Recipient," as used in this clause, includes the Contractor and all subcontractors. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly employed," as used in this clause, means, with respect to an officer or employee of a person requesting or receiving a Federal contract, an officer or employee who is employed by such person for at least 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

State, as used in this clause, means a State of the United States, the District of Columbia, or an outlying area of the United States, an agency or instrumentality of a State, and multi-State, regional, or interstate entity having governmental duties and powers.

(b) Prohibitions.

(1) Section 1352 of Title 31, United States Code, among other things, prohibits a recipient of a Federal contract, grant, loan, or cooperative agreement from using appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(2) The Act also requires Contractors to furnish a disclosure if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

(3) The prohibitions of the Act do not apply under the following conditions:

(i) Agency and legislative liaison by own employees.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action if the payment is for agency and legislative liaison activities not directly related to a covered Federal action.

(B) For purposes of subdivision (b)(3)(i)(A) of this clause, providing any information specifically requested by an agency or Congress is permitted at any time.

(C) The following agency and legislative liaison activities are permitted at any time where they are not related to a specific solicitation for any covered Federal action:

(1) Discussing with an agency the qualities and characteristics (including individual demonstrations) of the person's products or services, conditions or terms of sale, and service capabilities.

(2) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(D) The following agency and legislative liaison activities are permitted where they are prior to formal solicitation of any covered Federal action--

(1) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(2) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(3) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Pub. L. 95-507, and subsequent amendments.

(E) Only those services expressly authorized by subdivision (b)(3)(i)(A) of this clause are permitted under this clause.

(ii) Professional and technical services.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of--

(1) A payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action, if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action.

(2) Any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action. Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(B) For purposes of subdivision (b)(3)(ii)(A) of this clause, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(C) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation and any other requirements in the actual award documents.

(D) Only those services expressly authorized by subdivisions (b)(3)(ii)(A)(1) and (2) of this clause are permitted under this clause.

(E) The reporting requirements of FAR 3.803(a) shall not apply with respect to payments of reasonable compensation made to regularly employed officers or employees of a person.

(c) Disclosure.

(1) The Contractor who requests or receives from an agency a Federal contract shall file with that agency a disclosure form, OMB standard form LLL, Disclosure of Lobbying Activities, if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under subparagraph (b)(1) of this clause, if paid for with appropriated funds.

(2) The Contractor shall file a disclosure form at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under subparagraph (c)(1) of this clause. An event that materially affects the accuracy of the information reported includes--

(i) A cumulative increase of $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(ii) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(iii) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(3) The Contractor shall require the submittal of a certification, and if required, a disclosure form by any person who requests or receives any subcontract exceeding $100,000 under the Federal contract.

(4) All subcontractor disclosure forms (but not certifications) shall be forwarded from tier to tier until received by the prime Contractor. The prime Contractor shall submit all disclosures to the Contracting Officer at the end of the calendar quarter in which the disclosure form is submitted by the subcontractor. Each subcontractor certification shall be retained in the subcontract file of the awarding Contractor.

(d) Agreement. The Contractor agrees not to make any payment prohibited by this clause.

(e) Penalties.

(1) Any person who makes an expenditure prohibited under paragraph (a) of this clause or who fails to file or amend the disclosure form to be filed or amended by paragraph (b) of this clause shall be subject to civil penalties as provided for by 31 U.S.C. 1352. An imposition of a civil penalty does not prevent the Government from seeking any other remedy that may be applicable.

(2) Contractors may rely without liability on the representation made by their subcontractors in the certification and disclosure form.

(f) Cost allowability. Nothing in this clause makes allowable or reasonable any costs which would otherwise be unallowable or unreasonable. Conversely, costs made specifically unallowable by the requirements in this clause will not be made allowable under any other provision.

(End of clause)

52.204-2 SECURITY REQUIREMENTS (AUG 1996) - ALTERNATE II (APR 1984)

(a) This clause applies to the extent that this contract involves access to information classified "Confidential," "Secret," or "Top Secret."

(b) The Contractor shall comply with (1) the Security Agreement (DD Form 441), including the National Industrial Security Program Operating Manual (DOD 5220.22-M); and (2) any revisions to that manual, notice of which has been furnished to the Contractor.

(c) If, subsequent to the date of this contract, the security classification or security requirements under this contract are changed by the Government and if the changes cause an increase or decrease in security costs or otherwise affect any other term or condition of this contract, the contract shall be subject to an equitable adjustment as if the changes were directed under the Changes clause of this contract.

(d) The Contractor agrees to insert terms that conform substantially to the language of this clause, including this paragraph (d) but excluding any reference to the Changes clause of this contract, in all subcontracts under this contract that involve access to classified information.

(e) The Contractor shall be responsible for furnishing to each employee and for requiring each employee engaged on the work to display such identification as may be approved and directed by the Contracting Officer. All prescribed

identification shall immediately be delivered to the Contracting Officer, for cancellation upon the release of any employee. When required by the Contracting Officer, the Contractor shall obtain and submit fingerprints of all persons employed or to be employed on the project.

52.204-4 PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER (AUG 2000)

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

“Postconsumer material” means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of “recovered material.” For paper and paper products, postconsumer material means “postconsumer fiber” defined by the U.S. Environmental Protection Agency (EPA) as--

(1) Paper, paperboard, and fibrous materials from retail stores, office buildings, homes, and so forth, after they have passed through their end-usage as a consumer item, including: used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards; and used cordage; or

(2) All paper, paperboard, and fibrous materials that enter and are collected from municipal solid waste; but not

(3) Fiber derived from printers' over-runs, converters' scrap, and over-issue publications.

“Printed or copied double-sided” means printing or reproducing a document so that information is on both sides of a sheet of paper.

“Recovered material,” for paper and paper products, is defined by EPA in its Comprehensive Procurement Guideline as “recovered fiber” and means the following materials:

(1) Postconsumer fiber; and

(2) Manufacturing wastes such as--

(i) Dry paper and paperboard waste generated after completion of the papermaking process (that is, those manufacturing operations up to and including the cutting and trimming of the paper machine reel into smaller rolls or rough sheets) including: envelope cuttings, bindery trimmings, and other paper and paperboard waste resulting from printing, cutting, forming, and other converting operations; bag, box, and carton manufacturing wastes; and butt rolls, mill wrappers, and rejected unused stock; and

(ii) Repulped finished paper and paperboard from obsolete inventories of paper and paperboard manufacturers, merchants, wholesalers, dealers, printers, converters, or others.

(b) In accordance with Section 101 of Executive Order 13101 of September 14, 1998, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, the Contractor is encouraged to submit paper documents, such as offers, letters, or reports, that are printed or copied double-sided on recycled paper that meet minimum content standards specified in Section 505 of Executive Order 13101, when not using electronic commerce methods to submit information or data to the Government.

(c) If the Contractor cannot purchase high-speed copier paper, offset paper, forms bond, computer printout paper, carbonless paper, file folders, white wove envelopes, writing and office paper, book paper, cotton fiber paper, and cover stock meeting the 30 percent postconsumer material standard for use in submitting paper documents to the Government, it should use paper containing no less than 20 percent postconsumer material. This lesser standard should be used only when paper meeting the 30 percent postconsumer material standard is not obtainable at a reasonable price or does not meet reasonable performance standards.

(End of clause)

52.204-7 CENTRAL CONTRACTOR REGISTRATION (OCT 2003)

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

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

Data Universal Numbering System (DUNS) number means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

Data Universal Numbering System +4 (DUNS+4) number means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see the FAR at Subpart 32.11) for the same parent concern.

Registered in the CCR database means that--

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database; and

(2) The Government has validated all mandatory data fields and has marked the record “Active”.

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “DUNS” or “DUNS +4” followed by the DUNS or DUNS +4 number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at http://www.dnb.com; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company Physical Street Address, City, State, and Zip Code.

(iv) Company Mailing Address, City, State and Zip Code (if separate from physical).

(v) Company Telephone Number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

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

(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.

(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.

(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(g)(1)(i) If a Contractor has legally changed its business name, “doing business as” name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of Subpart 42.12 of the FAR; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the “Suspension of Payment” paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the “Suspension of payment” paragraph of the EFT clause of this contract.

(h) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at http://www.ccr.gov or by calling 1-888-227-2423, or 269-961-5757.

(End of clause)

52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (JUL 1995)

(a) The Government suspends or debars Contractors to protect the Government's interests. The Contractor shall not enter into any subcontract in excess of the $25,000 with a Contractor that is debarred, suspended, or proposed for debarment unless there is a compelling reason to do so.

(b) The Contractor shall require each proposed first-tier subcontractor, whose subcontract will exceed $25,000, to disclose to the Contractor, in writing, whether as of the time of award of the subcontract, the subcontractor, or its principles, is or is not debarred, suspended, or proposed for debarment by the Federal Government.

(c) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is debarred, suspended, or proposed for debarment (see FAR 9.404 for information on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs). The notice must include the following:

(1) The name of the subcontractor.

(2) The Contractor's knowledge of the reasons for the subcontractor being on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(3) The compelling reason(s) for doing business with the subcontractor notwithstanding its inclusion on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(4) The systems and procedures the Contractor has established to ensure that it is fully protecting the Government's interests when dealing with such subcontractor in view of the specific basis for the party's debarment, suspension, or proposed debarment.

(End of clause)

52.214-26 AUDIT AND RECORDS--SEALED BIDDING. (OCT 1997)

(a) As used in this clause, records includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form.

(b) Cost or pricing data. If the Contractor has been required to submit cost or pricing data in connection with the pricing of any modification to this contract, the Contracting Officer, or an authorized representative of the Contracting Officer, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data, shall have the right to examine and audit all of the Contractor's records, including computations and projections, related to--

(1) The proposal for the modification;

(2) The discussions conducted on the proposal(s), including those related to negotiating;

(3) Pricing of the modification; or

(4) Performance of the modification.

(c) Comptroller General. In the case of pricing any modification, the Comptroller General of the United States, or an authorized representative, shall have the same rights as specified in paragraph (b) of this clause.

(d) Availability. The Contractor shall make available at its office at all reasonable times the materials described in reproduction, until 3 years after final payment under this contract, or for any other period specified in Subpart 4.7 of the Federal Acquisition Regulation (FAR). FAR Subpart 4.7, Contractor Records Retention, in effect on the data of this contract, is incorporated by reference in its entirety and made a part of this contract.

(1) If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement.

(2) Records pertaining to appeals under the Disputes clause or to litigation or the settlement of claims arising under or relating to the performance of this contract shall be made available until disposition of such appeals, litigation, or claims.

(e) The Contractor shall insert a clause containing all the provisions of this clause, including this paragraph (e), in all subcontracts expected to exceed the threshold in FAR 15.403-4(a)(1) for submission of cost or pricing data.

(End of clause)

52.214-27 PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA - MODIFICATIONS - SEALED BIDDING. (OCT 1997)

(a) This clause shall become operative only for any modification to this contract involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for the submission of cost or pricing data at FAR 15.403-4(a)(1), except that this clause does not apply to a modification if an exception under FAR 15.403-1(b) applies.

(1) Based on adequate price competition;

(2) Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or

(3) Set by law or regulation.

(b) If any price, including profit, negotiated in connection with any modification under this clause, was increased by any significant amount because

(1) the Contractor or a subcontractor furnished cost or pricing data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data;

(2) a subcontractor or prospective subcontractor furnished the Contractor cost or pricing data that were not complete, accurate, and current as certified in the Contractor's Certificate of Current Cost or Pricing Data; or

(3) any of these parties furnished data of any description that were not accurate, the price shall be reduced accordingly and the contract shall be modified to reflect the reduction. This right to a price reduction is limited to that resulting from defects in data relating to modifications for which this clause becomes operative under paragraph (a) above.

(c) Any reduction in the contract price under paragraph (b) above due to defective data from a prospective subcontractor that was not subsequently awarded the subcontract shall be limited to the amount, plus applicable overhead and profit markup, by which:

(1) the actual subcontract; or

(2) the actual cost to the Contractor, if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor; provided, that the actual subcontract price was not itself affected by defective cost or pricing data.

(d) If the Contracting Officer determines under paragraph (b) of this clause that a price or cost reduction should be made:

(1) the Contractor agrees not to raise the following matters as a defense:

(i) The Contractor or subcontractor was a sole source supplier or otherwise was in a superior bargaining position and thus the price of the contract would not have been modified even if accurate, complete, and current cost or pricing data had been submitted;

(ii) The Contracting Officer should have known that the cost or pricing data in issue were defective even though the Contractor or subcontractor took no affirmative action to bring the character of the data to the attention of the Contracting Officer;

(iii) The contract was based on an agreement about the total cost of the contract and there was no agreement about the cost of each item procured under the contract; or

(iv) The Contractor or subcontractor did not submit a Certificate of Current Cost or Pricing Data.

(2) Except as prohibited by subdivision (d)(2)(ii) of this clause:

(i) an offset in an amount determined appropriate by the Contracting Officer based upon the facts shall be allowed against the amount of a contract price reduction if:

(A) The Contractor certifies to the Contracting Officer that, to the best of the Contractor's knowledge and belief, the Contractor is entitled to the offset in the amount requested; and

(B) The Contractor proves that the cost or pricing data were available before the date of agreement on the price of the contract (or price of the modification) and that the data were not submitted before such date.

(ii) An offset shall not be allowed if:

(A) The understated data was known by the Contractor to be understated when the Certificate of Current Cost or Pricing Data was signed; or (B) The Government proves that the facts demonstrate that the contract price would not have increased in the amount to be offset even if the available data had been submitted before the date of agreement on price.

(e) If any reduction in the contract price under this clause reduces the price of items for which payment was made prior to the date of the modification reflecting the price reduction, the Contractor shall be liable to and shall pay the United States at the time such overpayment is repaid:

(1) Simple interest on the amount of such overpayment to be computed from the date(s) of overpayment to the Contractor to the date the Government is repaid by the Contractor at the applicable underpayment rate effective for each quarter prescribed by the Secretary of the Treasury under 26 U.S.C. 6621(a)(2); and

(2) A penalty equal to the amount of the overpayment, if the Contractor or subcontractor knowingly submitted cost or pricing data which were incomplete, inaccurate, or noncurrent.

(End of clause)

52.214-28 SUBCONTRACTOR COST OR PRICING DATA - MODIFICATIONS - SEALED BIDDING. (OCT 1997)

(a) The requirements of paragraphs (b) and (c) of this clause shall:

(1) become operative only for any modification to this contract involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for submission of cost or pricing data at (FAR) 48 CFR 15.403-4(a)(1); and

(2) be limited to such modifications.

(b) Before awarding any subcontract expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1), on the date of agreement on price or the date of award, whichever is later; or before pricing any subcontract modifications involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1), the Contractor shall require the subcontractor to submit cost or pricing data (actually or by specific identification in writing), unless an exception under FAR 15.403-1(b) applies.

(1) Based on adequate price competition;

(2) Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or

(3) Set by law or regulation.

(c) The Contractor shall require the subcontractor to certify in substantially the form prescribed in subsection 15.406-2 of the Federal Acquisition Regulation that, to the best of its knowledge and belief, the data submitted under paragraph (b) above were accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract modification.

(d) The Contractor shall insert the substance of this clause, including this paragraph (d), in each subcontract that, when entered into, exceeds the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1).

(End of clause)

52.214-29 ORDER OF PRECEDENCE--SEALED BIDDING (JAN 1986)

Any inconsistency in this solicitation or contract shall be resolved by giving precedence in the following order: (a) the Schedule (excluding the specifications); (b) representations and other instructions; (c) contract clauses; (d) other documents, exhibits, and attachments; and (e) the specifications.

(End of clause)

52.216-22 INDEFINITE QUANTITY. (OCT 1995)

(a) This is an indefinite-quantity contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the "maximum". The Government shall order at least the quantity of supplies or services designated in the Schedule as the "minimum".

(c) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

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

(End of clause)

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

(a) The Government may extend the term of this contract by written notice to the Contractor within **10 days**; provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least **60 days** before the contract expires. The preliminary notice does not commit the Government to an extension.

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

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed **five (5) years**.
(End of clause)

52.219-6 NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE (JUN 2003)

(a) Definition.

"Small business concern," as used in this clause, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the size standards in this solicitation.

(b) General. (1) Offers are solicited only from small business concerns. Offers received from concerns that are not small business concerns shall be considered nonresponsive and will be rejected.

(2) Any award resulting from this solicitation will be made to a small business concern.

(c) Agreement. A small business concern submitting an offer in its own name shall furnish, in performing the

contract, only end items manufactured or produced by small business concerns in the United States or its outlying areas. If this procurement is processed under simplified **acquisition** procedures and the total amount of this contract does not exceed $25,000, a small business concern may furnish the product of any domestic firm. This paragraph does not apply to construction or service contracts.

(End of clause)

52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (MAY 2004)

(a) It is the policy of the United States that small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns shall have the maximum practicable opportunity to participate in performing contracts let by any Federal agency, including contracts and subcontracts for subsystems, assemblies, components, and related services for major systems. It is further the policy of the United States that its prime contractors establish procedures to ensure the timely payment of amounts due pursuant to the terms of their subcontracts with small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns.

(b) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with efficient contract performance. The Contractor further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the awarding agency of the United States as may be necessary to determine the extent of the Contractor's compliance with this clause.

Definitions. As used in this contract--

HUBZone small business concern means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern means a small business as defined pursuant to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto.

Small disadvantaged business concern means a small business concern that represents, as part of its offer that--

(1) It has received certification as a small disadvantaged business concern consistent with 13 CFR part 124, subpart B;

(2) No material change in disadvantaged ownership and control has occurred since its certification;

(3) Where the concern is owned by one or more individuals, the net worth of each individual upon whom the certification is based does not exceed $750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(4) It is identified, on the date of its representation, as a certified small disadvantaged business in the database maintained by the Small Business Administration (PRO-Net).

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned small business concern means a small business concern--

(1) That is at least 51 percent owned by one or more women, or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as a small business concern, a veteran-owned small business concern, a service-disabled veteran-owned small business concern, a HUBZone small business concern, a small disadvantaged business concern, or a women-owned small business concern.

(End of clause)

52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN (JAN 2002)--ALTERNATE I (OCT 2001).

(a) This clause does not apply to small business concerns.

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

Commercial item means a product or service that satisfies the definition of commercial item in section 2.101 of the Federal Acquisition Regulation.

Commercial plan means a subcontracting plan (including goals) that covers the offeror's fiscal year and that applies to the entire production of commercial items sold by either the entire company or a portion thereof (e.g., division, plant, or product line).

Individual contract plan means a subcontracting plan that covers the entire contract period (including option periods), applies to a specific contract, and has goals that are based on the offeror's planned subcontracting in support of the specific contract, except that indirect costs incurred for common or joint purposes may be allocated on a prorated basis to the contract.

Master plan means a subcontracting plan that contains all the required elements of an individual contract plan, except goals, and may be incorporated into individual contract plans, provided the master plan has been approved.

Subcontract means any agreement (other than one involving an employer-employee relationship) entered into by a Federal Government prime Contractor or subcontractor calling for supplies or services required for performance of the contract or subcontract.

(c) The apparent low bidder, upon request by the Contracting Officer, shall submit a subcontracting plan, where applicable, that separately addresses subcontracting with small business, veteran-owner small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns. If the bidder is submitting an individual contract plan, the plan must separately address subcontracting with small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns, with a separate part for the basic contract and separate parts for each option (if any). The plan shall be included in and made a part of the resultant contract. The subcontracting plan shall be submitted within the time specified by the Contracting Officer. Failure to submit the subcontracting plan shall make the bidder ineligible for the award of a contract.

(d) The offeror's subcontracting plan shall include the following:

(1) Goals, expressed in terms of percentages of total planned subcontracting dollars, for the use of small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns as subcontractors. The offeror shall include all subcontracts that contribute to contract performance, and may include a proportionate share of products and services that are normally allocated as indirect costs.

(2) A statement of--

(i) Total dollars planned to be subcontracted for an individual contract plan; or the offeror's total projected sales, expressed in dollars, and the total value of projected subcontracts to support the sales for a commercial plan;

(ii) Total dollars planned to be subcontracted to small business concerns;

(iii) Total dollars planned to be subcontracted to veteran-owned small business concerns;

(iv) Total dollars planned to be subcontracted to HUBZone small business concerns;

(v) Total dollars planned to be subcontracted to small disadvantaged business concerns; and

(vi) Total dollars planned to be subcontracted to women-owned small business concerns.

(3) A description of the principal types of supplies and services to be subcontracted, and an identification of the types planned for subcontracting to--

(i) Small business concerns;

(ii) Veteran-owned small business concerns;

(iii) HUBZone small business concerns;

(iv) Small disadvantaged business concerns; and

(v) Women-owned small business concerns.

(4) A description of the method used to develop the subcontracting goals in paragraph (d)(1) of this clause.

(5) A description of the method used to identify potential sources for solicitation purposes (e.g., existing company source lists, the Procurement Marketing and Access Network (PRO-Net) of the Small Business Administration (SBA), veterans service organizations, the National Minority Purchasing Council Vendor Information Service, the Research and Information Division of the Minority Business Development Agency in the Department of Commerce, or small, HUBZone, small disadvantaged, and women-owned small business trade associations). A firm may rely on the information contained in PRO-Net as an accurate representation of a concern's size and ownership characteristics for the purposes of maintaining a small, veteran-owned small, HUBZone small, small disadvantaged, and women-owned small business source list. Use of PRO-Net as its source list does not relieve a firm of its responsibilities (e.g., outreach, assistance, counseling, or publicizing subcontracting opportunities) in this clause.

(6) A statement as to whether or not the offeror in included indirect costs in establishing subcontracting goals, and a description of the method used to determine the proportionate share of indirect costs to be incurred with—

(i) Small business concerns;

(ii) Veteran-owned small business concerns;

(iii) HUBZone small business concerns;

(iv) Small disadvantaged business concerns; and

(v) Women-owned small business concerns.

(7) The name of the individual employed by the offeror who will administer the offeror's subcontracting program, and a description of the duties of the individual.

(8) A description of the efforts the offeror will make to assure that small business, veteran-owned small business, HUBZone small business, small disadvantaged business and women-owned small business concerns have an equitable opportunity to compete for subcontracts.

(9) Assurances that the offeror will include the clause of this contract entitled ``Utilization of Small Business Concerns'' in all subcontracts that offer further subcontracting opportunities, and that the offeror will require all subcontractors (except small business concerns) that receive subcontracts in excess of $500,000 ($1,000,000 for construction of any public facility) to adopt a subcontracting plan that complies with the requirements of this clause.

(10) Assurances that the offeror will--

(i) Cooperate in any studies or surveys as may be required;

(ii) Submit periodic reports so that the Government can determine the extent of compliance by the offeror with the subcontracting plan;

(iii) Submit Standard Form (SF) 294, Subcontracting Report for Individual Contracts, and/or SF 295, Summary Subcontract Report, in accordance with paragraph (j) of this clause. The reports shall provide information on subcontract awards to small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, small disadvantaged business concerns, women-owned small business concerns, and Historically Black Colleges and Universities and Minority Institutions. Reporting shall be in accordance with the instructions on the forms or as provided in agency regulations.

(iv) Ensure that its subcontractors agree to submit SF 294 and SF 295.

(11) A description of the types of records that will be maintained concerning procedures that have been adopted to comply with the requirements and goals in the plan, including establishing source lists; and a description of the offeror's efforts to locate small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns and award subcontracts to them. The records shall include at least the following (on a plant-wide or company-wide basis, unless otherwise indicated)

(i) Source lists (e.g., PRO-Net), guides, and other data that identify small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns.

(ii) Organizations contacted in an attempt to locate sources that are small business, veteran-owned small business, HUBZone small business, small disadvantaged business, or women-owned small business concerns.

(iii) Records on each subcontract solicitation resulting in an award of more than $100,000, indicating--

(A) Whether small business concerns were solicited and, if not, why not;

(B) Whether veteran-owned small business concerns were solicited and, if not, why not;

(C) Whether HUBZone small business concerns were solicited and, if not, why not;

(D) Whether small disadvantaged business concerns were solicited and, if not, why not;

(E) Whether women-owned small business concerns were solicited and, if not, why not; and

(F) If applicable, the reason award was not made to a small business concern.

(iv) Records of any outreach efforts to contact--

(A) Trade associations;

(B) Business development organizations;

(C) Conferences and trade fairs to locate small, HUBZone small, small disadvantaged, and women-owned small business sources; and

(D) Veterans service organizations.

(v) Records of internal guidance and encouragement provided to buyers through--

(A) Workshops, seminars, training, etc.; and

(B) Monitoring performance to evaluate compliance with the program's requirements.

(vi) On a contract-by-contract basis, records to support award data submitted by the offeror to the Government, including the name, address, and business size of each subcontractor. Contractors having commercial plans need not comply with this requirement.

(e) In order to effectively implement this plan to the extent consistent with efficient contract performance, the Contractor shall perform the following functions:

(1) Assist small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns by arranging solicitations, time for the preparation of bids, quantities,

specifications, and delivery schedules so as to facilitate the participation by such concerns. Where the Contractor's lists of potential small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business subcontractors are excessively long, reasonable effort shall be made to give all such small business concerns an opportunity to compete over a period of time.

(2) Provide adequate and timely consideration of the potentialities of small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns in all ``make-or-buy'' decisions.

(3) Counsel and discuss subcontracting opportunities with representatives of small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business firms.

(4) Provide notice to subcontractors concerning penalties and remedies for misrepresentations of business status as small, veteran-owner small business, HUBZone small, small disadvantaged, or women-owned small business for the purpose of obtaining a subcontract that is to be included as part or all of a goal contained in the Contractor's subcontracting plan.

(f) A master plan on a plant or division-wide basis that contains all the elements required by paragraph (d) of this clause, except goals, may be incorporated by reference as a part of the subcontracting plan required of the offeror by this clause; provided--
(1) the master plan has been approved, (2) the offeror ensures that the master plan is updated as necessary and provides copies of the approved master plan, including evidence of its approval, to the Contracting Officer, and (3) goals and any deviations from the master plan deemed necessary by the Contracting Officer to satisfy the requirements of this contract are set forth in the individual subcontracting plan.

(g) A commercial plan is the preferred type of subcontracting plan for contractors furnishing commercial items. The commercial plan shall relate to the offeror's planned subcontracting generally, for both commercial and Government business, rather than solely to the Government contract. Commercial plans are also preferred for subcontractors that provide commercial items under a prime contract, whether or not the prime contractor is supplying a commercial item.

(h) Prior compliance of the offeror with other such subcontracting plans under previous contracts will be considered by the Contracting Officer in determining the responsibility of the offeror for award of the contract.

(i) The failure of the Contractor or subcontractor to comply in good faith with (1) the clause of this contract entitled "Utilization Of Small Business Concerns," or (2) an approved plan required by this clause, shall be a material breach of the contract.

(j) The Contractor shall submit the following reports:

(1) Standard Form 294, Subcontracting Report for Individual Contracts. This report shall be submitted to the Contracting Officer semiannually and at contract completion. The report covers subcontract award data related to this contract. This report is not required for commercial plans.

(2) Standard Form 295, Summary Subcontract Report. This report encompasses all of the contracts with the awarding agency. It must be submitted semi-annually for contracts with the Department of Defense and annually for contracts with civilian agencies. If the reporting activity is covered by a commercial plan, the reporting activity must report annually all subcontract awards under that plan. All reports submitted at the close of each fiscal year (both individual and commercial plans) shall include a breakout, in the Contractor's format, of subcontract awards, in whole dollars, to small disadvantaged business concerns by North American Industry Classification System (NAICS) Industry Subsector. For a commercial plan, the Contractor may obtain from each of its subcontractors a predominant NAICS Industry Subsector and report all awards to that subcontractor under its predominant NAICS Industry Subsector.

(End of clause)

52.219-14 LIMITATIONS ON SUBCONTRACTING (DEC 1996)

(a) This clause does not apply to the unrestricted portion of a partial set-aside.

(b) By submission of an offer and execution of a contract, the Offeror/Contractor agrees that in performance of the contract in the case of a contract for--

(1) Services (except construction). At least 50 percent of the cost of contract performance incurred for personnel shall be expended for employees of the concern.

(2) Supplies (other than procurement from a nonmanufacturer of such supplies). The concern shall perform work for at least 50 percent of the cost of manufacturing the supplies, not including the cost of materials.

(3) General construction. The concern will perform at least 15 percent of the cost of the contract, not including the cost of materials, with its own employees.

(4) Construction by special trade contractors. The concern will perform at least 25 percent of the cost of the contract, not including the cost of materials, with its own employees.

52.219-16 LIQUIDATED DAMAGES-SUBCONTRACTING PLAN (JAN 1999)

(a) Failure to make a good faith effort to comply with the subcontracting plan, as used in this clause, means a willful or intentional failure to perform in accordance with the requirements of the subcontracting plan approved under the clause in this contract entitled "Small Business Subcontracting Plan," or willful or intentional action to frustrate the plan.

(b) Performance shall be measured by applying the percentage goals to the total actual subcontracting dollars or, if a commercial plan is involved, to the pro rata share of actual subcontracting dollars attributable to Government contracts covered by the commercial plan. If, at contract completion or, in the case of a commercial plan, at the close of the fiscal year for which the plan is applicable, the Contractor has failed to meet its subcontracting goals and the Contracting Officer decides in accordance with paragraph (c) of this clause that the Contractor failed to make a good faith effort to comply with its subcontracting plan, established in accordance with the clause in this contract entitled “Small Business Subcontracting Plan,” the Contractor shall pay the Government liquidated damages in an amount stated. The amount of probable damages attributable to the Contractor's failure to comply shall be an amount equal to the actual dollar amount by which the Contractor failed to achieve each subcontract goal.

(c) Before the Contracting Officer makes a final decision that the Contractor has failed to make such good faith effort, the Contracting Officer shall give the Contractor written notice specifying the failure and permitting the Contractor to demonstrate what good faith efforts have been made and to discuss the matter. Failure to respond to the notice may be taken as an admission that no valid explanation exists. If, after consideration of all the pertinent data, the Contracting Officer finds that the Contractor failed to make a good faith effort to comply with the subcontracting plan, the Contracting Officer shall issue a final decision to that effect and require that the Contractor pay the Government liquidated damages as provided in paragraph (b) of this clause.

(d) With respect to commercial plans, the Contracting Officer who approved the plan will perform the functions of the Contracting Officer under this clause on behalf of all agencies with contracts covered by the commercial plan.

(e) The Contractor shall have the right of appeal, under the clause in this contract entitled Disputes, from any final decision of the Contracting Officer.

(f) Liquidated damages shall be in addition to any other remedies that the Government may have.

(End of clause)

52.222-1 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES (FEB 1997)

If the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this contract, the Contractor shall immediately give notice, including all relevant information, to the Contracting Officer.

(End of clause)

52.222-3 CONVICT LABOR (JUN 2003)

(a) Except as provided in paragraph (b) of this clause, the Contractor shall not employ in the performance of this contract any person undergoing a sentence of imprisonment imposed by any court of a State, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, or the U.S. Virgin Islands.

(b) The Contractor is not prohibited from employing persons--

(1) On parole or probation to work at paid employment during the term of their sentence;

(2) Who have been pardoned or who have served their terms; or

(3) Confined for violation of the laws of any of the States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, or the U.S. Virgin Islands who are authorized to work at paid employment in the community under the laws of such jurisdiction, if--

(i) The worker is paid or is in an approved work training program on a voluntary basis;

(ii) Representatives of local union central bodies or similar labor union organizations have been consulted;

(iii) Such paid employment will not result in the displacement of employed workers, or be applied in skills, crafts, or trades in which there is a surplus of available gainful labor in the locality, or impair existing contracts for services;

(iv) The rates of pay and other conditions of employment will not be less than those paid or provided for work of a similar nature in the locality in which the work is being performed; and

(v) The Attorney General of the United States has certified that the work-release laws or **regulations** of the jurisdiction involved are in conformity with the requirements of Executive Order 11755, as amended by Executive Orders 12608 and 12943.

(End of clause)

52.222-4 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION. (SEP 2000)

(a) Overtime requirements. No Contractor or subcontractor employing laborers or mechanics (see Federal Acquisition Regulation 22.300) shall require or permit them to work over 40 hours in any workweek unless they are paid at least 1 and 1/2 times the basic rate of pay for each hour worked over 40 hours.

(b) Violation; liability for unpaid wages; liquidated damages. The responsible Contractor and subcontractor are liable for unpaid wages if they violate the terms in paragraph (a) of this clause. In addition, the Contractor and subcontractor are liable for liquidated damages payable to the Government. The Contracting Officer will assess liquidated damages at the rate of $10 per affected employee for each calendar day on which the employer required or permitted the employee to work in excess of the standard workweek of 40 hours without paying overtime wages required by the Contract Work Hours and Safety Standards Act.

(c) Withholding for unpaid wages and liquidated damages. The Contracting Officer will withhold from payments due under the contract sufficient funds required to satisfy any Contractor or subcontractor liabilities for unpaid wages and liquidated damages. If amounts withheld under the contract are insufficient to satisfy Contractor or subcontractor liabilities, the Contracting Officer will withhold payments from other Federal or Federally assisted contracts held by the same Contractor that are subject to the Contract Work Hours and Safety Standards Act.

(d) Payrolls and basic records.

(1) The Contractor and its subcontractors shall maintain payrolls and basic payroll records for all laborers and mechanics working on the contract during the contract and shall make them available to the Government until 3 years after contract completion. The records shall contain the name and address of each employee, social security number, labor classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. The records need not duplicate those required for construction work by Department of Labor regulations at 29 CFR 5.5(a)(3) implementing the Davis-Bacon Act.

(2) The Contractor and its subcontractors shall allow authorized representatives of the Contracting Officer or the Department of Labor to inspect, copy, or transcribe records maintained under paragraph (d)(1) of this clause. The Contractor or subcontractor also shall allow authorized representatives of the Contracting Officer or Department of Labor to interview employees in the workplace during working hours.

(e) Subcontracts. The Contractor shall insert the provisions set forth in paragraphs (a) through (d) of this clause in subcontracts exceeding $100,000 and require subcontractors to include these provisions in any lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the provisions set forth in paragraphs (a) through (d) of this clause.

(End of clause)

52.222-6 DAVIS-BACON ACT (FEB 1995)

(a) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (d) of this clause; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred

during such period. Such laborers and mechanics shall be paid not less than the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in the clause entitled Apprentices and Trainees. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (b) of this clause) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(b)(1) The Contracting Officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The Contracting Officer shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination.

(ii) The classification is utilized in the area by the construction industry.

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Contracting Officer agree on the classification and wage rate (including the amount designated for fringe benefits, where appropriate), a report of the action taken shall be sent by the Contracting Officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator or an authorized representative will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(3) In the event the Contractor, the laborers or mechanics to be employed in the classification, or their representatives, and the Contracting Officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the Contracting Officer shall refer the questions, including the views of all interested parties and the recommendation of the Contracting Officer, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits, where appropriate) determined pursuant to subparagraphs (b)(2) and (b)(3) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(c) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(d) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(End of clause)

52.222-7 WITHHOLDING OF FUNDS (FEB 1988)

The Contracting Officer shall, upon his or her own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same Prime Contractor, or any other Federally assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same Prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(End of clause)

52.222-8 PAYROLLS AND BASIC RECORDS (FEB 1988)

(a) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of 3 years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under paragraph (d) of the clause entitled Davis-Bacon Act, that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(b)(1) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under paragraph (a) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. The Prime Contractor is responsible for the submission of copies of payrolls by all subcontractors.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify--

(i) That the payroll for the payroll period contains the information required to be maintained under paragraph (a) of this clause and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR Part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph (b)(2) of this clause.

(4) The falsification of any of the certifications in this clause may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

(c) The Contractor or subcontractor shall make the records required under paragraph (a) of this clause available for inspection, copying, or transcription by the Contracting Officer or authorized representatives of the Contracting Officer or the Department of Labor. The Contractor or subcontractor shall permit the Contracting Officer or representatives of the Contracting Officer or the Department of Labor to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit required records or to make them available, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(End of clause)

52.222-9 APPRENTICES AND TRAINEES (FEB 1988)

(a) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of

Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(b) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(c) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(End of clause)

52.222-10 COMPLIANCE WITH COPELAND ACT REQUIREMENTS (FEB 1988)

The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.

(End of clause)

52.222-11 SUBCONTRACTS (LABOR STANDARDS (FEB 1988)

(a) The Contractor or subcontractor shall insert in any subcontracts the clauses entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act-Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Withholding of Funds, Subcontracts (Labor Standards), Contract Termination-Debarment, Disputes Concerning Labor Standards, Compliance with Davis-Bacon and Related Act Regulations, and Certification of Eligibility, and such other clauses as the Contracting Officer may, by appropriate instructions, require, and also a clause requiring subcontractors to include these clauses in any lower tier subcontracts. The Prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with all the contract clauses cited in this paragraph.

(b)(1) Within 14 days after award of the contract, the Contractor shall deliver to the Contracting Officer a completed Statement and Acknowledgment Form (SF 1413) for each subcontract, including the subcontractor's signed and

dated acknowledgment that the clauses set forth in paragraph (a) of this clause have been included in the subcontract.

(2) Within 14 days after the award of any subsequently awarded subcontract the Contractor shall deliver to the Contracting Officer an updated completed SF 1413 for such additional subcontract.

(End of clause)

52.222-12 CONTRACT TERMINATION--DEBARMENT (FEB 1988)

A breach of the contract clauses entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act--Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Subcontracts (Labor Standards), Compliance with Davis-Bacon and Related Act Regulations, or Certification of Eligibility may be grounds for termination of the contract, and for debarment as a Contractor and subcontractor as provided in 29 CFR 5.12.

(End of clause)

52.222-13 COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS (FEB 1988)

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are hereby incorporated by reference in this contract.

(End of clause)

52.222-14 DISPUTES CONCERNING LABOR STANDARDS (FEB 1988)

The United States Department of Labor has set forth in 29 CFR Parts 5, 6, and 7 procedures for resolving disputes concerning labor standards requirements. Such disputes shall be resolved in accordance with those procedures and not the Disputes clause of this contract. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(End of clause)

52.222-15 CERTIFICATION OF ELIGIBILITY (FEB 1988)

(a) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(b) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(e) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(End of clause)

52.222-21 PROHIBITION OF SEGREGATED FACILITIES (FEB 1999)

(a) Segregated facilities, as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(b) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

(End of clause)

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

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	Goals for female participation for each trade
6.2%	**6.9%**

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and

women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --

(1) Name, address, and telephone number of the subcontractor;

(2) Employer's identification number of the subcontractor;

(3) Estimated dollar amount of the subcontract;

(4) Estimated starting and completion dates of the subcontract; and

(5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is **Fort Lewis, Washington, County of Pierce, State of Washington.**

(End of provision)

52.222-26 EQUAL OPPORTUNITY (APR 2002)

(a) Definition. United States, as used in this clause, means the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.

(b) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of $10,000, the Contractor shall comply with paragraphs (b)(1) through (b)(11) of this clause, except for work performed outside the United States by employees who were not recruited within the United States. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. However, it shall not be a violation of this clause for the Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation, in connection with employment opportunities on or near an Indian reservation, as permitted by 41 CFR 60-1.5.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor,

state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(5) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(7) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall also file Standard Form 100 (EEO-1), or any successor form, as prescribed in 41 CFR part 60-1. Unless the Contractor has filed within the 12 months preceding the date of contract award, the Contractor shall, within 30 days after contract award, apply to either the regional Office of Federal Contract Compliance Programs (OFCCP) or the local office of the Equal Employment Opportunity Commission for the necessary forms.

(8) The Contractor shall permit access to its premises, during normal business hours, by the contracting agency or the OFCCP for the purpose of conducting on-site compliance evaluations and complaint investigations. The Contractor shall permit the Government to inspect and copy any books, accounts, records (including computerized records), and other material that may be relevant to the matter under investigation and pertinent to compliance with Executive Order 11246, as amended, and rules and regulations that implement the Executive Order.

(9) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(10) The Contractor shall include the terms and conditions of subparagraphs (b)(1) through (11) of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(11) The Contractor shall take such action with respect to any subcontract or purchase order as the contracting officer may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(c) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR 60-1.1.

(End of clause)

52.222-27 AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION (FEB 1999)

(a) Definitions. "Covered area," as used in this clause, means the geographical area described in the solicitation for this contract.

"Deputy Assistant Secretary," as used in this clause, means Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, or a designee.

"Employer's identification number," as used in this clause, means the Federal Social Security number used on the employer's quarterly federal tax return, U.S. Treasury Department Form 941.

"Minority," as used in this clause, means--

(1) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(2) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands);

(3) Black (all persons having origins in any of the black African racial groups not of Hispanic origin); and

(4) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race).

(b) If the Contractor, or a subcontractor at any tier, subcontracts a portion of the work involving any construction trade, each such subcontract in excess of $10,000 shall include this clause and the Notice containing the goals for minority and female participation stated in the solicitation for this contract.

(c) If the Contractor is participating in a Hometown Plan (41 CFR 60-4) approved by the U.S. Department of Labor in a covered area, either individually or through an association, its affirmative action obligations on all work in the plan area (including goals) shall comply with the plan for those trades that have unions participating in the plan. Contractors must be able to demonstrate participation in, and compliance with, the provisions of the plan. Each Contractor or subcontractor participating in an approved plan is also required to comply with its obligations under the Equal Opportunity clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good-faith performance by other Contractors or subcontractors toward a goal in an approved plan does not excuse any Contractor's or subcontractor's failure to make good-faith efforts to achieve the plan's goals.

(d) The Contractor shall implement the affirmative action procedures in subparagraphs (g)(1) through (16) of this clause. The goals stated in the solicitation for this contract are expressed as percentages of the total hours of employment and training of minority and female utilization that the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for the geographical area where that work is actually performed. The Contractor is expected to make substantially uniform progress toward its goals in each craft.

(e) Neither the terms and conditions of any collective bargaining agreement, nor the failure by a union with which the Contractor has a collective bargaining agreement, to refer minorities or women shall excuse the Contractor's obligations under this clause, Executive Order 11246, as amended, or the regulations thereunder.

(f) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(g) The Contractor shall take affirmative action to ensure equal employment opportunity. The evaluation of the

Contractor's compliance with this clause shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and implement affirmative action steps at least as extensive as the following:

(1) Ensure a working environment free of harassment, intimidation, and coercion at all sites and in all facilities where the Contractor's employees are assigned to work. The Contractor, if possible, will assign two or more women to each construction project. The Contractor shall ensure that foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at these sites or facilities.

(2) Establish and maintain a current list of sources for minority and female recruitment. Provide written notification to minority and female recruitment sources and community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Establish and maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant, referrals of minorities or females from unions, recruitment sources, or community organizations, and the action taken with respect to each individual. If an individual was sent to the union hiring hall for referral and not referred back to the Contractor by the union or, if referred back, not employed by the Contractor, this shall be documented in the file, along with whatever additional actions the Contractor may have taken.

(4) Immediately notify the Deputy Assistant Secretary when the union or unions with which the Contractor has a collective bargaining agreement has not referred back to the Contractor a minority or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area that expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under subparagraph (g)(2) of this clause.

(6) Disseminate the Contractor's equal employment policy by--

(i) Providing notice of the policy to unions and to training, recruitment, and outreach programs, and requesting their cooperation in assisting the Contractor in meeting its contract obligations;

(ii) Including the policy in any policy manual and in collective bargaining agreements;

(iii) Publicizing the policy in the company newspaper, annual report, etc.;

(iv) Reviewing the policy with all management personnel and with all minority and female employees at least once a year; and

(v) Posting the policy on bulletin boards accessible to employees at each location where construction work is performed.

(7) Review, at least annually, the Contractor's equal employment policy and affirmative action obligations with all employees having responsibility for hiring, assignment, layoff, termination, or other employment decisions. Conduct review of this policy with all on-site supervisory personnel before initiating construction work at a job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's equal employment policy externally by including it in any advertising in the news

media, specifically including minority and female news media. Provide written notification to, and discuss this policy with, other Contractors and subcontractors with which the Contractor does or anticipates doing business.

(9) Direct recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than 1 month before the date for acceptance of applications for apprenticeship or training by any recruitment source, send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit minority persons and women. Where reasonable, provide after-school, summer, and vacation employment to minority and female youth both on the site and in other areas of the Contractor's workforce.

(11) Validate all tests and other selection requirements where required under 41 CFR 60-3.

(12) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities. Encourage these employees to seek or to prepare for, through appropriate training, etc., opportunities for promotion.

(13) Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the Contractor's obligations under this contract are being carried out.

(14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user rest rooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

(15) Maintain a record of solicitations for subcontracts for minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's equal employment policy and affirmative action obligations.

(h) The Contractor is encouraged to participate in voluntary associations that may assist in fulfilling one or more of the affirmative action obligations contained in subparagraphs (g)(1) through (16) of this clause. The efforts of a contractor association, joint contractor-union, contractor-community, or similar group of which the contractor is a member and participant may be asserted as fulfilling one or more of its obligations under subparagraphs (g)(1) through (16) of this clause, provided the Contractor--

(1) Actively participates in the group;

(2) Makes every effort to ensure that the group has a positive impact on the employment of minorities and women in the industry;

(3) Ensures that concrete benefits of the program are reflected in the Contractor's minority and female workforce participation;

(4) Makes a good-faith effort to meet its individual goals and timetables; and

(5) Can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

(i) A single goal for minorities and a separate single goal for women shall be established. The Contractor is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may be in violation of Executive Order 11246, as amended, if a particular group is employed in a substantially disparate manner.

(j) The Contractor shall not use goals or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

(k) The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts under Executive Order 11246, as amended.

(l) The Contractor shall carry out such sanctions and penalties for violation of this clause and of the Equal Opportunity clause, including suspension, termination, and cancellation of existing subcontracts, as may be imposed or ordered under Executive Order 11246, as amended, and its implementing regulations, by the OFCCP. Any failure to carry out these sanctions and penalties as ordered shall be a violation of this clause and Executive Order 11246, as amended.

(m) The Contractor in fulfilling its obligations under this clause shall implement affirmative action procedures at least as extensive as those prescribed in paragraph (g) of this clause, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of Executive Order 11246, as amended, the implementing regulations, or this clause, the Deputy Assistant Secretary shall take action as prescribed in 41 CFR 60-4.8.

(n) The Contractor shall designate a responsible official to--

(1) Monitor all employment-related activity to ensure that the Contractor's equal employment policy is being carried out;

(2) Submit reports as may be required by the Government; and

(3) Keep records that shall at least include for each employee the name, address, telephone number, construction trade, union affiliation (if any), employee identification number, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, separate records are not required to be maintained.

Nothing contained herein shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

(End of clause)

52.222-35 EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS (DEC 2001)

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

All employment openings means all positions except executive and top management, those positions that will be filled from within the Contractor's organization, and positions lasting 3 days or less. This term includes full-time employment, temporary employment of more than 3 days duration, and part-time employment.

Executive and top management means any employee--

(1) Whose primary duty consists of the management of the enterprise in which the individual is employed or of a customarily recognized department or subdivision thereof;

(2) Who customarily and regularly directs the work of two or more other employees;

(3) Who has the authority to hire or fire other employees or whose suggestions and recommendations as to the hiring or firing and as to the advancement and promotion or any other change of status of other employees will be given particular weight;

(4) Who customarily and regularly exercises discretionary powers; and

(5) Who does not devote more than 20 percent or, in the case of an employee of a retail or service establishment, who does not devote more than 40 percent of total hours of work in the work week to activities that are not directly and closely related to the performance of the work described in paragraphs (1) through (4) of this definition. This paragraph (5) does not apply in the case of an employee who is in sole charge of an establishment or a physically separated branch establishment, or who owns at least a 20 percent interest in the enterprise in which the individual is employed.

Other eligible veteran means any other veteran who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized.

Positions that will be filled from within the Contractor's organization means employment openings for which the Contractor will give no consideration to persons outside the Contractor's organization (including any affiliates, subsidiaries, and parent companies) and includes any openings the Contractor proposes to fill from regularly established “recall” lists. The exception does not apply to a particular opening once an employer decides to consider applicants outside of its organization.

Qualified special disabled veteran means a special disabled veteran who satisfies the requisite skill, experience, education, and other job-related requirements of the employment position such veteran holds or desires, and who, with or without reasonable accommodation, can perform the essential functions of such position.

Special disabled veteran means--

(1) A veteran who is entitled to compensation (or who but for the receipt of military retired pay would be entitled to compensation) under laws administered by the Department of Veterans Affairs for a disability--

(i) Rated at 30 percent or more; or

(ii) Rated at 10 or 20 percent in the case of a veteran who has been determined under 38 U.S.C. 3106 to have a serious employment handicap (i.e., a significant impairment of the veteran's ability to prepare for, obtain, or retain employment consistent with the veteran's abilities, aptitudes, and interests); or

(2) A person who was discharged or released from active duty because of a service-connected disability.

Veteran of the Vietnam era means a person who--

(1) Served on active duty for a period of more than 180 days and was discharged or released from active duty with other than a dishonorable discharge, if any part of such active duty occurred--

(i) In the Republic of Vietnam between February 28, 1961, and May 7, 1975; or

(ii) Between August 5, 1964, and May 7, 1975, in all other cases; or

(2) Was discharged or released from active duty for a service-connected disability if any part of the active duty was performed--

(i) In the Republic of Vietnam between February 28, 1961, and May 7, 1975; or

(ii) Between August 5, 1964, and May 7, 1975, in all other cases.
(b) General. (1) The Contractor shall not discriminate against the individual because the individual is a special disabled veteran, a veteran of the Vietnam era, or other eligible veteran, regarding any position for which the employee or applicant for employment is qualified. The Contractor shall take affirmative action to employ, advance in employment, and otherwise treat qualified special disabled veterans, veterans of the Vietnam era, and other eligible veterans without discrimination based upon their disability or veterans' status in all employment practices such as--

(i) Recruitment, advertising, and job application procedures;

(ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff and rehiring;

(iii) Rate of pay or any other form of compensation and changes in compensation;

(iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;

(v) Leaves of absence, sick leave, or any other leave;

(vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;

(vii) Selection and financial support for training, including apprenticeship, and on-the-job training under 38 U.S.C. 3687, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(viii) Activities sponsored by the Contractor including social or recreational programs; and

(ix) Any other term, condition, or privilege of employment.

(2) The Contractor shall comply with the rules, regulations, and relevant orders of the Secretary of Labor issued under the Vietnam Era Veterans' Readjustment Assistance Act of 1972 (the Act), as amended (38 U.S.C. 4211 and 4212).

(c) Listing openings. (1) The Contractor shall immediately list all employment openings that exist at the time of the execution of this contract and those which occur during the performance of this contract, including those not generated by this contract, and including those occurring at an establishment of the Contractor other than the one where the contract is being performed, but excluding those of independently operated corporate affiliates, at an appropriate local public employment service office of the State wherein the opening occurs. Listing employment openings with the U.S. Department of Labor's America's Job Bank shall satisfy the requirement to list jobs with the local employment service office.

(2) The Contractor shall make the listing of employment openings with the local employment service office at least concurrently with using any other recruitment source or effort and shall involve the normal obligations of placing a bona fide job order, including accepting referrals of veterans and nonveterans. This listing of employment openings does not require hiring any particular job applicant or hiring from any particular group of job applicants and is not

intended to relieve the Contractor from any requirements of Executive orders or regulations concerning nondiscrimination in employment.

(3) Whenever the Contractor becomes contractually bound to the listing terms of this clause, it shall advise the State public employment agency in each State where it has establishments of the name and location of each hiring location in the State. As long as the Contractor is contractually bound to these terms and has so advised the State agency, it need not advise the State agency of subsequent contracts. The Contractor may advise the State agency when it is no longer bound by this contract clause.

(d) Applicability. This clause does not apply to the listing of employment openings that occur and are filled outside the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, American Samoa, Guam, the Virgin Islands of the United States, and Wake Island.

(e) Postings. (1) The Contractor shall post employment notices in conspicuous places that are available to employees and applicants for employment.

(2) The employment notices shall--

(i) State the rights of applicants and employees as well as the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified employees and applicants who are special disabled veterans, veterans of the Vietnam era, and other eligible veterans; and

(ii) Be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance Programs, Department of Labor (Deputy Assistant Secretary of Labor), and provided by or through the Contracting Officer.

(3) The Contractor shall ensure that applicants or employees who are special disabled veterans are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled veteran, or may lower the posted notice so that it can be read by a person in a wheelchair).

(4) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement, or other contract understanding, that the Contractor is bound by the terms of the Act and is committed to take affirmative action to employ, and advance in employment, qualified special disabled veterans, veterans of the Vietnam era, and other eligible veterans.

(f) Noncompliance. If the Contractor does not comply with the requirements of this clause, the Government may take appropriate actions under the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

(g) Subcontracts. The Contractor shall insert the terms of this clause in all subcontracts or purchase orders of $25,000 or more unless exempted by rules, regulations, or orders of the Secretary of Labor. The Contractor shall act as specified by the Deputy Assistant Secretary of Labor to enforce the terms, including action for noncompliance.

(End of clause)

52.222-36 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES (JUN 1998)

(a) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against any employee or applicant because of physical or mental disability. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified individuals with disabilities without discrimination based upon their physical or mental disability in all employment practices such as--

(i) Recruitment, advertising, and job application procedures;

(ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff, and rehiring;

(iii) Rates of pay or any other form of compensation and changes in compensation;

(iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;

(v) Leaves of absence, sick leave, or any other leave;

(vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;

(vii) Selection and financial support for training, including apprenticeships, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(viii) Activities sponsored by the Contractor, including social or recreational programs; and

(ix) Any other term, condition, or privilege of employment.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Rehabilitation Act of 1973 (29 U.S.C. 793) (the Act), as amended.

(b) Postings. (1) The Contractor agrees to post employment notices stating--

(i) The Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified individuals with disabilities; and

(ii) The rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. The Contractor shall ensure that applicants and employees with disabilities are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled individual, or may lower the posted notice so that it might be read by a person in a wheelchair). The notices shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance of the U.S. Department of Labor (Deputy Assistant Secretary) and shall be provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Act and is committed to take affirmative action to employ, and advance in employment, qualified individuals with physical or mental disabilities.

(c) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(d) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of $10,000 unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of clause)

52.222-37 EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS (DEC 2001)

(a) Unless the Contractor is a State or local government agency, the Contractor shall report at least annually, as required by the Secretary of Labor, on--

(1) The number of disabled veterans and the number of veterans of the Vietnam era in the workforce of the contractor by job category and hiring location; and

(2) The total number of new employees hired during the period covered by the report, and of that total, the number of disabled veterans, and the number of veterans of the Vietnam era.

(b) The above items shall be reported by completing the form entitled "Federal Contractor Veterans' Employment Report VETS-100."

(c) Reports shall be submitted no later than September 30 of each year beginning September 30, 1988.

(d) The employment activity report required by paragraph (a)(2) of this clause shall reflect total hires during the most recent 12-month period as of the ending date selected for the employment profile report required by paragraph (a)(1) of this clause. Contractors may select an ending date: (1) As of the end of any pay period during the period January through March 1st of the year the report is due, or (2) as of December 31, if the contractor has previous written approval from the Equal Employment Opportunity Commission to do so for purposes of submitting the Employer Information Report EEO-1 (Standard Form 100).

(e) The count of veterans reported according to paragraph (a) of this clause shall be based on voluntary disclosure. Each Contractor subject to the reporting requirements at 38 U.S.C. 4212 shall invite all disabled veterans and veterans of the Vietnam era who wish to benefit under the affirmative action program at 38 U.S.C. 4212 to identify themselves to the Contractor. The invitation shall state that the information is voluntarily provided; that the information will be kept confidential; that disclosure or refusal to provide the information will not subject the applicant or employee to any adverse treatment; and that the information will be used only in accordance with the regulations promulgated under 38 U.S.C. 4212.

(f) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of $10,000 or more unless exempted by rules, regulations, or orders of the Secretary.

(End of clause)

52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (JAN 1997)

(a) "Hazardous material", as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material (If none, insert "None")	Identification No.

_____ _____

_____ _____

_____ _____

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to--

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(End of clause)

52.223-5 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (AUG 2003)

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

Priority chemical means a chemical identified by the Interagency Environmental Leadership Workgroup or, alternatively, by an agency pursuant to section 503 of Executive Order 13148 of April 21, 2000, Greening the Government through Leadership in Environmental Management.

“Toxic chemical means a chemical or chemical category listed in 40 CFR 372.65.”

(b) Executive Order 13148 requires Federal facilities to comply with the provisions of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11001-11050) and the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13101-13109).

(c) The Contractor shall provide all information needed by the Federal facility to comply with the following:

(1) The emergency planning reporting requirements of section 302 of EPCRA.

(2) The emergency notice requirements of section 304 of EPCRA.

(3) The list of Material Safety Data Sheets, required by section 311 of EPCRA.

(4) The emergency and hazardous chemical inventory forms of section 312 of EPCRA.

(5) The toxic chemical release inventory of section 313 of EPCRA, which includes the reduction and recycling information required by section 6607 of PPA.

(6) The toxic chemical, priority chemical, and hazardous substance release and use reduction goals of sections 502 and 503 of Executive Order 13148.

(End of clause)

52.223-6 DRUG-FREE WORKPLACE (MAY 2001)

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

"Controlled substance" means a controlled substance in schedules I through V of section 202 of the Controlled Substances Act (21 U.S.C. 812) and as further defined in regulation at 21 CFR 1308.11 - 1308.15.

"Conviction" means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to deter- mine violations of the Federal or State criminal drug statutes.

"Criminal drug statute" means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, possession, or use of any controlled substance.

"Drug-free workplace" means the site(s) for the performance of work done by the Contractor in connection with a specific contract at which employees of the Contractor are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

"Employee" means an employee of a Contractor directly engaged in the performance of work under a Government contract. "Directly engaged" is defined to include all direct cost employees and any other Contractor employee who has other than a minimal impact or involvement in contract performance.

"Individual" means an offeror/contractor that has no more than one employee including the offeror/contractor.

(b) The Contractor, if other than an individual, shall-- within 30 days after award (unless a longer period is agreed to in writing for contracts of 30 days or more performance duration), or as soon as possible for contracts of less than 30 days performance duration--

(1) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;

(2) Establish an ongoing drug-free awareness program to inform such employees about--

(i) The dangers of drug abuse in the workplace;

(ii) The Contractor's policy of maintaining a drug-free workplace;

(iii) Any available drug counseling, rehabilitation, and employee assistance programs; and

(iv) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(3) Provide all employees engaged in performance of the contract with a copy of the statement required by subparagraph (b)(1) of this clause;

(4) Notify such employees in writing in the statement required by subparagraph (b)(1) of this clause that, as a condition of continued employment on this contract, the employee will--

(i) Abide by the terms of the statement; and

(ii) Notify the employer in writing of the employee's conviction under a criminal drug statute for a violation occurring in the workplace no later than 5 days after such conviction.

(5) Notify the Contracting Officer in writing within 10 days after receiving notice under subdivision (b)(4)(ii) of this clause, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the position title of the employee;

(6) Within 30 days after receiving notice under subdivision (b)(4)(ii) of this clause of a conviction, take one of the following actions with respect to any employee who is convicted of a drug abuse violation occurring in the workplace:

(i) Taking appropriate personnel action against such employee, up to and including termination; or

(ii) Require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency; and

(7) Make a good faith effort to maintain a drug-free workplace through implementation of subparagraphs (b)(1) though (b)(6) of this clause.

(c) The Contractor, if an individual, agrees by award of the contract or acceptance of a purchase order, not to engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance while performing this contract.

(d) In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraph (b) or (c) of this clause may, pursuant to FAR 23.506, render the Contractor subject to suspension of contract payments, termination of the contract for default, and suspension or debarment.

(End of clause)

52.223-14 TOXIC CHEMICAL RELEASE REPORTING (AUG 2003)

(a) Unless otherwise exempt, the Contractor, as owner or operator of a facility used in the performance of this contract, shall file by July 1 for the prior calendar year an annual Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023(a) and (g)), and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106). The Contractor shall file, for each facility subject to the Form R filing and reporting requirements, the annual Form R throughout the life of the contract.

(b) A Contractor-owned or -operated facility used in the performance of this contract is exempt from the requirement to file an annual Form R if--

(1) The facility does not manufacture, process, or otherwise use any toxic chemicals listed in 40 CFR 372.65;

(2) The facility does not have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023(b)(1)(A);

(3) The facility does not meet the reporting thresholds of toxic chemicals established under of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

(4) The facility does not fall within the following Standard Industrial Classification (SIC) codes or their corresponding North American Industry Classification System sectors:

(i) Major group code 10 (except 1011, 1081, and 1094.

(ii) Major group code 12 (except 1241).

(iii) Major group codes 20 through 39.

(iv) Industry code 4911, 4931, or 4939 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce).

(v) Industry code 4953 (limited to facilities regulated under the Resource Conservation and Recovery Act, Subtitle C (42 U.S.C. 6921, et seq.)), 5169, 5171, or 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis); or

(5) The facility is not located in the United States or its outlying areas.

(c) If the Contractor has certified to an exemption in accordance with one or more of the criteria in paragraph (b) of this clause, and after award of the contract circumstances change so that any of its owned or operated facilities used in the performance of this contract is no longer exempt--

(1) The Contractor shall notify the Contracting Officer; and

(2) The Contractor, as owner or operator of a facility used in the performance of this contract that is no longer exempt, shall (i) submit a Toxic Chemical Release Inventory Form (Form R) on or before July 1 for the prior calendar year during which the facility becomes eligible; and (ii) continue to file the annual Form R for the life of the contract for such facility.

(d) The Contracting Officer may terminate this contract or take other action as appropriate, if the Contractor fails to comply accurately and fully with the EPCRA and PPA toxic chemical release filing and reporting requirements.

(e) Except for acquisitions of commercial items, as defined in FAR Part 2, the Contractor shall--

(1) For competitive subcontracts expected to exceed $100,000 (including all options), include a solicitation provision substantially the same as the provision at FAR 52.223-13, Certification of Toxic Chemical Release Reporting; and

(2) Include in any resultant subcontract exceeding $100,000 (including all options), the substance of this clause, except this paragraph (e).

(End of clause)

52.225-9 BUY AMERICAN ACT—CONSTRUCTION MATERIALS (JUN 2003)

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

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

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

Cost of components means--

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

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

Domestic construction material means--

(1) An unmanufactured construction material mined or produced in the United States; or

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

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

United States means the 50 States, the District of Columbia, and outlying areas.

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

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

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

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

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

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

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

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

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

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

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

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

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

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

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

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

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

Foreign and Domestic Construction Materials Price Comparison

Construction material description	Unit of measure	Quantity	Price (dollars) \1\
Item 1			
Foreign construction material....	.....	.....	.....
Domestic construction material...	.....	.....	.....
Item 2			
Foreign construction material....	.....	.....	.....
Domestic construction material...	.....	.....	.....

Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).
List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.
Include other applicable supporting information.

(End of clause)

52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (DEC 2003)

(a) Except as authorized by the Office of Foreign Assets Control (OFAC) in the Department of the Treasury, the Contractor shall not acquire, for use in the performance of this contract, any supplies or services if any proclamation, Executive order, or statute administered by OFAC, or if OFAC's implementing regulations at 31 CFR chapter V, would prohibit such a transaction by a person subject to the jurisdiction of the United States.

(b) Except as authorized by OFAC, most transactions involving Cuba, Iran, Libya, and Sudan are prohibited, as are most imports from North Korea, into the United States or its outlying areas. Lists of entities and individuals subject to economic sanctions are included in OFAC's List of Specially Designated Nationals and Blocked Persons at TerList1.html. More information about these restrictions, as well as updates, is available in the OFAC's regulations at 31 CFR chapter V and/or on OFAC's Web site at http://www.treas.gov/ofac.

(c) The Contractor shall insert this clause, including this paragraph (c), in all subcontracts.

(End of clause)

52.227-1 AUTHORIZATION AND CONSENT (JUL 1995)

(a) The Government authorizes and consents to all use and manufacture, in performing this contract or any subcontract at any tier, of any invention described in and covered by a United States patent (1) embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract or (2) used in machinery, tools, or methods whose use necessarily results from compliance by the Contractor or a subcontractor with (i) specifications or written provisions forming a part of this contract or (ii) specific written instructions given by the Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a patent of the United States shall be determined solely by the provisions of the indemnity clause, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted.

(b) The Contractor agrees to include, and require inclusion of, this clause, suitably modified to identify the parties, in all subcontracts at any tier for supplies or services (including construction, architect-engineer services, and materials, supplies, models, samples, and design or testing services expected to exceed the simplified acquisition threshold (however, omission of this clause from any subcontract, including those at or below the simplified acquisition threshold, does not affect this authorization and consent.)

(End of clause)

52.227-4 PATENT INDEMNITY--CONSTRUCTION CONTRACTS (APR 1984)

Except as otherwise provided, the Contractor agrees to indemnify the Government and its officers, agents, and employees against liability, including costs and expenses, for infringement upon any United States patent (except a patent issued upon an application that is now or may hereafter be withheld from issue pursuant to a Secrecy Order under 35 U.S.C. 181) arising out of performing this contract or out of the use or disposal by or for the account of the Government of supplies furnished or work performed under this contract.

(End of clause)

52.228-2 ADDITIONAL BOND SECURITY (OCT 1997)

The Contractor shall promptly furnish additional security required to protect the Government and persons supplying labor or materials under this contract if--

(a) Any surety upon any bond, or issuing financial institution for other security, furnished with this contract becomes unacceptable to the Government.

(b) Any surety fails to furnish reports on its financial condition as required by the Government;

(c) The contract price is increased so that the penal sum of any bond becomes inadequate in the opinion of the Contracting Officer; or

(d) An irrevocable letter of credit (ILC) used as security will expire before the end of the period of required security. If the Contractor does not furnish an acceptable extension or replacement ILC, or other acceptable substitute, at least 30 days before an ILC's scheduled expiration, the Contracting officer has the right to immediately draw on the ILC.

(End of clause)

52.228-11 PLEDGES OF ASSETS (FEB 1992)

(a) Offerors shall obtain from each person acting as an individual surety on a bid guarantee, a performance bond, or a payment bond--

(1) Pledge of assets; and

(2) Standard Form 28, Affidavit of Individual Surety.

(b) Pledges of assets from each person acting as an individual surety shall be in the form of--

(1) Evidence of an escrow account containing cash, certificates of deposit, commercial or Government securities, or other assets described in FAR 28.203-2 (except see 28.203-2(b)(2) with respect to Government securities held in book entry form) and/or;

(2) A recorded lien on real estate. The offeror will be required to provide--

(i) Evidence of title in the form of a certificate of title prepared by a title insurance company approved by the United States Department of Justice. This title evidence must show fee simple title vested in the surety along with any concurrent owners; whether any real estate taxes are due and payable; and any recorded encumbrances against the property, including the lien filed in favor of the Government as required by FAR 28.203-3(d);

(ii) Evidence of the amount due under any encumbrance shown in the evidence of title;

(iii) A copy of the current real estate tax assessment of the property or a current appraisal dated no earlier than 6 months prior to the date of the bond, prepared by a professional appraiser who certifies that the appraisal has been conducted in accordance with the generally accepted appraisal standards as reflected in the Uniform Standards of Professional Appraisal Practice, as promulgated by the Appraisal Foundation.

(End of clause)

52.228-12 PROSPECTIVE SUBCONTRACTOR REQUESTS FOR BONDS. (OCT 1995)

In accordance with Section 806(a)(3) of Pub. L. 102-190, as amended by Sections 2091 and 8105 of Pub. L. 103-355, upon the request of a prospective subcontractor or supplier offering to furnish labor or material for the performance of this contract for which a payment bond has been furnished to the Government pursuant to the Miller Act, the Contractor shall promptly provide a copy of such payment bond to the requester.

(End of clause)

52.228-14 IRREVOCABLE LETTER OF CREDIT (DEC 1999)

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

the offeror/Contractor can revoke or condition the letter of credit.

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

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

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

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

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

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

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

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

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

(A) 90 days following final payment; or

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

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

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

_____

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

Issue Date _____

IRREVOCABLE LETTER OF CREDIT NO. _____

Account party's name _____

Account party's address _____

For Solicitation No. _____(for reference only)

TO: [U.S. Government agency]

[U.S. Government agency's address]

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

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

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

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

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

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

Sincerely,

_____

[Issuing financial institution]

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

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

(Date) _____

Our Letter of Credit Advice Number _____

Beneficiary: _____ [U.S. Government agency]

Issuing Financial Institution: _____

Issuing Financial Institution's LC No.: _____

Gentlemen:

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

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

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

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

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

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

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

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

Sincerely,

_____

[Confirming financial institution]

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

SIGHT DRAFT

_____

[City, State]

(Date) _____

[Name and address of financial institution]

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

_____

[Beneficiary Agency]

By: _____

(End of clause)

52.228-15 PERFORMANCE AND PAYMENT BONDS--CONSTRUCTION (JUL 2000)-

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

Original contract price means the award price of the contract; or, for requirements contracts, the price payable for the estimated total quantity; or, for indefinite-quantity contracts, the price payable for the specified minimum quantity. Original contract price does not include the price of any options, except those options exercised at the time of contract award.

(b) Amount of required bonds. Unless the resulting contract price is $100,000 or less, the successful offeror shall furnish performance and payment bonds to the Contracting Officer as follows:

(1) Performance bonds (Standard Form 25). The penal amount of performance bonds at the time of contract award shall be 100 percent of the original contract price.

(2) Payment Bonds (Standard Form 25-A). The penal amount of payment bonds at the time of contract award shall be 100 percent of the original contract price.

(3) Additional bond protection. (i) The Government may require additional performance and payment bond protection if the contract price is increased. The increase in protection generally will equal 100 percent of the increase in contract price.

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

(c) Furnishing executed bonds. The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within the time period specified in the Bid Guarantee provision of the solicitation, or otherwise specified by the Contracting Officer, but in any event, before starting work.

(d) Surety or other security for bonds. The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, individual sureties, or by other acceptable security such as postal money order, certified check, cashier's check, irrevocable letter of credit, or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the Federal Register or may be obtained from the U.S. Department of Treasury, Financial Management Service, Surety Bond Branch, 401 14th Street, NW, 2nd Floor, West Wing, Washington, DC 20227.

(e) Notice of subcontractor waiver of protection (40 U.S.C. 270b(c). Any waiver of the right to sue on the payment bond is void unless it is in writing, signed by the person whose right is waived, and executed after such person has first furnished labor or material for use in the performance of the contract.

(End of clause)

52.229-3 FEDERAL, STATE, AND LOCAL TAXES (APR 2003)

(a) As used in this clause--

"Contract date" means the date set for bid opening or, if this is a negotiated contract or a modification, the effective date of this contract or modification.

"All applicable Federal, State, and local taxes and duties" means all taxes and duties, in effect on the contract date, that the taxing authority is imposing and collecting on the transactions or property covered by this contract.

"After-imposed Federal tax" means any new or increased Federal excise tax or duty, or tax that was exempted or excluded on the contract date but whose exemption was later revoked or reduced during the contract period, on the transactions or property covered by this contract that the Contractor is required to pay or bear as the result of legislative, judicial, or administrative action taking effect after the contract date. It does not include social security tax or other employment taxes.

"After-relieved Federal tax" means any amount of Federal excise tax or duty, except social security or other employment taxes, that would otherwise have been payable on the transactions or property covered by this contract, but which the Contractor is not required to pay or bear, or for which the Contractor obtains a refund or drawback, as the result of legislative, judicial, or administrative action taking effect after the contract date.

Local taxes includes taxes imposed by a possession or territory of the United States, Puerto Rico, or the Northern Mariana Islands, if the contract is performed wholly or partly in any of those areas.

(b) The contract price includes all applicable Federal, State, and local taxes and duties.

(c) The contract price shall be increased by the amount of any after-imposed Federal tax, provided the Contractor warrants in writing that no amount for such newly imposed Federal excise tax or duty or rate increase was included in the contract price, as a contingency reserve or otherwise.

(d) The contract price shall be decreased by the amount of any after-relieved Federal tax.

(e) The contract price shall be decreased by the amount of any Federal excise tax or duty, except social security or other employment taxes, that the Contractor is required to pay or bear, or does not obtain a refund of, through the Contractor's fault, negligence, or failure to follow instructions of the Contracting Officer.

(f) No adjustment shall be made in the contract price under this clause unless the amount of the adjustment exceeds $250.

(g) The Contractor shall promptly notify the Contracting Officer of all matters relating to any Federal excise tax or duty that reasonably may be expected to result in either an increase or decrease in the contract price and shall take appropriate action as the Contracting Officer directs.

(h) The Government shall, without liability, furnish evidence appropriate to establish exemption from any Federal,

State, or local tax when the Contractor requests such evidence and a reasonable basis exists to sustain the exemption.

(End of clause)

52.232-5 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS (SEP 2002)

(a) Payment of price. The Government shall pay the Contractor the contract price as provided in this contract.

(b) Progress payments. The Government shall make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer.

(1) The Contractor's request for progress payments shall include the following substantiation:

(i) An itemization of the amounts requested, related to the various elements of work required by the contract covered by the payment requested.

(ii) A listing of the amount included for work performed by each subcontractor under the contract.

(iii) A listing of the total amount of each subcontract under the contract.

(iv) A listing of the amounts previously paid to each such subcontractor under the contract.

(v) Additional supporting data in a form and detail required by the Contracting Officer.

(2) In the preparation of estimates, the Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site also may be taken into consideration if--

(i) Consideration is specifically authorized by this contract; and

(ii) The Contractor furnishes satisfactory evidence that it has acquired title to such material and that the material will be used to perform this contract.

(c) Contractor certification. Along with each request for progress payments, the Contractor shall furnish the following certification, or payment shall not be made: (However, if the Contractor elects to delete paragraph (c)(4) from the certification, the certification is still acceptable.)

I hereby certify, to the best of my knowledge and belief, that--

(1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;

(2) All payments due to subcontractors and suppliers from previous payments received under the contract have been made, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of chapter 39 of Title 31, United States Code;

(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract; and

(4) This certification is not to be construed as final acceptance of a subcontractor's performance.

_____

(Name)

_____

(Title)

_____

(Date)

(d) Refund of unearned amounts. If the Contractor, after making a certified request for progress payments, discovers that a portion or all of such request constitutes a payment for performance by the Contractor that fails to conform to the specifications, terms, and conditions of this contract (hereinafter referred to as the "unearned amount"), the Contractor shall--

(1) Notify the Contracting Officer of such performance deficiency; and

(2) Be obligated to pay the Government an amount (computed by the Contracting Officer in the manner provided in paragraph (j) of this clause) equal to interest on the unearned amount from the 8th day after the date of receipt of the unearned amount until--

(i) The date the Contractor notifies the Contracting Officer that the performance deficiency has been corrected; or

(ii) The date the Contractor reduces the amount of any subsequent certified request for progress payments by an amount equal to the unearned amount.

(e) Retainage. If the Contracting Officer finds that satisfactory progress was achieved during any period for which a progress payment is to be made, the Contracting Officer shall authorize payment to be made in full. However, if satisfactory progress has not been made, the Contracting Officer may retain a maximum of 10 percent of the amount of the payment until satisfactory progress is achieved. When the work is substantially complete, the Contracting Officer may retain from previously withheld funds and future progress payments that amount the Contracting Officer considers adequate for protection of the Government and shall release to the Contractor all the remaining withheld funds. Also, on completion and acceptance of each separate building, public work, or other division of the contract, for which the price is stated separately in the contract, payment shall be made for the completed work without retention of a percentage.

(f) Title, liability, and reservation of rights. All material and work covered by progress payments made shall, at the time of payment, become the sole property of the Government, but this shall not be construed as--

(1) Relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or

(2) Waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(g) Reimbursement for bond premiums. In making these progress payments, the Government shall, upon request, reimburse the Contractor for the amount of premiums paid for performance and payment bonds (including coinsurance and reinsurance agreements, when applicable) after the Contractor has furnished evidence of full payment to the surety. The retainage provisions in paragraph (e) of this clause shall not apply to that portion of progress payments attributable to bond premiums.

(h) Final payment. The Government shall pay the amount due the Contractor under this contract after--

(1) Completion and acceptance of all work;

(2) Presentation of a properly executed voucher; and

(3) Presentation of release of all claims against
the Government arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned under the Assignment of Claims Act of 1940 (31 U.S.C. 3727 and 41 U.S.C. 15).

(i) Limitation because of undefinitized work. Notwithstanding any provision of this contract, progress payments shall not exceed 80 percent on work accomplished on undefinitized contract actions. A "contract action" is any action resulting in a contract, as defined in FAR Subpart 2.1, including contract modifications for additional supplies or services, but not including contract modifications that are within the scope and under the terms of the contract, such as contract modifications issued pursuant to the Changes clause, or funding and other administrative changes.

(j) Interest computation on unearned amounts. In accordance with 31 U.S.C. 3903(c)(1), the amount payable under subparagraph (d)(2) of this clause shall be--

(1) Computed at the rate of average bond equivalent rates of 91-day Treasury bills auctioned at the most recent auction of such bills prior to the date the Contractor receives the unearned amount; and

(2) Deducted from the next available payment to the Contractor.

(End of clause)

52.232-16 PROGRESS PAYMENTS (APR 2003) ALTERNATE I (MAR 2000)

The Government will make progress payments to the Contractor when requested as work progresses, but not more frequently than monthly, in amounts of $2,500 or more approved by the Contracting Officer, under the following conditions:

(a) Computation of amounts. (1) Unless the Contractor requests a smaller amount, the Government will compute each progress payment as 80 percent of the Contractor's total costs incurred under this contract whether or not actually paid, plus financing payments to subcontractors (see paragraph (j) of this clause), less the sum of all previous progress payments made by the Government under this contract. The Contracting Officer will consider cost of money that would be allowable under FAR 31.205-10 as an incurred cost for progress payment purposes.

(2) The amount of financing and other payments for supplies and services purchased directly for the contract are limited to the amounts that have been paid by cash, check, or other forms of payment, or that are determined due and will be paid to subcontractors--

(i) In accordance with the terms and conditions of a subcontract or invoice; and

(ii) Ordinarily within 30 days of the submission of the Contractor's payment request to the Government.

(3) The Government will exclude accrued costs of Contractor contributions under employee pension plans until actually paid unless--

(i) The Contractor's practice is to make contributions to the retirement fund quarterly or more frequently; and

(ii) The contribution does not remain unpaid 30 days after the end of the applicable quarter or shorter payment period (any contribution remaining unpaid shall be excluded from the Contractor's total costs for progress payments until paid).

(4) The Contractor shall not include the following in total costs for progress payment purposes in paragraph (a)(1) of this clause:

(i) Costs that are not reasonable, allocable to this contract, and consistent with sound and generally accepted accounting principles and practices.

(ii) Costs incurred by subcontractors or suppliers.

(iii) Costs ordinarily capitalized and subject to depreciation or amortization except for the properly depreciated or amortized portion of such costs.

(iv) Payments made or amounts payable to subcontractors or suppliers, except for --

(A) completed work, including partial deliveries, to which the Contractor has acquired title; and

(B) Work under cost-reimbursement or time-and-material subcontracts to which the Contractor has acquired title.

(5) The amount of unliquidated progress payments may exceed neither

(i) the progress payments made against incomplete work (including allowable unliquidated progress payments to subcontractors) nor

(ii) the value, for progress payment purposes, of the incomplete work. Incomplete work shall be considered to be the supplies and services required by this contract, for which delivery and invoicing by the Contractor and acceptance by the Government are incomplete.

(6) The total amount of progress payments shall not exceed 80 percent of the total contract price.

(7) If a progress payment or the unliquidated progress payments exceed the amounts permitted by subparagraphs (a)(4) or (a)(5) above, the Contractor shall repay the amount of such excess to the Government on demand.

(8) Notwithstanding any other terms of the contract, the Contractor agrees not to request progress payments in dollar amounts of less than $2,500. The Contracting Officer may make exceptions.

(b) Liquidation. Except as provided in the Termination for Convenience of the Government clause, all progress payments shall be liquidated by deducting from any payment under this contract, other than advance or progress payments, the unliquidated progress payments, or 80 percent of the amount invoiced, whichever is less. The Contractor shall repay to the Government any amounts required by a retroactive price reduction, after computing liquidations and payments on past invoices at the reduced prices and adjusting the unliquidated progress payments accordingly. The Government reserves the right to unilaterally change from the ordinary liquidation rate to an alternate rate when deemed appropriate for proper contract financing.

(c) Reduction or suspension. The Contracting Officer may reduce or suspend progress payments, increase the rate of liquidation, or take a combination of these actions, after finding on substantial evidence any of the following conditions:

(1) The Contractor failed to comply with any material requirement of this contract (which includes paragraphs (f) and

(g) below).

(2) Performance of this contract is endangered by the Contractor's

(i) Failure to make progress or

(ii) Unsatisfactory financial condition.

(3) Inventory allocated to this contract substantially exceeds reasonable requirements.

(4) The Contractor is delinquent in payment of the costs of performing this contract in the ordinary course of business.

(5) The unliquidated progress payments exceed the fair value of the work accomplished on the undelivered portion of this contract.

(6) The Contractor is realizing less profit than that reflected in the establishment of any alternate liquidation rate in paragraph (b) above, and that rate is less than the progress payment rate stated in subparagraph (a)(1) above.

(d) Title.

(1) Title to the property described in this paragraph (d) shall vest in the Government. Vestiture shall be immediately upon the date of this contract, for property acquired or produced before that date. Otherwise, vestiture shall occur when the property is or should have been allocable or properly chargeable to this contract.

(2) "Property," as used in this clause, includes all of the below-described items acquired or produced by the Contractor that are or should be allocable or properly chargeable to this contract under sound and generally accepted accounting principles and practices.

(i) Parts, materials, inventories, and work in process;

(ii) Special tooling and special test equipment to which the Government is to acquire title under any other clause of this contract;

(iii) Nondurable (i.e., noncapital) tools, jigs, dies, fixtures, molds, patterns, taps, gauges, test equipment, and other similar manufacturing aids, title to which would not be obtained as special tooling under subparagraph (ii) above; and

(iv) Drawings and technical data, to the extent the Contractor or subcontractors are required to deliver them to the Government by other clauses of this contract.

(3) Although title to property is in the Government under this clause, other applicable clauses of this contract; e.g., the termination or special tooling clauses, shall determine the handling and disposition of the property.

(4) The Contractor may sell any scrap resulting from production under this contract without requesting the Contracting Officer's approval, but the proceeds shall be credited against the costs of performance.

(5) To acquire for its own use or dispose of property to which title is vested in the Government under this clause, the Contractor must obtain the Contracting Officer's advance approval of the action and the terms. The Contractor shall (i) exclude the allocable costs of the property from the costs of contract performance, and (ii) repay to the Government any amount of unliquidated progress payments allocable to the property. Repayment may be by cash or credit memorandum.

(6) When the Contractor completes all of the obligations under this contract, including liquidation of all progress

payments, title shall vest in the Contractor for all property (or the proceeds thereof) not--

(i) Delivered to, and accepted by, the Government under this contract; or

(ii) Incorporated in supplies delivered to, and accepted by, the Government under this contract and to which title is vested in the Government under this clause.

(7) The terms of this contract concerning liability for Government-furnished property shall not apply to property to which the Government acquired title solely under this clause.

(e) Risk of loss. Before delivery to and acceptance by the Government, the Contractor shall bear the risk of loss for property, the title to which vests in the Government under this clause, except to the extent the Government expressly assumes the risk. The Contractor shall repay the Government an amount equal to the unliquidated progress payments that are based on costs allocable to property that is damaged, lost, stolen, or destroyed.

(f) Control of costs and property. The Contractor shall maintain an accounting system and controls adequate for the proper administration of this clause.

(g) Reports and access to records. The Contractor shall promptly furnish reports, certificates, financial statements, and other pertinent information reasonably requested by the Contracting Officer for the administration of this clause. Also, the Contractor shall give the Government reasonable opportunity to examine and verify the Contractor's books, records, and accounts.

(h) Special terms regarding default. If this contract is terminated under the Default clause, (i) the Contractor shall, on demand, repay to the Government the amount of unliquidated progress payments and (ii) title shall vest in the Contractor, on full liquidation of progress payments, for all property for which the Government elects not to require delivery under the Default clause. The Government shall be liable for no payment except as provided by the Default clause.

(i) Reservations of rights.

(1) No payment or vesting of title under this clause shall -

(i) excuse the Contractor from performance of obligations under this contract or (ii) constitute a waiver of any of the rights or remedies of the parties under the contract.

(2) The Government's rights and remedies under this clause

(i) shall not be exclusive but rather shall be in addition to any other rights and remedies provided by law or this contract and

(ii) shall not be affected by delayed, partial, or omitted exercise of any right, remedy, power, or privilege, nor shall such exercise or any single exercise preclude or impair any further exercise under this clause or the exercise of any other right, power, or privilege of the Government.

(j) Financing payments to subcontractors. The financing payments to subcontractors mentioned in paragraphs (a)(1) and (a)(2) of this clause shall be all financing payments to subcontractors or divisions, if the following conditions are met:

(1) The amounts included are limited to--

(i) The unliquidated remainder of financing payments made; plus

(ii) Any unpaid subcontractor requests for financing payments.

(2) The subcontract or interdivisional order is expected to involve a minimum of approximately 6 months between the beginning of work and the first delivery; or, if the subcontractor is a small business concern, 4 months.

(3) If the financing payments are in the form of progress payments, the terms of the subcontract or interdivisional order concerning progress payments--

(i) Are substantially similar to the terms of this clause for any subcontractor that is a large business concern, or this clause with its Alternate I for any subcontractor that is a small business concern;

(ii) Are at least as favorable to the Government as the terms of this clause;

(iii) Are not more favorable to the subcontractor or division than the terms of this clause are to the Contractor;

(iv) Are in conformance with the requirements of FAR 32.504(e); and

(v) Subordinate all subcontractor rights concerning property to which the Government has title under the subcontract to the Government's right to require delivery of the property to the Government if--

(A) The Contractor defaults; or

(B) The subcontractor becomes bankrupt or insolvent.

(4) If the financing payments are in the form of performance-based payments, the terms of the subcontract or interdivisional order concerning payments--

(i) Are substantially similar to the Performance-Based Payments clause at FAR 52.232-32 and meet the criteria for, and definition of, performance-based payments in FAR Part 32;

(ii) Are in conformance with the requirements of FAR 32.504(f); and

(iii) Subordinate all subcontractor rights concerning property to which the Government has title under the subcontract to the Government's right to require delivery of the property to the Government if--

(A) The Contractor defaults; or

(B) The subcontractor becomes bankrupt or insolvent.

(5) If the financing payments are in the form of commercial item financing payments, the terms of the subcontract or interdivisional order concerning payments--

(i) Are constructed in accordance with FAR 32.206(c) and included in a subcontract for a commercial item purchase that meets the definition and standards for acquisition of commercial items in FAR Parts 2 and 12;

(ii) Are in conformance with the requirements of FAR 32.504(g); and

(iii) Subordinate all subcontractor rights concerning property to which the Government has title under the subcontract to the Government's right to require delivery of the property to the Government if--

(A) The Contractor defaults; or

(B) The subcontractor becomes bankrupt or insolvent.

(6) If financing is in the form of progress payments, the progress payment rate in the subcontract is the customary rate used by the contracting agency, depending on whether the subcontractor is or is not a small business concern.

(7) Concerning any proceeds received by the Government for property to which title has vested in the Government under the subcontract terms, the parties agree that the proceeds shall be applied to reducing any unliquidated financing payments by the Government to the Contractor under this contract.

(8) If no unliquidated financing payments to the Contractor remain, but there are unliquidated financing payments that the Contractor has made to any subcontractor, the Contractor shall be subrogated to all the rights the Government obtained through the terms required by this clause to be in any subcontract, as if all such rights had been assigned and transferred to the Contractor.

(9) To facilitate small business participation in subcontracting under this contract, the Contractor shall provide financing payments to small business concerns, in conformity with the standards for customary contract financing payments stated in FAR 32.113. The Contractor shall not consider the need for such financing payments as a handicap or adverse factor in the award of subcontracts.

(k) Limitations on undefinitized contract actions. Notwithstanding any other progress payment provisions in this contract, progress payments may not exceed 80 percent of costs incurred on work accomplished under undefinitized contract actions. A "contract action" is any action resulting in a contract, as defined in Subpart 2.1, including contract modifications for additional supplies or services, but not including contract modifications that are within the scope and under the terms of the contract, such as contract modifications issued pursuant to the Changes clause, or funding and other administrative changes. This limitation shall apply to the costs incurred, as computed in accordance with paragraph (a) of this clause, and shall remain in effect until the contract action is definitized. Costs incurred which are subject to this limitation shall be segregated on Contractor progress payment requests and invoices from those costs eligible for higher progress payment rates. For purposes of progress payment liquidation, as described in paragraph (b) of this clause, progress payments for undefinitized contract actions shall be liquidated at 80 percent of the amount invoiced for work performed under the undefinitized contract action as long as the contract action remains undefinitized. The amount of unliquidated progress payments for undefinitized contract actions shall not exceed 80 percent of the maximum liability of the Government under the undefinitized contract action or such lower limit specified elsewhere in the contract. Separate limits may be specified for separate actions.

(l) Due date. The designated payment office will make progress payments on the fourteenth day after the designated billing office receives a proper progress payment request. In the event that the Government requires an audit or other review of a specific progress payment request to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the specified due date. Progress payments are considered contract financing and are not subject to the interest penalty provisions of the Prompt Payment Act.

(m) Progress payments under indefinite--delivery contracts. The Contractor shall account for and submit progress payment requests under individual orders as if the order constituted a separate contract, unless otherwise specified in this contract.

(End of clause)

52.232-17 INTEREST (JUNE 1996)

(a) Except as otherwise provided in this contract under a Price Reduction for Defective Cost or Pricing Data clause or a Cost Accounting Standards clause, all amounts that become payable by the Contractor to the Government under this contract (net of any applicable tax credit under the Internal Revenue Code (26 U.S.C. 1481)) shall bear simple

interest from the date due until paid unless paid within 30 days of becoming due. The interest rate shall be the interest rate established by the Secretary of the Treasury as provided in Section 12 of the Contract Disputes Act of 1978 (Public Law 95-563), which is applicable to the period in which the amount becomes due, as provided in paragraph (b) of this clause, and then at the rate applicable for each six-month period as fixed by the Secretary until the amount is paid. reproduce, prepare derivative works, distribute copies to the public, and (b) Amounts shall be due at the earliest of the following dates:

(1) The date fixed under this contract.

(2) The date of the first written demand for payment consistent with this contract, including any demand resulting from a default termination.

(3) The date the Government transmits to the Contractor a proposed supplemental agreement to confirm completed negotiations establishing the amount of debt.

(4) If this contract provides for revision of prices, the date of written notice to the Contractor stating the amount of refund payable in connection with a pricing proposal or a negotiated pricing agreement not confirmed by contract modification.

(c) The interest charge made under this clause may be reduced under the procedures prescribed in 32.614-2 of the Federal Acquisition Regulation in effect on the date of this contract.

(End of clause)

52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986)

(a) The Contractor, under the Assignment of Claims Act, as amended, 31 U.S.C. 3727, 41 U.S.C. 15 (hereafter referred to as "the Act"), may assign its rights to be paid amounts due or to become due as a result of the performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency. The assignee under such an assignment may thereafter further assign or reassign its right under the original assignment to any type of financing institution described in the preceding sentence.

(b) Any assignment or reassignment authorized under the Act and this clause shall cover all unpaid amounts payable under this contract, and shall not be made to more than one party, except that an assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in the financing of this contract.

(c) The Contractor shall not furnish or disclose to any assignee under this contract any classified document (including this contract) or information related to work under this contract until the Contracting Officer authorizes such action in writing.

(End of clause)

52.232-27 PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS (OCT 2003)

Notwithstanding any other payment terms in this contract, the Government will make invoice payments under the terms and conditions specified in this clause. The Government considers payment as being made on the day a check is dated or the date of an electronic funds transfer. Definitions of pertinent terms are set forth in sections 2.101, 32.001, and 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless

otherwise specified. (However, see paragraph (a)(3) concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments--(1) Types of invoice payments. For purposes of this clause, there are several types of invoice payments that may occur under this contract, as follows:

(i) Progress payments, if provided for elsewhere in this contract, based on Contracting Officer approval of the estimated amount and value of work or services performed, including payments for reaching milestones in any project.

(A) The due date for making such payments is 14 days after the designated billing office receives a proper payment request. If the designated billing office fails to annotate the payment request with the actual date of receipt at the time of receipt, the payment due date is the 14th day after the date of the Contractor's payment request, provided the designated billing office receives a proper payment request and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(B) The due date for payment of any amounts retained by the Contracting Officer in accordance with the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts, is as specified in the contract or, if not specified, 30 days after approval by the Contracting Officer for release to the Contractor.

(ii) Final payments based on completion and acceptance of all work and presentation of release of all claims against the Government arising by virtue of the contract, and payments for partial deliveries that have been accepted by the Government (e.g., each separate building, public work, or other division of the contract for which the price is stated separately in the contract).

(A) The due date for making such payments is the later of the following two events:

(1) The 30th day after the designated billing office receives a proper invoice from the Contractor.

(2) The 30th day after Government acceptance of the work or services completed by the Contractor. For a final invoice when the payment amount is subject to contract settlement actions (e.g., release of claims), acceptance is deemed to occur on the effective date of the contract settlement.

(B) If the designated billing office fails to annotate the invoice with the date of actual receipt at the time of receipt, the invoice payment due date is the 30th day after the date of the Contractor's invoice, provided the designated billing office receives a proper invoice and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(2) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in paragraphs (a)(2)(i) through (a)(2)(xi) of this clause. If the invoice does not comply with these requirements, the designated billing office must return it within 7 days after receipt, with the reasons why it is not a proper invoice. When computing any interest penalty owed the Contractor, the Government will take into account if the Government notifies the Contractor of an improper invoice in an untimely manner.

(i) Name and address of the Contractor.

(ii) Invoice date and invoice number. (The Contractor should date invoices as close as possible to the date of mailing or transmission.)

(iii) Contract number or other authorization for work or services performed (including order number and contract line item number).

(iv) Description of work or services performed.

(v) Delivery and payment terms (e.g., discount for prompt payment terms).

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to notify in the event of a defective invoice.

(viii) For payments described in paragraph (a)(1)(i) of this clause, substantiation of the amounts requested and certification in accordance with the requirements of the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts.

(ix) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.

(x) Electronic funds transfer (EFT) banking information.

(A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

(B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision (e.g., 52.232-38, Submission of Electronic Funds Transfer Information with Offer), contract clause (e.g., 52.232-33, Payment by Electronic Funds Transfer--Central Contractor Registration, or 52.232-34, Payment by Electronic Funds Transfer--Other Than Central Contractor Registration), or applicable agency procedures.

(C) EFT banking information is not required if the Government waived the requirement to pay by EFT.

(xi) Any other information or documentation required by the contract.

(3) Interest penalty. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if payment is not made by the due date and the conditions listed in paragraphs (a)(3)(i) through (a)(3)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday, the designated payment office may make payment on the following working day without incurring a late payment interest penalty.

(i) The designated billing office received a proper invoice.

(ii) The Government processed a receiving report or other Government documentation authorizing payment and there was no disagreement over quantity, quality, Contractor compliance with any contract term or condition, or requested progress payment amount.

(iii) In the case of a final invoice for any balance of funds due the Contractor for work or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(4) Computing penalty amount. The Government will compute the interest penalty in accordance with the Office of Management and Budget prompt payment regulations at 5 CFR part 1315.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor for payments described in paragraph (a)(1)(ii) of this clause, Government acceptance or approval is deemed to occur constructively on the 7th day after the Contractor has completed the work or services in accordance with the terms and conditions of the contract. If actual acceptance or approval occurs within the constructive acceptance or approval period, the

Government will base the determination of an interest penalty on the actual date of acceptance or approval. Constructive acceptance or constructive approval requirements do not apply if there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. These requirements also do not compel Government officials to accept work or services, approve Contractor estimates, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The prompt payment regulations at 5 CFR 1315.10(c) do not require the Government to pay interest penalties if payment delays are due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance, or on amounts temporarily withheld or retained in accordance with the terms of the contract. The Government and the Contractor shall resolve claims involving disputes, and any interest that may be payable in accordance with the clause at FAR 52.233-1, Disputes.

(5) Discounts for prompt payment. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if the Government takes a discount for prompt payment improperly. The Government will calculate the interest penalty in accordance with the prompt payment regulations at 5 CFR part 1315.

(6) Additional interest penalty. (i) The designated payment office will pay a penalty amount, calculated in accordance with the prompt payment regulations at 5 CFR part 1315 in addition to the interest penalty amount only if--

(A) The Government owes an interest penalty of $1 or more;

(B) The designated payment office does not pay the interest penalty within 10 days after the date the invoice amount is paid; and

(C) The Contractor makes a written demand to the designated payment office for additional penalty payment, in accordance with paragraph (a)(6)(ii) of this clause, postmarked not later than 40 days after the date the invoice amount is paid.

(ii)(A) The Contractor shall support written demands for additional penalty payments with the following data. The Government will not request any additional data. The Contractor shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) If there is no postmark or the postmark is illegible--

(1) The designated payment office that receives the demand will annotate it with the date of receipt provided the demand is received on or before the 40th day after payment was made; or

(2) If the designated payment office fails to make the required annotation, the Government will determine the demand's validity based on the date the Contractor has placed on the demand, provided such date is no later than the 40th day after payment was made.

(b) Contract financing payments. If this contract provides for contract financing, the Government will make contract financing payments in accordance with the applicable contract financing clause.

(c) Subcontract clause requirements. The Contractor shall include in each subcontract for property or services (including a material supplier) for the purpose of performing this contract the following:

(1) Prompt payment for subcontractors. A payment clause that obligates the Contractor to pay the subcontractor for satisfactory performance under its subcontract not later than 7 days from receipt of payment out of such amounts as are paid to the Contractor under this contract.

(2) Interest for subcontractors. An interest penalty clause that obligates the Contractor to pay to the subcontractor an interest penalty for each payment not made in accordance with the payment clause--

(i) For the period beginning on the day after the required payment date and ending on the date on which payment of the amount due is made; and

(ii) Computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(3) Subcontractor clause flowdown. A clause requiring each subcontractor to use:

(i) Include a payment clause and an interest penalty clause conforming to the standards set forth in paragraphs (c)(1) and (c)(2) of this clause in each of its subcontracts; and

(ii) Require each of its subcontractors to include such clauses in their subcontracts with each lower-tier subcontractor or supplier.

(d) Subcontract clause interpretation. The clauses required by paragraph (c) of this clause shall not be construed to impair the right of the Contractor or a subcontractor at any tier to negotiate, and to include in their subcontract, provisions that--

(1) Retainage permitted. Permit the Contractor or a subcontractor to retain (without cause) a specified percentage of each progress payment otherwise due to a subcontractor for satisfactory performance under the subcontract without incurring any obligation to pay a late payment interest penalty, in accordance with terms and conditions agreed to by the parties to the subcontract, giving such recognition as the parties deem appropriate to the ability of a subcontractor to furnish a performance bond and a payment bond;

(2) Withholding permitted. Permit the Contractor or subcontractor to make a determination that part or all of the subcontractor's request for payment may be withheld in accordance with the subcontract agreement; and

(3) Withholding requirements. Permit such withholding without incurring any obligation to pay a late payment penalty if--

(i) A notice conforming to the standards of paragraph (g) of this clause previously has been furnished to the subcontractor; and

(ii) The Contractor furnishes to the Contracting Officer a copy of any notice issued by a Contractor pursuant to paragraph (d)(3)(i) of this clause.

(e) Subcontractor withholding procedures. If a Contractor, after making a request for payment to the Government but before making a payment to a subcontractor for the subcontractor's performance covered by the payment request, discovers that all or a portion of the payment otherwise due such subcontractor is subject to withholding from the subcontractor in accordance with the subcontract agreement, then the Contractor shall--

(1) Subcontractor notice. Furnish to the subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon ascertaining the cause giving rise to a withholding, but prior to the due date for subcontractor payment;

(2) Contracting Officer notice. Furnish to the Contracting Officer, as soon as practicable, a copy of the notice furnished to the subcontractor pursuant to paragraph (e)(1) of this clause;

(3) Subcontractor progress payment reduction. Reduce the subcontractor's progress payment by an amount not to exceed the amount specified in the notice of withholding furnished under paragraph (e)(1) of this clause;

(4) Subsequent subcontractor payment. Pay the subcontractor as soon as practicable after the correction of the identified subcontract performance deficiency, and--

(i) Make such payment within--

(A) Seven days after correction of the identified subcontract performance deficiency (unless the funds therefor must be recovered from the Government because of a reduction under paragraph
(e)(5)(i)) of this clause; or

(B) Seven days after the Contractor recovers such funds from the Government; or

(ii) Incur an obligation to pay a late payment interest penalty computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty;

(5) Notice to Contracting Officer. Notify the Contracting Officer upon--

(i) Reduction of the amount of any subsequent certified application for payment; or

(ii) Payment to the subcontractor of any withheld amounts of a progress payment, specifying--

(A) The amounts withheld under paragraph (e)(1) of this clause; and

(B) The dates that such withholding began and ended; and

(6) Interest to Government. Be obligated to pay to the Government an amount equal to interest on the withheld payments (computed in the manner provided in 31 U.S.C. 3903(c)(1)), from the 8th day after receipt of the withheld amounts from the Government until--

(i) The day the identified subcontractor performance deficiency is corrected; or

(ii) The date that any subsequent payment is reduced under paragraph (e)(5)(i) of this clause.

(f) Third-party deficiency reports--(1) Withholding from subcontractor. If a Contractor, after making payment to a first-tier subcontractor, receives from a supplier or subcontractor of the first-tier subcontractor (hereafter referred to as a “second-tier subcontractor”) a written notice in accordance with section 2 of the Act of August 24, 1935 (40 U.S.C. 270b, Miller Act), asserting a deficiency in such first-tier subcontractor's performance under the contract for which the Contractor may be ultimately liable, and the Contractor determines that all or a portion of future payments otherwise due such first-tier subcontractor is subject to withholding in accordance with the subcontract agreement, the Contractor may, without incurring an obligation to pay an interest penalty under paragraph (e)(6) of this clause--

(i) Furnish to the first-tier subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon making such determination; and

(ii) Withhold from the first-tier subcontractor's next available progress payment or payments an amount not to exceed the amount specified in the notice of withholding furnished under paragraph (f)(1)(i) of this clause.

(2) Subsequent payment or interest charge. As soon as practicable, but not later than 7 days after receipt of satisfactory written notification that the identified subcontract performance deficiency has been corrected, the Contractor shall--

(i) Pay the amount withheld under paragraph (f)(1)(ii) of this clause to such first-tier subcontractor; or

(ii) Incur an obligation to pay a late payment interest penalty to such first-tier subcontractor computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts DisputesAct of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(g) Written notice of subcontractor withholding. The Contractor shall issue a written notice of any withholding to a subcontractor (with a copy furnished to the Contracting Officer), specifying--

(1) The amount to be withheld;

(2) The specific causes for the withholding under the terms of the subcontract; and

(3) The remedial actions to be taken by the subcontractor in order to receive payment of the amounts withheld.

(h) Subcontractor payment entitlement. The Contractor may not request payment from the Government of any amount withheld or retained in accordance with paragraph (d) of this clause until such time as the Contractor has determined and certified to the Contracting Officer that the subcontractor is entitled to the payment of such amount.

(i) Prime-subcontractor disputes. A dispute between the Contractor and subcontractor relating to the amount or entitlement of a subcontractor to a payment or a late payment interest penalty under a clause included in the subcontract pursuant to paragraph (c) of this clause does not constitute a dispute to which the Government is a party. The Government may not be interpleaded in any judicial or administrative proceeding involving such a dispute.

(j) Preservation of prime-subcontractor rights. Except as provided in paragraph (i) of this clause, this clause shall not limit or impair any contractual, administrative, or judicial remedies otherwise available to the Contractor or a subcontractor in the event of a dispute involving late payment or nonpayment by the Contractor or deficient subcontract performance or nonperformance by a subcontractor.

(k) Non-recourse for prime contractor interest penalty. The Contractor's obligation to pay an interest penalty to a subcontractor pursuant to the clauses included in a subcontract under paragraph (c) of this clause shall not be construed to be an obligation of the Government for such interest penalty. A cost-reimbursement claim may not include any amount for reimbursement of such interest penalty.

(l) Overpayments. If the Contractor becomes aware of a duplicate contract financing or invoice payment or that the Government has otherwise overpaid on a contract financing or invoice payment, the Contractor shall immediately notify the Contracting Officer and request instructions for disposition of the overpayment.

(End of clause)

52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER—CENTRAL CONTRACTOR REGISTRATION (OCT 2003)

(a) Method of payment. (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term “EFT” refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) Contractor's EFT information. The Government shall make payment to the Contractor using the EFT information contained in the Central Contractor Registration (CCR) database. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the CCR database.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment. If the Contractor's EFT information in the CCR database is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into the CCR database; and any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for--

(i) Making a correct payment;

(ii) Paying any prompt payment penalty due; and

(iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and--

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(f) EFT and prompt payment. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(g) EFT and assignment of claims. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register separately in the CCR database and shall be paid by EFT in accordance with the terms of this clause. Notwithstanding any other requirement of this contract, payment to an ultimate recipient other than the

Contractor, or a financial institution properly recognized under an assignment of claims pursuant to subpart 32.8, is not permitted. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(h) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(i) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in the CCR database.

(End of Clause)

52.232-37 MULTIPLE PAYMENT ARRANGEMENTS (MAY 1999)

This contract or agreement provides for payments to the Contractor through several alternative methods. The applicability of specific methods of payment and the designation of the payment office(s) are either stated--

(a) Elsewhere in this contract or agreement; or

(b) In individual orders placed under this contract or agreement.

(End of clause)

52.233-1 DISPUTES. (JUL 2002)

(a) This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613).

(b) Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved under this clause.

(c) Claim, as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. However, a written demand or written assertion by the Contractor seeking the payment of money exceeding $100,000 is not a claim under the Act until certified. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under the Act. The submission may be converted to a claim under the Act, by complying with the submission and certification requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(d)(1) A claim by the Contractor shall be made in writing and, unless otherwise stated in this contract, submitted within 6 years after accrual of the claim to the Contracting Officer for a written decision. A claim by the Government against the Contractor shall be subject to a written decision by the Contracting Officer.

(2)(i) The contractors shall provide the certification specified in subparagraph (d)(2)(iii) of this clause when submitting any claim -

(A) Exceeding $100,000; or

(B) Regardless of the amount claimed, when using -

(1) Arbitration conducted pursuant to 5 U.S.C. 575-580; or

(2) Any other alternative means of dispute resolution (ADR) technique that the agency elects to handle in accordance with the Administrative Dispute Resolution Act (ADRA).

(ii) The certification requirement does not apply to issues in controversy that have not been submitted as all or part of a claim.

(iii) The certification shall state as follows: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable; and that I am duly authorized to certify the claim on behalf of the Contractor.

(3) The certification may be executed by any person duly authorized to bind the Contractor with respect to the claim.

(e) For Contractor claims of $100,000 or less, the Contracting Officer must, if requested in writing by the Contractor, render a decision within 60 days of the request. For Contractor-certified claims over $100,000, the Contracting Officer must, within 60 days, decide the claim or notify the Contractor of the date by which the decision will be made.

(f) The Contracting Officer's decision shall be final unless the Contractor appeals or files a suit as provided in the Act.

(g) If the claim by the Contractor is submitted to the Contracting Officer or a claim by the Government is presented to the Contractor, the parties, by mutual consent, may agree to use alternative disput resolution (ADR). If the Contractor refuses an offer for ADR, the Contractor shall inform the Contracting Officer, in writing, of the Contractor's specific reasons for rejecting the request.

(h) The Government shall pay interest on the amount found due and unpaid from (1) the date the Contracting Officer receives the claim (certified, if required); or (2) the date that payment otherwise would be due, if that date is later, until the date of payment. With regard to claims having defective certifications, as defined in (FAR) 48 CFR 33.201, interest shall be paid from the date that the Contracting Officer initially receives the claim. Simple interest on claims shall be paid at the rate, fixed by the Secretary of the Treasury as provided in the Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.

(i) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under the contract, and comply with any decision of the Contracting Officer.

(End of clause)

52.233-3 PROTEST AFTER AWARD (AUG. 1996)

(a) Upon receipt of a notice of protest (as defined in FAR 33.101) or a determination that a protest is likely (see FAR 33.102(d)), the Contracting Officer may, by written order to the Contractor, direct the Contractor to stop performance

of the work called for by this contract. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Upon receipt of the final decision in the protest, the Contracting Officer shall either--

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled either before or after a final decision in the protest, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if--

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to an adjustment within 30 days after the end of the period of work stoppage; provided, that if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon a proposal at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(e) The Government's rights to terminate this contract at any time are not affected by action taken under this clause.

(f) If, as the result of the Contractor's intentional or negligent misstatement, misrepresentation, or miscertification, a protest related to this contract is sustained, and the Government pays costs, as provided in FAR 33.102(b)(2) or 33.104(h)(1), the Government may require the Contractor to reimburse the Government the amount of such costs. In addition to any other remedy available, and pursuant to the requirements of Subpart 32.6, the Government may collect this debt by offsetting the amount against any payment due the Contractor under any contract between the Contractor and the Government.

(End of clause)

52.236-2 DIFFERING SITE CONDITIONS (APR 1984)

As prescribed in 36.502, insert the following clause in solicitations and contracts when a fixed-price construction contract or a fixed-price dismantling, demolition, or removal of improvements contract is contemplated and the contract amount is expected to exceed the small purchase limitation. The Contracting Officer may insert the clause in solicitations and contracts when a fixed-price construction or a fixed-price contract for dismantling, demolition, or removal of improvements is contemplated and the contract amount is expected to be within the small purchase limitation.

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of

(1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or

(2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

(b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, an equitable adjustment shall be made under this clause and the contract modified in writing accordingly.

(c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

(End of clause)

52.236-3 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to

(1) conditions bearing upon transportation, disposal, handling, and storage of materials;

(2) the availability of labor, water, electric power, and roads;

(3) uncertainties of weather, river stages, tides, or similar physical conditions at the site;

(4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Government.

(b) The Government assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Government. Nor does the Government assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

(End of clause)

52.236-5 MATERIAL AND WORKMANSHIP (APR 1984)

(a) All equipment, material, and articles incorporated into the work covered by this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. When directed to do so, the Contractor shall submit samples for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(c) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may require, in writing, that the Contractor remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

(End of clause)

52.236-6 SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)

At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the worksite a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.

(End of clause)

52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

(End of clause)

52.236-8 OTHER CONTRACTS (APR 1984)

The Government may undertake or award other contracts for additional work at or near the site of the work under this

contract. The Contractor shall fully cooperate with the other contractors and with Government employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by Government employees.

(End of clause)

52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984)

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(b) The Contractor shall protect from damage all existing improvements and utilities

(1) at or near the work site, and

(2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

(End of clause)

52.236-10 OPERATIONS AND STORAGE AREAS (APR 1984)

(a) The Contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.

(b) Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.

(c) The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

(End of clause)

52.236-11 USE AND POSSESSION PRIOR TO COMPLETION (APR 1984)

(a) The Government shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the Government intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The Government's possession or use shall not be deemed an acceptance of any work under the contract.

(b) While the Government has such possession or use, the Contractor shall be relieved of the responsibility for the loss of or damage to the work resulting from the Government's possession or use, notwithstanding the terms of the clause in this contract entitled "Permits and Responsibilities." If prior possession or use by the Government delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

(End of clause)

52.236-12 CLEANING UP (APR 1984)

The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the work, the Contractor shall remove from the work and premises any rubbish, tools, scaffolding, equipment, and materials that are not the property of the Government. Upon completing the work, the Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer.

(End of clause)

52.236-13 ACCIDENT PREVENTION (NOV 1991)

(a) The Contractor shall provide and maintain work environments and procedures which will

(1) safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;

(2) avoid interruptions of Government operations and delays in project completion dates; and

(3) control costs in the performance of this contract.

(b) For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall-

(1) Provide appropriate safety barricades, signs, and signal lights;

(2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and

(3) Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for the purposes are taken.

(c) If this contract is for construction or dismantling, demolition or removal of improvements with any Department of Defense agency or component, the Contractor shall comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation.

(d) Whenever the Contracting Officer becomes aware of any noncompliance with these requirements or any condition which poses a serious or imminent danger to the health or safety of the public or Government personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. This notice, when delivered to the Contractor or the Contractor's representative at the work site, shall be deemed sufficient notice of the noncompliance and that corrective action is required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

(f) The Contractor shall insert this clause, including this paragraph (e), with appropriate changes in the designation of the parties, in subcontracts.

(End of clause)

52.236-14 AVAILABILITY AND USE OF UTILITY SERVICES (APR 1984)

(a) The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the Government or, where the utility is produced by the Government, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.

(b) The Contractor, at its expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

(End of clause)

52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)

(a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as directed by the Contracting Officer, and upon doing

so shall immediately deliver three copies of the annotated schedule to the Contracting Officer. If, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this contract.

(End of clause)

52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by," or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown," as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not

relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor.

(End of clause)

52.242-13 BANKRUPTCY (JUL 1995)

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish, by certified mail or electronic commerce method authorized by the contract, written notification of the bankruptcy to the Contracting Officer responsible for administering the contract. This notification shall be furnished within five days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of Government contract numbers and contracting offices for all Government contracts against which final payment has not been made. This obligation remains in effect until final payment under this contract.

(End of clause)

52.242-14 SUSPENSION OF WORK (APR 1984)

(a) The Contracting Officer may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the Government.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract. (c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

(End of clause)

52.243-4 CHANGES (AUG 1987)

(a) The Contracting Officer may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes--

(1) In the specifications (including drawings and designs);

(2) In the method or manner of performance of the work;

(3) In the Government-furnished facilities, equipment, materials, services, or site; or

(4) Directing acceleration in the performance of the work.

(b) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating

(1) the date, circumstances, and source of the order and

(2) that the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement, or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no adjustment for any change under paragraph (b) of this clause shall be made for any costs incurred more than 20 days before the Contractor gives written notice as required. In the case of defective specifications for which the Government is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after

(1) receipt of a written change order under paragraph (a) of this clause or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting to the Contracting Officer a written statement describing the general nature and amount of the proposal, unless this period is extended by the Government. The statement of proposal for adjustment may be included in the notice under paragraph (b) above.

(f) No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

(End of clause)

52.244-2 SUBCONTRACTS (AUG 1998)

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

Approved purchasing system means a Contractor's purchasing system that has been reviewed and approved in accordance with Part 44 of the Federal Acquisition Regulation (FAR).

Consent to subcontract means the Contracting Officer's written consent for the Contractor to enter into a particular subcontract.

Subcontract means any contract, as defined in FAR Subpart 2.1, entered into by a subcontractor to furnish supplies or services for performance of the prime contract or a subcontract. It includes, but is not limited to, purchase orders, and changes and modifications to purchase orders.

(b) This clause does not apply to subcontracts for special test equipment when the contract contains the clause at FAR 52.245-18, Special Test Equipment.

(c) When this clause is included in a fixed-price type contract, consent to subcontract is required only on unpriced contract actions (including unpriced modifications or unpriced delivery orders), and only if required in accordance with paragraph (d) or (e) of this clause.

(d) If the Contractor does not have an approved purchasing system, consent to subcontract is required for any subcontract that--

(1) Is of the cost-reimbursement, time-and-materials, or labor-hour type; or

(2) Is fixed-price and exceeds--

(i) For a contract awarded by the Department of Defense, the Coast Guard, or the National Aeronautics and Space Administration, the greater of the simplified acquisition threshold or 5 percent of the total estimated cost of the contract; or

(ii) For a contract awarded by a civilian agency other than the Coast Guard and the National Aeronautics and Space Administration, either the simplified acquisition threshold or 5 percent of the total estimated cost of the contract.

(e) If the Contractor has an approved purchasing system, the Contractor nevertheless shall obtain the Contracting Officer's written consent before placing the following subcontracts:

None

(f)(1) The Contractor shall notify the Contracting Officer reasonably in advance of placing any subcontract or modification thereof for which consent is required under paragraph (c), (d), or (e) of this clause, including the following information:

(i) A description of the supplies or services to be subcontracted.

(ii) Identification of the type of subcontract to be used.

(iii) Identification of the proposed subcontractor.

(iv) The proposed subcontract price.

(v) The subcontractor's current, complete, and accurate cost or pricing data and Certificate of Current Cost or Pricing Data, if required by other contract provisions.

(vi) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract.

(vii) A negotiation memorandum reflecting--

(A) The principal elements of the subcontract price negotiations;

(B) The most significant considerations controlling establishment of initial or revised prices;

(C) The reason cost or pricing data were or were not required;

(D) The extent, if any, to which the Contractor did not rely on the subcontractor's cost or pricing data in determining the price objective and in negotiating the final price;

(E) The extent to which it was recognized in the negotiation that the subcontractor's cost or pricing data were not accurate, complete, or current; the action taken by the Contractor and the subcontractor; and the effect of any such defective data on the total price negotiated;

(F) The reasons for any significant difference between the Contractor's price objective and the price negotiated; and

(G) A complete explanation of the incentive fee or profit plan when incentives are used. The explanation shall identify each critical performance element, management decisions used to quantify each incentive element, reasons for the incentives, and a summary of all trade-off possibilities considered.

(2) The Contractor is not required to notify the Contracting Officer in advance of entering into any subcontract for which consent is not required under paragraph (c), (d), or (e) of this clause.

(g) Unless the consent or approval specifically provides otherwise, neither consent by the Contracting Officer to any subcontract nor approval of the Contractor's purchasing system shall constitute a determination--

(1) Of the acceptability of any subcontract terms or conditions;

(2) Of the allowability of any cost under this contract; or

(3) To relieve the Contractor of any responsibility for performing this contract.

(h) No subcontract or modification thereof placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis, and any fee payable under cost-reimbursement type subcontracts shall not exceed the fee limitations in FAR 15.404-4(c)(4)(i).

(i) The Contractor shall give the Contracting Officer immediate written notice of any action or suit filed and prompt notice of any claim made against the Contractor by any subcontractor or vendor that, in the opinion of the Contractor, may result in litigation related in any way to this contract, with respect to which the Contractor may be entitled to reimbursement from the Government.

(j) The Government reserves the right to review the Contractor's purchasing system as set forth in FAR Subpart 44.3.

(k) Paragraphs (d) and (f) of this clause do not apply to the following subcontracts, which were evaluated during negotiations:

_____

_____

(End of clause)

52.245-2 GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS) (MAY 2004)

(a) Government-furnished property.

(1) Overseas contracts. If this contract is to be performed outside of the United States and its outlying areas, the words ``Government'' and ``Government-furnished'' (wherever they appear in this clause) shall be construed as ``United States Government'' and ``United States Government-furnished,'' respectively.

(2) The delivery or performance dates for this contract are based upon the expectation that Government-furnished property suitable for use (except for property furnished "as is") will be delivered to the Contractor at the times stated in the Schedule or, if not so stated, in sufficient time to enable the Contractor to meet the contract's delivery or performance dates.

(3) If Government-furnished property is received by the Contractor in a condition not suitable for the intended use, the Contractor shall, upon receipt of it, notify the Contracting Officer, detailing the facts, and, as directed by the Contracting Officer and at Government expense, either repair, modify, return, or otherwise dispose of the property. After completing the directed action and upon written request of the Contractor, the Contracting Officer shall make an equitable adjustment as provided in paragraph (h) of this clause.

(4) If Government-furnished property is not delivered to the Contractor by the required time, the Contracting Officer shall, upon the Contractor's timely written request, make a determination of the delay, if any, caused the Contractor and shall make an equitable adjustment in accordance with paragraph (h) of this clause.

(b) Changes in Government-furnished property. (1) The Contracting Officer may, by written notice, (i) decrease the Government-furnished property provided or to be provided under this contract, or (ii) substitute other Government-furnished property for the property to be provided by the Government, or to be acquired by the Contractor for the Government, under this contract. The Contractor shall promptly take such action as the Contracting Officer may direct regarding the removal, shipment, or disposal of the property covered by such notice.

(2) Upon the Contractor's written request, the Contracting Officer shall make an equitable adjustment to the contract in accordance with paragraph (h) of this clause, if the Government has agreed in the Schedule to make the property available for performing this contract and there is any--

(i) Decrease or substitution in this property pursuant to subparagraph (b)(1) of this clause; or

(ii) Withdrawal of authority to use this property, if provided under any other contract or lease.

(c) Title in Government property. (1) The Government shall retain title to all Government-furnished property.

(2) All Government-furnished property and all property acquired by the Contractor, title to which vests in the Government under this paragraph (collectively referred to as "Government property"), are subject to the provisions of this clause. However, special tooling accountable to this contract is subject to the provisions of the Special Tooling clause and is not subject to the provisions of this clause. Title to Government property shall not be affected by its incorporation into or attachment to any property not owned by the Government, nor shall Government property become a fixture or lose its identity as personal property by being attached to any real property.

(3) Title to each item of facilities and special test equipment acquired by the Contractor for the Government under this contract shall pass to and vest in the Government when its use in performing this contract commences or when the Government has paid for it, whichever is earlier, whether or not title previously vested in the Government.

(4) If this contract contains a provision directing the Contractor to purchase material for which the Government will reimburse the Contractor as a direct item of cost under this contract--

(i) Title to material purchased from a vendor shall pass to and vest in the Government upon the vendor's delivery of such material; and

(ii) Title to all other material shall pass to and vest in the Government upon--

(A) Issuance of the material for use in contract performance;

(B) Commencement of processing of the material or its use in contract performance; or

(C) Reimbursement of the cost of the material by the Government, whichever occurs first.

(d) Use of Government property. The Government property shall be used only for performing this contract, unless otherwise provided in this contract or approved by the Contracting Officer.

(e) Property administration. (1) The Contractor shall be responsible and accountable for all Government property provided under this contract and shall comply with Federal Acquisition Regulation (FAR) Subpart 45.5, as in effect on the date of this contract.

(2) The Contractor shall establish and maintain a program for the use, maintenance, repair, protection, and preservation of Government property in accordance with sound industrial practice and the applicable provisions of Subpart 45.5 of the FAR.

(3) If damage occurs to Government property, the risk of which has been assumed by the Government under this contract, the Government shall replace the items or the Contractor shall make such repairs as the Government directs. However, if the Contractor cannot effect such repairs within the time required, the Contractor shall dispose of the property as directed by the Contracting Officer. When any property for which the Government is responsible is replaced or repaired, the Contracting Officer shall make an equitable adjustment in accordance with paragraph (h) of this clause.

(4) The Contractor represents that the contract price does not include any amount for repairs or replacement for which the Government is responsible. Repair or replacement of property for which the Contractor is responsible shall be accomplished by the Contractor at its own expense.

(f) Access. The Government and all its designees shall have access at all reasonable times to the premises in which any Government property is located for the purpose of inspecting the Government property.

(g) Risk of loss. Unless otherwise provided in this contract, the Contractor assumes the risk of, and shall be responsible for, any loss or destruction of, or damage to, Government property upon its delivery to the Contractor or upon passage of title to the Government under paragraph (c) of this clause. However, the Contractor is not responsible for reasonable wear and tear to Government property or for Government property properly consumed in performing this contract.

(h) Equitable adjustment. When this clause specifies an equitable adjustment, it shall be made to any affected contract provision in accordance with the procedures of the Changes clause. When appropriate, the Contracting Officer may initiate an equitable adjustment in favor of the Government. The right to an equitable adjustment shall be the Contractor's exclusive remedy. The Government shall not be liable to suit for breach of contract for--

(1) Any delay in delivery of Government-furnished property;

(2) Delivery of Government-furnished property in a condition not suitable for its intended use;

(3) A decrease in or substitution of Government-furnished property; or

(4) Failure to repair or replace Government property for which the Government is responsible.

(i) Government property disposal. Except as provided in paragraphs (i)(1)(i), (i)(2), and (i)(8)(i) of this clause, the Contractor shall not dispose of Government property until authorized to do so by the Plant Clearance Officer.

(1) Scrap (to which the Government has obtained title under paragraph (c) of this clause).--(i) Contractor with an approved scrap procedure.--(A) The Contractor may dispose of scrap resulting from production or testing under this contract without Government approval. However, if the scrap requires demilitarization or is sensitive property, the Contractor shall submit the scrap on an inventory disposal schedule.

(B) For scrap from other than production or testing the Contractor may prepare scrap lists in lieu of inventory disposal schedules (provided such lists are consistent with the approved scrap procedures), except that inventory disposal schedules shall be submitted for scrap aircraft or aircraft parts and scrap that--

(1) Requires demilitarization;

(2) Is a classified item;

(3) Is generated from classified items;

(4) Contains hazardous materials or hazardous wastes;

(5) Contains precious metals; or

(6) Is dangerous to the public health, safety, or welfare.

(ii) Contractor without an approved scrap procedure. The Contractor shall submit an inventory disposal schedule for all scrap.

(2) Pre-disposal requirements. When the Contractor determines that a property item acquired or produced by the Contractor, to which the Government has obtained title under paragraph (c) of this clause, is no longer needed for performance of this contract, the Contractor, in the following order of priority:

(i) May purchase the property at the **acquisition** cost.

(ii) Shall make reasonable efforts to return unused property to the appropriate supplier at fair market value (less, if applicable, a reasonable restocking fee that is consistent with the supplier's customary practices).

(iii) Shall list, on Standard Form 1428, Inventory Disposal Schedule, property that was not purchased under paragraph (i)(2)(i) of this clause, could not be returned to a supplier, or could not be used in the performance of other Government contracts.

(3) Inventory disposal schedules.--(i) The Contractor shall use Standard Form 1428, Inventory Disposal Schedule, to identify--

(A) Government-furnished property that is no longer required for performance of this contract, provided the terms of another Government contract do not require the Government to furnish that property for performance of that contract; and

(B) Property acquired or produced by the Contractor, to which the Government has obtained title under paragraph (c) of this clause, that is no longer required for performance of that contract.

(ii) The Contractor may annotate inventory disposal schedules to identify property the Contractor wishes to purchase from the Government.

(iii) Unless the Plant Clearance Officer has agreed otherwise, or the contract requires electronic submission of inventory disposal schedules, the Contractor shall prepare separate inventory disposal schedules for--

(A) Special test equipment with commercial components;

(B) Special test equipment without commercial components;

(C) Printing equipment;

(D) Computers, components thereof, peripheral equipment, and related equipment;

(E) Precious Metals;

(F) Nonnuclear hazardous materials or hazardous wastes; or

(G) Nuclear materials or nuclear wastes.

(iv) Property with the same description, condition code, and reporting location may be grouped in a single line item. The Contractor shall describe special test equipment in sufficient detail to permit an understanding of the special test equipment's intended use.

(4) Submission requirements. The Contractor shall submit inventory disposal schedules to the Plant Clearance Officer no later than--

(i) Thirty days following the Contractor's determination that a Government property item is no longer required for performance of the contract;

(ii) Sixty days, or such longer period as may be approved by the Plant Clearance Officer, following completion of contract deliveries or performance; or

(iii) One hundred twenty days, or such longer period as may be approved by the Plant Clearance Officer, following contract termination in whole or in part.

(5) Corrections. The Plant Clearance Officer may require the Contractor to correct an inventory disposal schedule or may reject a schedule if the property identified on the schedule is not accountable under this contract or is not in the quantity or condition indicated.

(6) Postsubmission adjustments. The Contractor shall provide the Plant Clearance Officer at least 10 working days advance written notice of its intent to remove a property item from an approved inventory disposal schedule. Unless the Plant Clearance Officer objects to the intended schedule adjustment within the notice period, the Contractor may make the adjustment upon expiration of the notice period.

(7) Storage.--

(i) The Contractor shall store the property identified on an inventory disposal schedule pending receipt of disposal instructions. The Government's failure to provide disposal instructions within 120 days following acceptance of an

inventory disposal schedule might entitle the Contractor to an equitable adjustment for costs incurred to store such property on or after the 121st day.

(ii) The Contractor shall obtain the Plant Clearance Officer's approval to remove Govemment property from the premises at which the property is currently located prior to receipt of final disposition instructions. If approval is granted, any costs incurred by the Contractor to transport or store the property shall not increase the price or fee of any Government contract. The storage facility shall be appropriate for assuring the property's physical safety and suitability for use. Approval does not relieve the Contractor of any liability under this contract for such property.

(8) Disposition instructions.

(i) If the Government does not provide disposition instructions to the Contractor within 45 days following acceptance of a scrap list, the Contractor may dispose of the listed scrap in accordance with the Contractor's approved scrap procedures.

(ii) The Contractor shall prepare for shipment, deliver f.o.b. origin, or dispose of Government property as directed by the Plant Clearance Officer. The Contractor shall remove and destroy any markings identifying the property as Government property prior to disposing of the property.

(iii) The Contracting Officer may require the Contractor to demilitarize the property prior to shipment or disposal. Any equitable adjustment incident to the Contracting Officer's direction to demilitarize Government property shall be made in accordance with paragraph (h) of this clause.

(9) Disposal proceeds. The Contractor shall credit the net proceeds from the disposal of Government property to the price or cost of work covered by this contract or to the Government as the Contracting Officer directs.

(10) Subcontractor inventory disposal schedules. The Contractor shall require a subcontractor that is using property accountable under this contract at a subcontractor-managed site to submit inventory disposal schedules to the Contractor in sufficient time for the Contractor to comply with the requirements of paragraph (i)(4) of this clause.

(j) Abandonment of Government property.

(1) The Government will not abandon sensitive Government property without the Contractor's written consent.

(2) The Government, upon notice to the Contractor, may abandon any nonsensitive Government property in place at which time all obligations of the Government regarding such abandoned property shall cease.

(3) The Government has no obligation to restore or rehabilitate the Contractor's premises under any circumstances; however, if Government-furnished property is withdrawn or is unsuitable for the intended use, or if other Government property is substituted, then the equitable adjustment under paragraph (h) of this clause may properly include restoration or rehabilitation costs.

(k) Communications. All communications under this clause shall be in writing.

(l) Overseas contracts. If this contract is to be performed outside of the United States of America, its territories, or possessions, the words "Government" and "Government-furnished" (wherever they appear in this clause) shall be construed as "United States Government" and "United States Government-furnished," respectively.

(End of clause)

52.246-12 INSPECTION OF CONSTRUCTION (AUG 1996)

(a) Definition. "Work" includes, but is not limited to, materials, workmanship, and manufacture and fabrication of components.

(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. The Contractor shall maintain complete inspection records and make them available to the Government. All work shall be conducted under the general direction of the Contracting Officer and is subject to Government inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.

(c) Government inspections and tests are for the sole benefit of the Government and do not--

(1) Relieve the Contractor of responsibility for providing adequate quality control measures;

(2) Relieve the Contractor of responsibility for damage to or loss of the material before acceptance;

(3) Constitute or imply acceptance; or

(4) Affect the continuing rights of the Government after acceptance of the completed work under paragraph (i) of this section.

(d) The presence or absence of a Government inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specification without the Contracting Officer's written authorization.

(e) The Contractor shall promptly furnish, at no increase in contract price, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The Government may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The Government shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

(f) The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements, unless in the public interest the Government consents to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(g) If the Contractor does not promptly replace or correct rejected work, the Government may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor or (2) terminate for default the Contractor's right to proceed.

(h) If, before acceptance of the entire work, the Government decides to examine already completed work by removing it or tearing it out, the Contractor, on request, shall promptly furnish all necessary facilities, labor, and material. If the work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray the expenses of the examination and of satisfactory reconstruction. However, if the work is found to meet contract requirements, the Contracting Officer shall make an equitable adjustment for the additional services involved in the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.

(i) Unless otherwise specified in the contract, the Government shall accept, as promptly as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the Government's rights under any warranty or guarantee.

(End of clause)

52.247-64 PREFERENCE FOR PRIVATELY OWNED U.S.-FLAG COMMERCIAL VESSELS (APR 2003) - ALTERNATE II (APR 2003)

(a) Except as provided in paragraph (e) of this clause, the Cargo Preference Act of 1954 (46 U.S.C. 1241(b)) requires that Federal departments and agencies shall transport in privately owned U.S.-flag commercial vessels at least 50 percent of the gross tonnage of equipment, materials, or commodities that may be transported in ocean vessels (computed separately for dry bulk carriers, dry cargo liners, and tankers). Such transportation shall be accomplished when any equipment, materials, or commodities, located within or outside the United States, that may be transported by ocean vessel are--

(1) Acquired for a U.S. Government agency account;

(2) Furnished to, or for the account of, any foreign nation without provision for reimbursement;

(3) Furnished for the account of a foreign nation in connection with which the United States advances funds or credits, or guarantees the convertibility of foreign currencies; or

(4) Acquired with advance of funds, loans, or guaranties made by or on behalf of the United States.

(b) The Contractor shall use privately owned U.S.-flag commercial vessels to ship at least 50 percent of the gross tonnage involved under this contract (computed separately for dry bulk carriers, dry cargo liners, and tankers) whenever shipping any equipment, materials, or commodities under the conditions set forth in paragraph (a) above, to the extent that such vessels are available at rates that are fair and reasonable for privately owned U.S.-flag commercial vessels.

(c)(1) The Contractor shall submit one legible copy of a rated on-board ocean bill of lading for each shipment to both (i) the Contracting Officer, and (ii) Office of Cargo Preference, Maritime Administration (MAR-590), 400 Seventh Street, SW, Washington, DC 20590 Subcontractor bills of lading shall be submitted through the Prime Contractor.

(2) The Contractor shall furnish these bill of lading copies (i) within 20 working days of the date of loading for shipments originating in the United States, or (ii) within 30 working days for shipments originating outside the United States. Each bill of lading copy shall contain the following information:

(A) Sponsoring U.S. Government agency.

(B) Name of vessel.

(C) Vessel flag of registry.

(D) Date of loading.

(E) Port of loading.

(F) Port of final discharge.

(G) Description of commodity.

(H) Gross weight in pounds and cubic feet if available.

(I) Total ocean freight revenue in U.S. dollars.

(d) The Contractor shall insert the substance of this clause, including this paragraph (d), in all subcontracts or purchase orders under this contract, except those described in paragraph (4).

The requirement in paragraph (a) does not apply to--

(1) Cargoes carried in vessels of the Panama Canal Commission or as required or authorized by law or treaty;

(2) Ocean transportation between foreign countries of supplies purchased with foreign currencies made available, or derived from funds that are made available, under the Foreign Assistance Act of 1961 (22 U.S.C. 2353); and

(3) Shipments of classified supplies when the classification prohibits the use of non-Government vessels.

(4) Subcontracts or purchase orders under this contract for the acquisition of commercial items unless the supplies being transported are--

(i) Items the Contractor is reselling or distributing to the Government without adding value. (Generally, the Contractor does not add value to the items when it subcontracts items for f.o.b. destination shipment); or

(ii) Shipments in direct support of U.S. military--

(A) Contingency operations;

(B) Exercises; or

(C) Forces deployed in connection with United Nations or North Atlantic Treaty Organization humanitarian or peacekeeping operations. (Note: This contract requires shipment of commercial items in direct support of U.S. military contingency operations, exercises, or forces deployed in connection with United Nations or North Atlantic Treaty Organization humanitarian or peacekeeping operations.)

(f) Guidance regarding fair and reasonable rates for privately owned U.S.-flag commercial vessels may be obtained from the Division of National Cargo, Office of Cargo Preference, Maritime Administration (MAR-590), 400 Seventh Street, SW, Washington, DC 20590, Phone: 202-366-4610.

(End of clause)

52.248-3 VALUE ENGINEERING--CONSTRUCTION (FEB 2000)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any instant contract savings realized from accepted VECP's, in accordance with paragraph (f) below.

(b) Definitions. "Collateral costs," as used in this clause, means agency costs of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistic support. The term does not include the normal administrative costs of processing the VECP.

"Instant contract savings," as used in this clause, means the estimated reduction in Contractor cost of performance resulting from acceptance of the VECP, minus allowable Contractor's development and implementation costs, including subcontractors' development and implementation costs (see paragraph (h) below).

"Value engineering change proposal (VECP)" means a proposal that--

(1) Requires a change to this, the instant contract, to implement; and

(2) Results in reducing the contract price or estimated cost without impairing essential functions or characteristics; provided, that it does not involve a change--

(i) In deliverable end item quantities only; or

(ii) To the contract type only.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, and the effect of the change on the end item's performance.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) A separate, detailed cost estimate for

(i) the affected portions of the existing contract requirement and

(ii) the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.

(4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(5) A prediction of any effects the proposed change would have on collateral costs to the agency.

(6) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(7) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Resident Engineer at the worksite, with a copy to the Contracting Officer.

(e) Government action.

(1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral decision made solely at the discretion of the Contracting Officer.

(f) Sharing.

(1) Rates. The Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by

(i) 45 percent for fixed-price contracts or

(ii) 75 percent for cost-reimbursement contracts.

(2) Payment. Payment of any share due the Contractor for use of a VECP on this contract shall be authorized by a modification to this contract to--

(i) Accept the VECP;

(ii) Reduce the contract price or estimated cost by the amount of instant contract savings; and

(iii) Provide the Contractor's share of savings by adding the amount calculated to the contract price or fee.

(g) Collateral savings. If a VECP is accepted, the Contracting Officer will increase the instant contract amount by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings will not exceed the contract's firm-fixed-price or estimated cost, at the time the VECP is accepted, or $100,000, whichever is greater. The Contracting Officer is the sole determiner of the amount of collateral savings.

(h) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of $50,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price under paragraph (f) above, the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The

Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

(i) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Engineering-- Construction clause of contract . . . . . , shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations." If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

52.249-1 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (SHORT FORM) (APR 1984)

The Contracting Officer, by written notice, may terminate this contract, in whole or in part, when it is in the Government's interest. If this contract is terminated, the rights, duties, and obligations of the parties, including compensation to the Contractor, shall be in accordance with Part 49 of the Federal Acquisition Regulation in effect on the date of this contract.

(End of clause)

52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (MAY 2004)

(a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

(b) After receipt of a Notice of Termination, and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:

(1) Stop work as specified in the notice.

(2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.

(3) Terminate all subcontracts to the extent they relate to the work terminated.

(4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.

(5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.

(6) As directed by the Contracting Officer, transfer title and deliver to the Government (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.

(7) Complete performance of the work not terminated.

(8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.

(9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, any property of the types referred to in subparagraph (b)(6) of this clause; provided, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.

(c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.

(d) After expiration of the plant clearance period as defined in Subpart 49.001 of the Federal Acquisition Regulation, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Contracting Officer may verify the list upon removal of the items, or if stored, within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.

(e) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1-year period. However, if the Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(f) Subject to paragraph (e) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid or remaining to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (g) or paragraph (g) of this clause, exclusive of costs shown in subparagraph (g)(3) of this clause, may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be modified, and the Contractor paid the agreed amount. Paragraph (g) of this clause shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(g) If the Contractor and the Contracting Officer fail to agree on the whole amount to be paid because of the termination of work, the Contracting Officer shall pay the Contractor the amounts determined by the Contracting Officer as follows, but without duplication of any amounts agreed on under paragraph (f) of this clause:

(1) The contract price for completed supplies or services accepted by the Government (or sold or acquired under subparagraph (b)(9) of this clause) not previously paid for, adjusted for any saving of freight and other charges.

(2) The total of--

(i) The costs incurred in the performance of the work terminated, including initial costs and preparatory expense allocable thereto, but excluding any costs attributable to supplies or services paid or to be paid under subparagraph (f)(1) of this clause;

(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (g)(2)(i) of this clause; and

(iii) A sum, as profit on subdivision (g)(2)(i) of this clause, determined by the Contracting Officer under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Contracting Officer shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

(3) The reasonable costs of settlement of the work terminated, including--

(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(h) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (g) of this clause, the fair value, as determined by the Contracting Officer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government or to a buyer.

(i) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of this contract, shall govern all costs claimed, agreed to, or determined under this clause.

(j) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Contracting Officer under paragraph (e), (g), or (l) of this clause, except that if the Contractor failed to submit the termination settlement proposal or request for equitable adjustment within the time provided in paragraph (e) or (l), respectively, and failed to request a time extension, there is no right of appeal.

(k) In arriving at the amount due the Contractor under this clause, there shall be deducted--

(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(2) Any claim which the Government has against the Contractor under this contract; and

(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.

(l) If the termination is partial, the Contractor may file a proposal with the Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Contracting Officer shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Contracting Officer.

(m)(1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

(n) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

(End of clause)

52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (MAY 2004) - ALTERNATE I (SEP 1996)

(a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

(b) After receipt of a Notice of Termination, and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:

(1) Stop work as specified in the notice.

(2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.

(3) Terminate all subcontracts to the extent they relate to the work terminated.

(4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.

(5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.

(6) As directed by the Contracting Officer, transfer title and deliver to the Government (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.

(7) Complete performance of the work not terminated.

(8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.

(9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, any property of the types referred to in subparagraph (b)(6) of this clause; provided, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.

(c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.

(d) After expiration of the plant clearance period as defined in Subpart 49.001 of the Federal Acquisition Regulation, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Contracting Officer may verify the list upon removal of the items, or if stored, within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.

(e) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1-year period. However, if the Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(f) Subject to paragraph (e) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid or remaining to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (g) or paragraph (g) of this clause, exclusive of costs shown in subparagraph (g)(3) of this clause, may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be modified, and the Contractor paid the agreed amount. Paragraph (g) of this clause shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(g) If the Contractor and Contracting Officer fail to agree on the whole amount to be paid the Contractor because of the termination of work, the Contracting Officer shall pay the Contractor the amounts determined as follows, but without duplication of any amounts agreed upon under paragraph (f) of this clause:

(1) For contract work performed before the effective date of termination, the total (without duplication of any items) of--

(i) The cost of this work;

(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (g)(1)(i) of this clause; and

(iii) A sum, as profit on subdivision (g)(1)(i) of this clause, determined by the Contracting Officer under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Contracting Officer shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

(2) The reasonable costs of settlement of the work terminated, including--

(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(h) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (g) of this clause, the fair value, as determined by the Contracting Officer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government or to a buyer.

(i) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of this contract, shall govern all costs claimed, agreed to, or determined under this clause.

(j) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Contracting Officer under paragraph (e), (g), or (l) of this clause, except that if the Contractor failed to submit the termination settlement proposal or request for equitable adjustment within the time provided in paragraph (e) or (l), respectively, and failed to request a time extension, there is no right of appeal.

(k) In arriving at the amount due the Contractor under this clause, there shall be deducted--

(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(2) Any claim which the Government has against the Contractor under this contract; and

(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.

(l) If the termination is partial, the Contractor may file a proposal with the Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Contracting Officer shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Contracting Officer.

(m)(1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

(n) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

(End of clause)

52.249-10 DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984)

(a) If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract including any extension, or fails to complete the work within this time, the Government may, by written notice to the Contractor, terminate the right to proceed with the work (or the separable part of the work) that has been delayed. In this event, the Government may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Government resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Government in completing the work.

(b) The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause, if--

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include

(i) acts of God or of the public enemy,

(ii) acts of the Government in either its sovereign or contractual capacity,

(iii) acts of another Contractor in the performance of a contract with the Government,

(iv) fires,

(v) floods,

(vi) epidemics,

(vii) quarantine restrictions,

(viii) strikes,

(ix) freight embargoes,

(x) unusually severe weather, or delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any delay (unless extended by the Contracting Officer), notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, the time for completing the work shall be extended. The findings of the Contracting Officer shall be final and conclusive on the parties, but subject to appeal under the Disputes clause.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Government.

The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.251-1 GOVERNMENT SUPPLY SOURCES (APR 1984)

The Contracting Officer may issue the Contractor an authorization to use Government supply sources in the performance of this contract. Title to all property acquired by the Contractor under such an authorization shall vest in the Government unless otherwise specified in the contract. Such property shall not be considered to be "Government-furnished property," as distinguished from "Government property." The provisions of the clause entitled "Government Property," except its paragraphs (a) and (b), shall apply to all property acquired under such authorization.

(End of clause)

52.253-1 COMPUTER GENERATED FORMS (JAN 1991)

(a) Any data required to be submitted on a Standard or Optional Form prescribed by the Federal Acquisition Regulation (FAR) may be submitted on a computer generated version of the form, provided there is no change to the name, content, or sequence of the data elements on the form, and provided the form carries the Standard or Optional Form number and edition date.

(b) Unless prohibited by agency regulations, any data required to be submitted on an agency unique form prescribed by an agency supplement to the FAR may be submitted on a computer generated version of the form provided there is no change to the name, content, or sequence of the data elements on the form and provided the form carries the agency form number and edition date.

(g) If the Contractor submits a computer generated version of a form that is different than the required form, then the rights and obligations of the parties will be determined based on the content of the required form.

(End of clause)

252.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)

(a) "Definition. Contracting officer's representative" means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the contracting officer to perform specific technical or administrative functions.

(b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

(End of clause)

252.203-7001 PROHIBITION ON PERSONS CONVICTED OF FRAUD OR OTHER DEFENSE-CONTRACT-RELATED FELONIES (MAR 1999)

(a) Definitions. As used in this clause—

(1) “Arising out of a contract with the DoD” means any act in connection with—

(i) Attempting to obtain;

(ii) Obtaining, or

(iii) Performing a contract or first-tier subcontract of any agency, department, or component of the Department of Defense (DoD).

(2) “Conviction of fraud or any other felony” means any conviction for fraud or a felony in violation of state or Federal criminal statutes, whether entered on a verdict or plea, including a plea of *nolo contendere*, for which sentence has been imposed.

(3) “Date of conviction” means the date judgment was entered against the individual.

(b) Any individual who is convicted after September 29, 1988, of fraud or any other felony arising out of a contract with the DoD is prohibited from serving--

(1) In a management or supervisory capacity on any DoD contract or first-tier subcontract;

(2) On the board of directors of any DoD contractor or first-tier subcontractor;

(3) As a consultant, agent, or representative for any DoD contractor or first-tier subcontractor; or

(4) In any other capacity with the authority to influence, advise, or control the decisions of any DoD contractor or subcontractor with regard to any DoD contract or first-tier subcontract.

(c) Unless waived, the prohibition in paragraph (b) of this clause applies for not less than 5 years from the date of conviction.

(d) 10 U.S.C. 2408 provides that a defense contractor or first-tier subcontractor shall be subject to a criminal penalty of not more than $500,000 if convicted of knowingly—

(1) Employing a person under a prohibition specified in paragraph (b) of this clause; or

(2) Allowing such a person to serve on the board of directors of the contractor or first-tier subcontractor.

(e) In addition to the criminal penalties contained in 10 U.S.C. 2408, the Government may consider other available remedies, such as—

(1) Suspension or debarment;

(2) Cancellation of the contract at no cost to the Government; or

(3) Termination of the contract for default.

(f) The Contractor may submit written requests for waiver of the prohibition in paragraph (b) of this clause to the Contracting Officer. Requests shall clearly identify—

(1) The person involved;

(2) The nature of the conviction and resultant sentence or punishment imposed;

(3) The reasons for the requested waiver; and

(4) An explanation of why a waiver is in the interest of national security.

(g) The Contractor agrees to include the substance of this clause, appropriately modified to reflect the identity and relationship of the parties, in all first-tier subcontracts exceeding the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation, except those for commercial items or components.

(h) Pursuant to 10 U.S.C. 2408(c), defense contractors and subcontractors may obtain information as to whether a particular person has been convicted of fraud or any other felony arising out of a contract with the DoD by contacting The Office of Justice Programs, The Denial of Federal Benefits Office, U.S. Department of Justice, telephone (202) 616-3507.

(End of clause)

252.203-7002 DISPLAY OF DOD HOTLINE POSTER (DEC 1991)

(a) The Contractor shall display prominently in common work areas within business segments performing work under Department of Defense (DoD) contracts, DoD Hotline Posters prepared by the DoD Office of the Inspector General.

(b) DoD Hotline Posters may be obtained from the DoD Inspector General, ATTN: Defense Hotline, 400 Army Navy Drive, Washington, DC 22202-2884.

(h) The Contractor need not comply with paragraph (a) of this clause if it has established a mechanism, such as a hotline, by which employees may report suspected instances of improper conduct, and instructions that encourage

employees to make such reports.

(End of clause)

252.204-7003 CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT (APR 1992)

The Contractor's procedures for protecting against unauthorized disclosure of information shall not require Department of Defense employees or members of the Armed Forces to relinquish control of their work products, whether classified or not, to the contractor.

(End of clause)

252.204-7004 REQUIRED CENTRAL CONTRACTOR REGISTRATION ALTERNATE A (NOV 2003)

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

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

“Commercial and Government Entity (CAGE) code” means--

(1) A code assigned by the Defense Logistics Information Service (DLIS) to identify a commercial or Government entity; or

(2) A code assigned by a member of the North Atlantic Treaty Organization that DLIS records and maintains in the CAGE master file. This type of code is known as an “NCAGE code.”

“Data Universal Numbering System (DUNS) number” means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

“Data Universal Numbering System +4 (DUNS+4) number” means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11 of the Federal Acquisition Regulation) for the same parent concern.

“Registered in the CCR database” means that--

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database;

(2) The Contractor's CAGE code is in the CCR database; and

(3) The Government has validated all mandatory data fields and has marked the records “Active.”

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “DUNS” or “DUNS +4” followed by the DUNS or DUNS +4 number that identifies the offeror's name and address

exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at http://www.dnb.com; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company Physical Street Address, City, State, and Zip Code.

(iv) Company Mailing Address, City, State and Zip Code (if separate from physical).

(v) Company Telephone Number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

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

(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.

(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.

(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(g)(1)(i) If a Contractor has legally changed its business name, “doing business as” name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of Subpart 42.12 of the

FAR; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the “Suspension of Payment” paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the “Suspension of payment” paragraph of the EFT clause of this contract.

(h) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at http://www.ccr.gov or by calling 1-888-227-2423, or 269-961-5757.

(End of clause)

252.209-7004 SUBCONTRACTING WITH FIRMS THAT ARE OWNED OR CONTROLLED BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) Unless the Government determines that there is a compelling reason to do so, the Contractor shall not enter into any subcontract in excess of $25,000 with a firm, or subsidiary of a firm, that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country.

(b) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country. The notice must include the name of the proposed subcontractor notwithstanding its inclusion on the List of Parties Excluded From Federal Procurement and Nonprocurement Programs.

(End of clause)

252.223-7004 DRUG-FREE WORK FORCE (SEP 1988)

(a) Definitions.

(1) "Employee in a sensitive position," as used in this clause, means an employee who has been granted access to classified information; or employees in other positions that the Contractor determines involve national security; health or safety, or functions other than the foregoing requiring a high degree of trust and confidence.

(2) "Illegal drugs," as used in this clause, means controlled substances included in Schedules I and II, as defined by section 802(6) of title 21 of the United States Code, the possession of which is unlawful under chapter 13 of that Title.

The term "illegal drugs" does not mean the use of a controlled substance pursuant to a valid prescription or other uses authorized by law.

(b) The Contractor agrees to institute and maintain a program for achieving the objective of a drug-free work force. While this clause defines criteria for such a program, contractors are encouraged to implement alternative approaches comparable to the criteria in paragraph (c) that are designed to achieve the objectives of this clause.

(c) Contractor programs shall include the following, or appropriate alternatives:

(1) Employee assistance programs emphasizing high level direction, education, counseling, rehabilitation, and coordination with available commu nity resources;

(2) Supervisory training to assist in identifying and addressing illegal drug use by Contractor employees;

(3) Provision for self-referrals as well as supervisory referrals to treatment with maximum respect for individual confidentiality consistent with safety and security issues;

(4) Provision for identifying illegal drug users, including testing on a controlled and carefully monitored basis. Employee drug testing programs shall be established taking account of the following:

(i) The Contractor shall establish a program that provides for testing for the use of illegal drugs by employees in sensitive positions. The extent of and criteria for such testing shall be determined by the Contractor based on considerations that include the nature of the work being performed under the contract, the employee's duties, and efficient use of Contractor resources, and the risks to health, safety, or national security that could result from the failure of an employee adequately to discharge his or her position.

(ii) In addition, the Contractor may establish a program for employee drug testing--

(A) When there is a reasonable suspicion that an employee uses illegal drugs; or

(B) When an employees has been involved in an accident or unsafe practice;

(C) As part of or as a follow-up to counseling or rehabilitation for illegal drug use;

(D) As part of a voluntary employee drug testing program.

(iii) The Contractor may establish a program to test applicants for employment for illegal drug use.

(iv) For the purpose of administering this clause, testing for illegal drugs may be limited to those substances for which testing is prescribed by section 2..1 of subpart B of the "Mandatory Guidelines for Federal Workplace Drug Testing Programs" (53 FR 11980 (April 11, 1988), issued by the Department of Health and Human Services.

(d) Contractors shall adopt appropriate personnel procedures to deal with employees who are found to be using drugs illegally. Contractors shall not allow any employee to remain on duty or perform in a sensitive position who is found to use illegal drugs until such times as the Contractor, in accordance with procedures established by the Contractor, determines that the employee may perform in such a position.

(e) The provisions of this clause pertaining to drug testing program shall not apply to the extent that are inconsistent with state or local law, or with an existing collective bargaining agreement; provided that with respect to the latter, the Contractor agrees those issues that are in conflict will be a subject of negotiation at the next collective bargaining session.

(End of clause)

252.223-7006 PROHIBITION ON STORAGE AND DISPOSAL OF TOXIC AND HAZARDOUS MATERIALS (APR 1993)

(a) "Definitions".

As used in this clause --

(1) "Storage" means a non-transitory, semi-permanent or permanent holding, placement, or leaving of material. It does not include a temporary accumulation of a limited quantity of a material used in or a waste generated or resulting from authorized activities, such as servicing, maintenance, or repair of Department of Defense (DoD) items, equipment, or facilities.

(2) "Toxic or hazardous materials" means:

(i) Materials referred to in section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C. 9601(14)) and materials designated under section 102 of CERCLA (42 U.S.C. 9602) (40 CFR part 302);

(ii) Materials that are of an explosive, flammable, or pyrotechnic nature; or

(iii) Materials otherwise identified by the Secretary of Defense as specified in DoD regulations.

(b) In accordance with 10 U.S.C. 2692, the Contractor is prohibited from storing or disposing of non-DoD-owned toxic or hazardous materials on a DoD installation, except to the extent authorized by a statutory exception to 10 U.S.C. 2692 or as authorized by the Secretary of Defense or his designee.

(End of clause)

252.226-7001 UTILIZATION OF INDIAN ORGANIZATIONS AND INDIAN-OWNED ECONOMIC ENTERPRISES, AND NATIVE HAWAIIAN SMALL BUSINESS CONCERNS (OCT 2003)

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

Indian means any person who is a member of any Indian tribe, band, group, pueblo, or community that is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs (BIA) in accordance with 25 U.S.C. 1452(c) and any ``Native" as defined in the Alaska Native Claims Settlement Act (43 U.S.C. 1601).

Indian organization means the governing body of any Indian tribe or entity established or recognized by the governing body of an Indian tribe for the purposes of 25 U.S.C. chapter 17.

Indian-owned economic enterprise means any Indian-owned (as determined by the Secretary of the Interior) commercial, industrial, or business activity established or organized for the purpose of profit, provided that Indian ownership constitutes not less than 51 percent of the enterprise.

Indian tribe means any Indian tribe, band, group, pueblo, or community, including native villages and native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, that is recognized by the Federal Government as eligible for services from BIA in accordance with 25 U.S.C. 1452(c).

Interested party means a contractor or an actual or prospective offeror whose direct economic interest would be affected by the award of a subcontract or by the failure to award a subcontract.

Native Hawaiian small business concern means an entity that is --

(1) A small business concern as defined in section 3 of the Small Business Act (15 U.S.C. 632) and relevant implementing regulations; and

(2) Owned and controlled by a Native Hawaiian as defined in 25 U.S.C. 4221(9).

(b) The Contractor shall use its best efforts to give Indian organizations, Indian-owned economic enterprises, and Native Hawaiian small business concerns the maximum practicable opportunity to participate in the subcontracts it awards, to the fullest extent consistent with efficient performance of the contract.

(c) The Contracting Officer and the Contractor, acting in good faith, may rely on the representation of an Indian organization, Indian-owned economic enterprise, or Native Hawaiian small business concern as to its eligibility, unless an interested party challenges its status or the Contracting Officer has independent reason to question that status.

(d) In the event of a challenge to the representation of a subcontractor, the Contracting Officer will refer the matter to--

(1) For matters relating to Indian organizations or Indian-owned economic enterprises: U.S. Department of the Interior, Bureau of Indian Affairs, Attn: Chief, Division of Contracting and Grants Administration, 1849 C Street NW, MS-2626-MIB, Washington, DC 20240-4000. The BIA will determine the eligibility and will notify the Contracting Officer.

(2) For matters relating to Native Hawaiian small business concerns: Department of Hawaiian Home Lands, PO Box 1879, Honolulu, HI 96805. The Department of Hawaiian Home Lands will determine the eligibility and will notify the Contracting Officer.

(e) No incentive payment will be made--

(1) While a challenge is pending; or

(2) If a subcontractor is determined to be an ineligible participant.

(f)(1) The Contractor, on its own behalf or on behalf of a subcontractor at any tier, may request an incentive payment in accordance with this clause.

(2) The incentive amount that may be requested is 5 percent of the estimated cost, target cost, or fixed price included in the subcontract at the time of award to the Indian organization, Indian-owned economic enterprise, or Native Hawaiian small business concern.

(3) In the case of a subcontract for commercial items, the Contractor may receive an incentive payment only if the subcontracted items are produced or manufactured in whole or in part by an Indian organization, Indian-owned economic enterprise, or Native Hawaiian small business concern.

(4) The Contractor has the burden of proving the amount claimed and shall assert its request for an incentive payment prior to completion of contract performance.

(5) The Contracting Officer, subject to the terms and conditions of the contract and the availability of funds, will authorize an incentive payment of 5 percent of the estimated cost, target cost, or fixed price included in the

subcontract awarded to the Indian organization, Indian-owned economic enterprise, or Native Hawaiian small business concern.

(6) If the Contractor requests and receives an incentive payment on behalf of a subcontractor, the Contractor is obligated to pay the subcontractor the incentive amount.

(g) The Contractor shall insert the substance of this clause, including this paragraph (g), in all subcontracts exceeding $500,000 for which further subcontracting opportunities may exist.

(End of clause)

252.227-7033 RIGHTS IN SHOP DRAWINGS (APR 1966)

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower-tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.

252.236-7000 MODIFICATION PROPOSALS - PRICE BREAKDOWN. (DEC 1991)

(a) The Contractor shall furnish a price breakdown, itemized as required and within the time specified by the Contracting Officer, with any proposal for a contract modification.

(b) The price breakdown --

(1) Must include sufficient detail to permit an analysis of profit, and of all costs for --

(i) Material;

(ii) Labor;

(iii) Equipment;

(iv) Subcontracts; and

(v) Overhead; and

(2) Must cover all work involved in the modification, whether the work was deleted, added, or changed.

(c) The Contractor shall provide similar price breakdowns to support any amounts claimed for subcontracts.

(d) The Contractor's proposal shall include a justification for any time extension proposed.

252.243-7001 PRICING OF CONTRACT MODIFICATIONS (DEC 1991)

When costs are a factor in any price adjustment under this contract, the contract cost principles and procedures in FAR part 31 and DFARS part 231, in effect on the date of this contract, apply.

252.243-7002 REQUESTS FOR EQUITABLE ADJUSTMENT (MAR 1998)

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

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

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

(Official's Name)

(Title)

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

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

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

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

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

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

Security Contract Language for all Corps of Engineers' Unclassified Contracts (PIL 2003-06, 19 Feb 03)

All Contractor employees (U.S. citizens and Non-U.S. citizens) working under this contract (*to include grants, cooperative agreements and task orders*) who require access to Automated Information Systems (AIS), (stand alone computers, network computers/systems, e-mail) shall, at a minimum, be designated into an ADP-III position (non-sensitive) in accordance with DoD 5220-22-R, Industrial Security Regulation. The investigative requirements for an ADP-III position are a favorable National Agency Check (NAC), SF-85P, Public Trust Position. The contractor shall have each applicable employee complete a SF-85P and submit to the Seattle District, U.S. Army, Corps of Engineers, PO Box 3755, Seattle, WA 98124-3755, Security Officer within three (3) working days after award of any contract or task order, and shall be submitted prior to the individual being permitted access to an AIS. Contractors that have a commercial or government entity (CAGE) Code and Facility Security Clearance through the Defense Security Service shall process the NACs and forward visit requests/results of NAC to the Seattle District, U.S. Army, Corps of

Engineers, PO Box 3755, Seattle, WA 98124-3755, Security Officer. For those contractors that do not have a CAGE Code or Facility Security Clearance, the Seattle District, U.S. Army, Corps of Engineers, PO Box 3755, Seattle, WA 98124-3755, Security Office will process the investigation in coordination with the Contractor and contract employees.

In accordance with Engineering Regulation, ER 380-1-18, Section 4, foreign nationals who work on Corps of Engineers' contracts or task orders shall be approved by the HQUSACE Foreign Disclosure Officer or higher before beginning work on the contract/task order. This regulation includes subcontractor employees. (NOTE: exceptions to the above requirement include foreign nationals who perform janitorial and/or ground maintenance services.) The contractor shall submit to the Division/District Contract Office, the names of all foreign nationals proposed for performance under this contract/task order, along with documentation to verify that he/she was legally admitted into the United States and has authority to work and/or go to school in the US. Such documentation may include a US passport, Certificate of US citizenship (INS Form N-560 or N-561), Certificate of Naturalization (INS Form N-550 or N-570), foreign passport with I-551 stamp or attached INS Form I-94 indicating employment authorization, Alien Registration Receipt Card with photograph (INS Form I-151 or I-551), Temporary Resident Card (INS Form I-688), Employment Authorization Card (INS Form I-688A), Reentry Permit (INS Form I-327), Refugee Travel Document (INS Form I-571), Employment Authorization Document issued by the INS which contains a photograph (INS Form I-688B).

Classified contracts require the issuance of a DD Form 254 (Department of Defense Contract Security Classification Specification).

(End of Clause)

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SPECIAL CLAUSES

SC-1. PURPOSE AND SCOPE.

The purpose and scope of this indefinite-delivery, indefinite-quantity (IDIQ) contract, "Repair And Maintenance of Roofs, Fort Lewis and Yakima Training Center, Washington," is to provide roofing repair and maintenance for military projects at Fort Lewis and Yakima Training Center, Washington. As requirements develop, Requests for Proposals (RFP) for Task Orders or unilateral Task Orders will be issued on a sole source basis. Orders will be based on Technical Exhibit 1 (Work Item Price List) and the Contractor's coefficient. Task Orders will vary in size from $2,000 - $500,000 and can be issued by the Seattle District Contracting Officer or a Fort Lewis Ordering Officer. Orders will include tasks in a variety of trades, such as carpentry, roofing, interior/exterior electrical, HVAC, plumbing, sheet metal, painting, demolition, concrete, masonry and welding, as well as asbestos and lead-paint abatement that is incidental to the construction.

SC-2. PERIOD OF SERVICE.

Day one of the contract is the date of signature by the Contracting Officer. The ordering period for the contract shall automatically end upon the completion of the base period absent an extension. The contract will include a base period, not to exceed (NTE) one year and four option periods (NTE one year each), for a total contract performance period NTE five years. If capacity is fully utilized for any period before the one-year time limit, the Government may decide to exercise the next option early. Maximum value of all work will be limited to $2 million per contract period and $10 million over the life of the contract. Task Order minimum and maximum limits are $2,000 and $500,000, respectively. The expiration or termination of the ordering period shall not affect any order issued during the effective period of this contract. Only the Contracting Officer executing this contract and the Successor Contracting Officer has the authority to modify the term and conditions of this contract.

MINIMUM GUARANTEE:

The Contractor will be paid for services ordered and accepted in accordance with the Contract Clauses entitled, "Payments Under Fixed-Price Construction Contracts" (FAR 52.232-5) and "Prompt Payment for Construction Contracts" (FAR 52.232-27) in SECTION 00700. The Government is not obligated to fund the maximum cumulative dollar amount of this contract. Each Task Order will have funds obligated on an individual basis. The Government intends to order a minimum of two percent (2%) of the maximum possible dollar amount for the base year, and if the options years are exercised, one percent (1%) of the maximum dollar amount per each option. Should the Government fail to order this amount of services during the contract period, the Contractor may submit a claim as provided in the contract clause entitled, "Disputes" (FAR 52.233-1) of SECTION 00700. In no event will the Government's liability under this circumstance exceed two percent (2%), $40,000, of the maximum possible dollar amount for the base year and one percent (1%), $20,000, of the maximum possible option dollar amount if the option periods are exercised.

SC 2.1 Delivery or performance period shall be specified in each individual task order issued thereunder.

SC- 3. ORDERING AND PROCESSING PROCEDURES.
When the Government requires work under this contract, the Government may request a price from the Contractor for a "one job, lump sum" task order, or will issue a unilateral task order authorizing specific roofing repair and specific quantities of work to be performed. A sketch may accompany the task order to indicate required layout and arrangement of the work item or combination of items. The work specified may be ordered in any part of a facility or involve all of a facility.
The Government may provide to the Contractor a Request for Proposal (RFP) with a SOW describing the work to be performed, which may include special instructions and conditions and a material submittal register; and, if applicable, a complete set of sketches or construction drawings for that task order. The Contractor shall not be reimbursed for any pre-task order costs, including proposal preparation, attendance during negotiations or site visits. The Contractor shall respond within ten (10) calendar days of the RFP date or site visit, whichever is later, or as otherwise indicated on a case-by-case basis, by submitting a proposal containing:

(a) A standard spreadsheet file and printout, listing the Contractor's proposal by specific item and quantity multiplied by the TE-1 price and then the appropriate coefficient. Items not contained in the TE-1 will be priced separately as non-prepriced (NPP) items. The value of NPP work under a task order shall not exceed 10 percent of the value of the prepriced work.

(b) A project completion schedule showing all milestones, e.g., Notice To Proceed, ordering materials, demolition, work phasing, completion date.

The proposal shall be supported (at no additional cost to the Government) by necessary documentation to indicate that adequate scoping, layout, setup and planning to accomplish the work has been done. Examples of documentation that might reasonably be expected include sketches, drawings, calculations, catalog cuts and specifications produced to a level of detail and skill that could be expected of experienced, competent project managers with five or more years experience in their respective trade.

The Contracting Officer (or authorized representative) will compare the Contractor's proposed price with the Government Estimate and arrange a meeting with the Contractor, at which time the Contractor's proposal will be discussed and negotiated. All work will be completed in accordance with the specifications and contract requirements as outlined by the SOW, supplemental specifications and sketches/construction drawings that were issued with the task order.

The price established for the task order as a result of the negotiation will be the actual price for the order and the Contractor shall receive payment on a one job, lump sum basis for that order in accordance with the terms and conditions of the contract. The Contractor shall invoice only for the lump sum price of the task order, not on the basis of quantities of items. Each task order will authorize and list the location and description of the required work. Only the work designated in the task order is authorized to be performed.

The Government may, at its option, issue a unilateral order authorizing roof repair and specific quantities to be performed. The total estimated price of the task order will be established by multiplying the unit price of the work to be performed, as listed in the "Work Item Price List" (Technical Exhibit 1), by an estimated quantity of the item. The product will then be multiplied by the appropriate coefficient as listed in the Bid Schedule. The result will be the total estimated price for the Task Order. The actual Task Order price will be determined in a joint review by the Government and the Contractor. To this end, prior to invoicing for the work of the Task Order, the Contractor shall submit a list of work items accomplished during the project specified in the Task Order to the Government. The Government will review the list and discuss any discrepancies noted with the Contractor. The Contractor shall invoice only for those items that were used on the project specified in the Task Order, as determined by the review of the Government, and after applying the appropriate coefficient.

Issuance of Orders. Upon award of a task order (DD Form 1155), the signed copy will be mailed to the Contractor. The Contractor must sign the task order in Block 16 and return a copy to the Contracting Officer. Failure to pick up or receive mailed orders shall not relieve the Contractor of completion in accordance with the task order. On a case by case basis, the Government may provide verbal NTP with the work in advance of issuing the task order. The Notice to Proceed (NTP) may be the date the task order was signed or may be delayed (after the fact) NTP from the award date of the task order. The task order completion schedule shall be based on the issuance of NTP or the issuance of a verbal NTP, whichever is sooner.
Priorities and Completion. Work shall be completed by the date in Block 10 of the DD 1155 or, if indicated otherwise, in the SOW. The Contracting Officer may revise the completion dates of ongoing work or revise a sequence of priorities for completion of a series of projects.

SC- 4 ORDERING

At the time of contract award the Contracting Officer, Seattle District Corps of Engineers, will appoint an Ordering Officer within Public Works, Fort Lewis, Washington. The appointed officer will have limited authority to issue and administer Task Orders, but will not have authority to modify the basic contract.

52.216-18 ORDERING. (OCT 1995)

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. Such orders may be issued from contract award through contract completion.

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

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

(End of clause)

A Performance and Payment Bond will be required for each individual Task Order action of $100,000 or more. A Payment Bond will be required for each individual Task Order action of $25,000 or more. Refer to FAR Clause 52.228-15 – PERFORMANCE AND PAYMENT BONDS -- CONSTRUCTION (JUL 2000).

SC-4.1 52.216-19 ORDER LIMITATIONS. (OCT 1995)

(a) Minimum order. When the Government requires supplies or services covered by this contract in an amount of less than $2,000, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under the contract.

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

(1) Any order for a single item in excess of $500,000;

(2) Any order for a combination of items in excess of $500,000; or

(3) A series of orders from the same ordering office within seven (7) days that together call for quantities exceeding the limitation in subparagraph (1) or (2) above.

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

(d) Notwithstanding paragraphs (b) and (c) above, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within seven (7) days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

(End of clause)

SC-5 (deleted)

SC-6 CONTRACT ADMINISTRATION
Public Works, Fort Lewis will scope, negotiate, award and administer task orders and modifications that are issued by their office. For task orders issued and administered by the Corps of Engineers, the following procedures will be implemented:

(a) The Corps of Engineers' Ft. Lewis Area Office will administer task orders for locations at Fort Lewis and Yakima, with the exception of PW's task orders. An Administrative Contracting Officer (ACO) within the Fort Lewis Area Office will be appointed and will have the authority to administer task orders as well as to scope, negotiate, award and administer modifications to task orders.
(b) In some circumstances, the Corps of Engineers Fort Lewis Area Office may administer task orders scoped and negotiated by Public Works, Fort Lewis.

SC-7. LIQUIDATED DAMAGES - CONSTRUCTION (SEPT 2000) (FAR 52.211-12)
If the Contractor fails to complete the work within the time specified in the task order, or any extension, the Contractor shall pay liquidated damages to the Government in the amount of $183.74 for each calendar day exceeding the specified performance period for any task order until the work is completed or accepted. Separate additional liquidated damages may be specified in an individual task order.

(c) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

SC-8. TIME EXTENSIONS (SEPT 2000) (FAR 52.211-13) Time extensions for contract changes will depend upon the extent, if any, by which the changes cause delay in the completion of the various elements of construction. The change order granting the time extension may provide that the task order completion date will be extended only for those specific elements related to the changed work and that the remaining contract completion dates for all other portions of the work will not be altered. The change order also may provide an equitable readjustment of liquidated damages under the new completion schedule.

SC-9. PAYMENT FOR MATERIALS DELIVERED OFF-SITE (MAR 1995)-(EFARS 52.232-5000)
(a) Pursuant to FAR clause 52.232-5, Payments Under Fixed Priced Construction Contracts, materials delivered to the contractor at locations other than the site of the work may be taken into consideration in making payments if included in payment estimates and if all the conditions of the General Provisions are fulfilled. Payment for items delivered to locations other than the work site will be limited to: (1) materials required by the technical provisions; 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 canceled check showing title to the items in the prime contractor and including the value of material and labor incorporated into the item. In addition to petroleum products, payment for materials delivered off-site is limited to the following items: Any other construction material stored offsite may be considered in determining the amount of a progress payment.

SC-10. SUSTAINABLE DESIGN: Sustainable Design (Green Design) uses an integrated design approach emphasizing environmental stewardship, especially energy and water conservation and efficiency; use of recovered and recycled materials; waste reduction; reduction or elimination of toxic and harmful substances in facilities construction and operation; efficiency in resource and materials utilization; and development of healthy, safe and productive work environments. The Contractor shall consider sustainable design an important part of his responsibilities and shall comply with the requirements to the maximum possible extent.

SC-11 EPA ENERGY STAR: The Government requires that all newly installed roof systems be Energy Star compliant unless otherwise specified. This provision does not apply to buildings that the State Historical Preservation Office (SHPO) has determined to be of Historical status. The Contractor shall provide the roof system manufacturer's certification that the specified equipment is Energy Star certified.

SC-12. RECOVERED MATERIALS: The Corps of Engineers encourages all bidders to utilize recovered materials to the maximum extent practicable. The attached APPENDIX R contains procurement guidelines for products containing recovered materials.

SC-13. COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984) (FAR 52.211-10).

The Contractor will be required to (a) commence work under this Contract within 10 calendar days after the date the Contractor receives the notice to proceed, (b) to prosecute the work diligently, and (c) to complete the entire work ready for use as shown below. The time stated for completion shall include final cleanup of the premises.

SC-14. 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 period of this Contract at least the kinds and minimum amounts of insurance required in the Insurance Liability Schedule or elsewhere in the Contract.

(b) Before commencing work under this Contract, the Contractor shall certify to 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 in the Schedule or elsewhere in the Contract. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

SC-14.1 REQUIRED INSURANCE IN ACCORDANCE WITH FAR 28.307-2:

(1) Workers' compensation and employer's liability. Contractors are required to comply with applicable Federal and State workers' compensation and occupational disease statutes. If occupational diseases are not compensable under those statutes, they shall be covered under the employer's liability section of the insurance policy, except when Contract operations are so commingled with a Contractor's commercial operation that it would not be practical to require this coverage. Employer's liability coverage of at least $100,000 shall be required, except in states with exclusive or monopolistic funds that do not permit workers' compensation to be written by private carriers.

(2) General Liability.

(a) The Contracting Officer shall require bodily injury liability insurance coverage written on the comprehensive form of policy of at least $500,000 per occurrence.

(b) Property damage liability insurance shall be required only in special circumstances as determined by the agency.

(3) Automobile liability. The Contracting Officer shall require automobile liability insurance written on the comprehensive form of policy. The policy shall provide for bodily injury and property damage liability covering the operation of all automobiles used in connection with performing the Contract. Policies covering automobiles operated in the United States shall provide coverage of at least $200,000 per person and $500,000 per occurrence for bodily injury and $20,000 per occurrence for property damage. The amount of liability coverage on other policies shall be commensurate with any legal requirements of the locality and sufficient to meet normal and customary claims.

(4) Aircraft public and passenger liability. When aircraft are used in connection with performing the Contract, the Contracting Officer shall require aircraft public and passenger liability insurance. Coverage shall be at least $200,000 per person and $500,000 per occurrence for bodily injury, other than passenger liability, and $200,000 per occurrence for property damage. Coverage for passenger liability bodily injury shall be at least $200,000 multiplied by the number of seats or passengers, whichever is greater.

(5) Vessel liability. When Contract performance involves use of vessels, the Contracting Officer shall require, as determined by the agency, vessel collision liability and protection and indemnity liability insurance.

(6) Environmental Liability If this contract includes the transport, treatment, storage, or disposal of hazardous material waste the following coverage is required.

The Contractor shall ensure the transporter and disposal facility have liability insurance if effect for claims arising out of the death or bodily injury and property damage from hazardous material/waste transport, treatment, storage and disposal, including vehicle liability and legal defense costs in the amount of $1,000,000.00 as evidenced by a certificate of insurance for General, Automobile, and Environmental Liability Coverage. Proof of this insurance shall be provided to the Contracting Officer.

SC-15. AIRFIELD SAFETY PRECAUTIONS

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

(1) "Landing Areas" means:

(i) the primary surfaces which are comprised of the surface of the runways, the runway shoulders, and the lateral safety zones (the length of each primary surface is the same as the runway length; the width of each primary surface is 610 meters (2,000 feet), 305 meters (1,000 feet) on each side of the runway centerline; (see footnote at end of clause)).

(ii) the "clear zone" beyond the ends of each runway, i.e., the extension of the "primary surface" for a distance of 305 meters (1,000 feet) beyond each end of each runway;

(iii) all taxiways plus the lateral clearance zones along each side for the length of the taxiways (the outer edge of each lateral clearance zone is laterally 76 meters (250 feet) from the far or opposite edge of the taxiway, i.e., a 23 meters (75-foot)-wide taxiway would have a combined width of taxiway and lateral clearance zones of 130 meters (425 feet); and

(iv) all aircraft parking aprons plus the area 38 meters (125 feet) in width extending beyond each edge all around the aprons.

(2) "Safety precaution areas" means those portions of approach-departure clearance zones and transitional zones where placement of objects incident to Contract performance might result in vertical projections at or above the approach-departure clearance surface or the transitional surface.

(i) The "approach-departure clearance surface" is an extension of the primary surface and the clear zone at each end of each runway, for a distance of 15,240 meters (50,000 feet), first along an inclined (glide angle) and then along a horizontal plane, both flaring symmetrically about the runway centerline extended.

(a) The inclined plane (glide angle) begins in the clear zone 61 meters (200 feet) past the end of the runway (and primary surface) at the same elevation as the end of the runway, and continues upward at a slope of 50:1 (.3048 meter (one foot) vertically for each 15.24 meters (50 feet) horizontally) to an elevation of 152 meters (500 feet) above the established airfield elevation; at that point the plane becomes horizontal, continuing at that same uniform elevation to a point 15,240 meters (50,000 feet) longitudinally from the beginning of the inclined plane (glide angle) and ending there.

(b) The width of the surface at the beginning of the inclined plane (glide angle) is the same as the width of the clear zone; thence it flares uniformly, reaching the maximum width of 4,877 meters (16,000 feet) at the end.

(ii) The "approach-departure clearance zone" is the ground area under the approach-departure clearance surface.

(iii) The "transitional surface" is a sideways extension of all primary surfaces, clear zones, and approach-departure clearance surfaces along inclined planes.

(a) The inclined plane in each case begins at the edge of the surface.

(b) The slope of the inclined plane is 7:1 (.3048 meter (one foot) vertically for each 2.13 meters (7 feet) horizontally), and it continues to the point of intersection with

(1) Inner horizontal surface (which is the horizontal plane 46 meters (150 feet) above the established airfield elevation) or

(2) Outer horizontal surface (which is the horizontal plane 152 meters (500 feet) above the established airfield elevation), whichever is applicable.

(iv) The "transitional zone" is the ground area under the transitional surface. (It adjoins the primary surface, clear zone and approach-departure clearance zone.)

(b) General

(1) The Contractor shall comply with the requirements of this clause while

(i) Operating all ground equipment (mobile or station art);

(ii) Placing all materials; and

(iii) Performing all work, upon and around all airfields.

(a) The requirements of this clause are in addition to any other safety requirements of this contract.

(c) The Contractor shall--

(1) Report to the Contracting Officer before initiating any work;

(2) Notify the Contracting Officer of proposed changes to locations and operations;

(3) Not permit either its equipment or personnel to use any runway for purposes other than aircraft operation without permission of the Contracting Officer, unless the runway is --

(i) Closed by order of the Contracting Officer, and

(ii) Marked as provided in paragraph (d)(2) of this clause;

(4) Keep all paved surfaces such as runways, taxiways, and hardstands, clean at all times and, specifically, free from small stones which might damage aircraft propellers or jet aircraft;

(5) Operate mobile equipment according to the safety provisions of this clause, while actually performing work on the airfield. At all other times, the Contractor shall remove all mobile equipment to locations--

(i) Approved by the Contracting Officer,

(ii) At a distance of at least 229 meters (750 feet) from the runway centerline, plus any additional distance; and

(iii) Necessary to ensure compliance with the other provisions of this clause.

(e) Landing Areas

The Contractor shall--

(1) Place nothing upon the landing areas without the authorization of the Contracting Officer.

(2) Outline those landing areas hazardous to aircraft, using (unless otherwise authorized by the Contracting Officer) red flags by day, and electric, battery-operated low-intensity red flasher lights by night;

(3) Obtain, at an airfield where flying is controlled, additional permission from the control tower operator every time before entering any landing area, unless the landing area is marked as hazardous in accordance with paragraph (d)(2) of this clause;

(4) Identify all vehicles it operates in landing areas by means of a flag on a staff attached to, and flying above, the vehicle. The flag shall be .9144 meters (3 feet) square, and consist of a checkered pattern of international orange and white squares of .3048 meter (1 foot) on each side (except that the flag may vary up to 10 percent from each of these dimensions);

(5) Mark all other equipment and materials in the landing areas, using the same marking devices as in paragraph (d)(2) of this clause; and

(6) Perform work so as to leave that portion of the landing area which is available to aircraft free from hazards, holes, piles of material, and projecting shoulders that might damage an airplane tire.

(e) Safety Precaution Areas

The Contractor shall--

(1) Place nothing upon the safety precaution areas without authorization of the Contracting Officer;

(2) Mark all equipment and materials in safety precaution areas, using (unless otherwise authorized by the Contracting Officer) red flags by day, and electric, battery-operated, low-intensity red flasher lights by night; and

(3) Provide all objects placed in safety precaution areas with a red light or red lantern at night, if the objects project above the approach-departure clearance surface or above the transitional surface.

SC-16. IDENTIFICATION OF GOVERNMENT-FURNISHED PROPERTY (APR 1984) (FAR 52.245-3): No Government-Furnished Property (GFP) is anticipated in this Contract. In the case of roofs on structures identified by the Government as Historical, the existing ceramic roof tiles will be removed and reinstalled. Should GFP be identified in an individual Task Order, the Government will furnish to the Contractor the property identified in the task order to be incorporated or installed into the work or used in performing the contract. The listed property will be furnished to the Contractor at the place designated by the Contracting Officer. The Contractor is required to accept delivery, pay any demurrage or detention charges, and unload and transport the property to the jobsite at its

own expense. When the property is delivered, the Contractor shall verify its quantity and condition and acknowledge receipt in writing to the Contracting Officer. The Contractor shall also report in writing to the Contracting Officer within 24 hours of delivery any damage to or shortage of the property as received. All such property shall be installed or incorporated into the work at the expense of the Contractor, unless otherwise indicated in this contract. Coordinate delivery site location for Government Furnished Property with the Contracting Officer.

SC-17. CONTRACT SPECIFICATIONS (AUG 2000)(DOD FAR SUPP 252.236-7001)

(a) The Government will provide to the Contractor, without charge, one set of contract 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 specifications furnished immediately upon receipt;

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

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

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

(c) Omissions from the specifications or the misdescription of details of work which 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 specifications.

(d) The work shall conform to the specifications, or to the manufacturer's instructions provided with the product being installed, as applicable. The National Roofing Contractors' Association (NRCA) "Roofing And Waterproofing Manual", 5th Edition, is to be the preferred technical reference in any case where the specifications are deemed to be insufficient, lacking, or would produce an unsatisfactory result. The Contractor will notify the Contracting Officer before proceeding with NRCA methods in preference to specifications or manufacturer-recommended methods.

SC-18. <u>CONTRACTOR'S COEFFICIENT</u>.

18.1. The Contractor's coefficient shall contain all costs other than the prepriced unit prices contained in the Technical Exhibits. The coefficient is a numerical factor that represents the total contractor costs (indirect and direct) and profit not considered to be included in the Technical Exhibits prices. The Contractor's coefficient shall contain all contractors' costs inclusive of profit, all overhead (to include home office and field overhead), labor burden, insurance, adjustments to listed prices, general and administrative expenses, subcontractor mark-up, contingencies (such as geographical location of work), mobilization and demobilization, and all other costs including, but not limited to, compliance with environmental laws, permits, preparation of reports, correspondence and documentation required by law or these specifications, tax laws, protection and/or moving of government property and engineering services. The coefficient shall also include costs described as costs to provide submittals, interface with Government representatives, coordination with occupants and other contractors. The coefficient shall also include costs for:

- All waste and excess material
- Mobilization and close out for the total contract and each Task Order.
- Clean up
- Safety (e.g. Safety Rails, Safety Nets, tethers, face/clothing protection, personal protective equipment of all kinds, etc.)
- Traffic and work-site signs and barriers
- Project management and supervision
- Quality control
- Office management and equipment

- Depreciation of mobile office(s)
- Subcontractor overhead and profit
- As-built drawing, submittals, permits, licenses and other risks of doing business
- Site security

18.2. The coefficient is proposed by offerors as a percentage increase, (e.g., 1.10) or decrease (e.g., 0.95) to the Technical Exhibit prices, in association with performance of a Task Order. The coefficient proposed and accepted is incorporated in the contract and used in establishing the price for Task Orders.

18.3. The Technical Exhibit prices will be used for base and option periods of the contract.

18.4. **Coefficient Factors For Option Years .** Adjustment to the base year coefficient factors for option years will be in accordance with the following formula:

$$pl = p \times f$$

Definitions:
pl = New Coefficient Factor
p = Coefficient Factor for Initial Year of Contract
f = Index Factor

a. The Index Factor, f, shall be computed according to the following equation:

$$f = \frac{CCI - C}{CCI - B}$$

b. Where: CCI-C is the Construction Cost Index for the month in which the option year is exercised for which f is computed as published by the ENR (formerly called the Engineering News Record), and CCI-B is the base reference and is the CCI for the month in which the base year contract is awarded'.
c. *NOTE: If the ENR changes the index base year(s), the base reference used herein will be adjusted to accommodate the new CCI-C(s).

d. In computing f, the CCI-C may be located on the Market Trends page of the ENR current issue at the time that the option year is exercised. The CCI-B is the base reference for the month in which the basic contract was awarded.

e. If the CCI-C ceases to be published, the parties shall agree on substitute indices and the contract modified accordingly.

18.5. **Adjustment to Coefficient.** Coefficient will not be adjusted for any other changes or circumstances encountered during the life of the contract.

18.6. When it is determined that a task order requires modification, the Contractor shall calculate his proposal using the same coefficient that was used in calculating the basic task order, regardless of the date of the modification. New Davis-Bacon wage rates will be incorporated with the exercise of an option year.

18.7. UNIT PRICE FOR EMERGENCY SERVICE ORDER RESPONSE FOR OPTION YEARS.

Adjustment to the base year unit price for emergency service order responses for option years will be in accordance with the following formula:

pl = p x f where: pl = New Unit price for emergency service order response

p = Unit price for emergency service order response for Initial Year of Contract

f = Index Factor

The Index Factor f, shall be computed according to the following equation:

CCI-C times f = CCI-B where: CCI-C is the Construction Cost Index for the month in which the option year is exercised for which f is computed, as published by the ENR (formerly called the Engineering News Record), and CCI-B is the base reference and is the CCI for the month in which the base year contract is awarded.

Notes: If the ENR were to change the index base year(s), the base reference used herein will be adjusted to accommodate the new CCI(s). In computing f, the CCI-C may be located on the "Market Trends" page of the ENR issue current at the time that the option year is exercised. If the CCI-C ceases to be published the parties will agree on substitute indices to be used and the contract modified accordingly.

APPENDIX R

PART 247 - COMPREHENSIVE PROCUREMENT GUIDELINE (CPG) FOR PRODUCTS CONTAINING RECOVERED MATERIALS

40 CFR Ch. 1 (9-1-99 Edition)

Subpart B-Item Designations

§ 247.10 Paper and paper products.

Paper and paper products, excluding building and construction paper grades.

§ 247.11 Vehicular products.

(a) Lubricating oils containing re-refined oil, including engine lubricating oils, hydraulic fluids, and gear oils, excluding marine and aviation oils.
(b) Tires, excluding airplane tire
(e) Reclaimed engine coolants, excluding coolants used in non-vehicular applications.

247.12 Construction products.

Building insulation product including the following items:
(1) Loose-fill insulation, including but not limited to cellulose fiber, mineral fibers (fiberglass and rock vermiculite, and perlite;
(2) Blanket and batt insulation, including but not limited to mineral fibers (fiberglass and rock wool).
Board (sheathing, roof decking wall panel) insulation, including but not limited to structural fiberboard and laminated paperboard products perlite composite board, polyurethane, polyisocyanurate, polystyrene, phenolics, and composites; and
(4) Spray-in-place insulation, including but not limited to foam-in-place polyurethane and polyisocyanurate and spray-on cellulose.
(b) Structural fiberboard and laminated paperboard products for applications other than building insulation, including building board, sheathing shingle backer, sound deadening board, roof insulating board, insulating wallboard, acoustical and non-acoustical ceiling tile, acoustical and non-acoustical lay-in panels, floor underlayments, and roof overlay (cover board).
(c) Cement and concrete, including concrete products such as pipe and block, containing coal fly as ground granulated blast furnace (GGBF) slag.
(d) Carpet made of polyester fiber use in low- and medium-wear applications.
(e) Floor tiles and patio block containing recovered rubber or plastic.
(f) Shower and restroom dividers/partitions containing recovered plastic or steel.
(g) (1) Consolidated latex paint used for covering graffiti; and
(2) Reprocessed latex paint used for interior and exterior architectural applications such as wallboard, ceilings, and trim; gutter boards; and concrete, stucco, masonry, wood and metal surfaces.

§247.13 Transportation products.

(a) Traffic barricades and traffic cones used in controlling or restricting vehicular traffic.
(b) Parking stops made from concrete or containing recovered plastic or rubber.
(c) Channelizers containing recovered plastic or rubber.
(d) Delineators containing recovered plastic, rubber, or steel.
(e) Flexible delineators containing recovered plastic.

§ 247.14 Park and recreation products

(a) Playground surfaces and running tracks containing recovered rubber or plastic.
(b) Plastic fencing containing recovered plastic for use in controlling snow or sand drifting and as a warning/safety barrier in construction or other applications.

247.15 Landscaping products.

(a) Hydraulic mulch products containing recovered paper or recovered wood used for hydroseeding and as an over-spray for straw mulch in landscaping, erosion control, and soil reclamation.
(b) Compost made from yard trimmings, leaves, and/or grass clippings for use in landscaping, seeding of grass or other plants on roadsides and embankments, as a nutritious mulch under trees and shrubs, and in erosion control and soil reclamation.
(c) Garden and soaker hoses containing recovered plastic or rubber.
(d) Lawn and garden edging containing recovered plastic or rubber.

§ 247.16 Non-paper office product.

(a) Office recycling containers and office waste receptacles.
(b) Plastic desktop accessories.
(c) Toner cartridges.
Binders.
(e) Plastic trash bags.
(f) Printer ribbons.
(g) Plastic envelopes.

§ 247.17 Miscellaneous products.

Pallets containing recovered wood, plastic, or paperboard.

END OF SECTION

SECTION 00801

TECHNICAL EXHIBIT 1

WORK ITEM PRICE LIST

WORK ITEM PRICE LIST

ITEM NO	DESCRIPTION	UNIT	WORK	UNIT PRICE
	SECTION A - SINGLE-PLY ROOFING, THERMOPLASTIC POLYOLEFIN (TPO) AND POLYVINYL CHLORIDE (PVC)			
A-1	Furnish and install single ply Thermoplastic Polyolefin (TPO) Membrane over wood deck including elastomeric flashing and accessories with no insulation required.	SQ		$311
A-2	Furnish and install single ply Thermoplastic Polyolefin (TPO) Membrane over wood deck including elastomeric flashing and accessories with R-30 insulation.	SQ		$471
A-3	Furnish and install single ply Thermoplastic Polyolefin (TPO) Membrane over concrete (structural) deck including elastomeric flashing and accessories - no insulation required.	SQ		$325
A-4	Furnish and install single ply Thermoplastic Polyolefin (TPO) Membrane over structural concrete roof deck including elastomeric flashing and accessories with R-30 insulation.	SQ		$485
A-5	Furnish and install single ply Thermoplastic Polyolefin (TPO) Membrane over metal deck including elastomeric flashing and accessories - no insulation required.		SQ	$335
A-6	Furnish and install single ply Thermoplastic Polyolefin (TPO) Membrane over metal deck including elastomeric flashing and accessories with R-30 insulation.	SQ		$495
A-7	Furnish and install single ply Polyvinyl Chloride (PVC) Membrane over wood deck including elastomeric flashing and accessories with no insulation required.	SQ		$236
A-8	Furnish and install single ply Polyvinyl Chloride (PVC) Membrane over wood deck including elastomeric flashing and accessories with R-30 insulation.	SQ		$396
A-9	Furnish and install single ply Polyvinyl Chloride (PVC) Membrane over concrete (structural) deck including elastomeric flashing and accessories - no insulation required.	SQ		$250
A-10	Furnish and install single ply Polyvinyl Chloride (PVC) Membrane over structural concrete roof deck including elastomeric flashing and accessories with R-30 insulation.	SQ		$410
A-11	Furnish and install single ply Polyvinyl Chloride (PVC) Membrane over metal deck including elastomeric flashing and accessories - no insulation required.		SQ	$266
A-12	Furnish and install single ply Polyvinyl Chloride (PVC) Membrane over metal deck including elastomeric flashing and accessories with R-30 insulation.	SQ		$426

A-13	Reduce R-30 thermal insulation rating of insulation board from R-30 to R-20.	SQ	($28) (Deduct)
A-14	Heat apply 18-inch wide (minimum) strip of single ply membrane Over split, tear or break in existing roof membrane.	SF	$ 4
A-15	Replace localized deteriorated or damaged membrane with new Membrane and base flashing as needed.	SF	$ 5

WORK ITEM PRICE LIST

ITEM NO	DESCRIPTION	UNIT	WORK PRICE	UNIT
	SECTION B - SINGLE-PLY ROOFING, EPDM AND MODIFIED BITUMEN			
B-1	Furnish and install single ply EPDM roofing system over Wood deck, including elastomeric flashing and accessories. (no insulation)	SQ		$235
B-2	Furnish and install single ply EPDM roofing system over Wood deck, including elastomeric flashing and accessories. (R30 Insulation)	SQ		$395
B-3	Furnish and install single ply EPDM roofing system over concrete deck, including elastomeric flashing and accessories. (no insulation)	SQ		$250
B-4	Furnish and install single ply EPDM roofing system over concrete deck, including elastomeric flashing and accessories. (R30 Insulation)	SQ		$410
B-5	Furnish and install single ply EPDM roofing system over metal deck, including elastomeric flashing and accessories. Provide minimum insulation (supports 250 lbs at midspan) to bridge deck flutes. (no insulation)	SQ		$260
B-6	Furnish and install single ply EPDM roofing system over metal deck, including elastomeric flashing and accessories. (R30 Insulation)	SQ		$420
B-7	Furnish and install single ply reinforced modified bitumen Membrane roofing system over wood deck, including elastomeric flashing and accessories. (no insulation)	SQ		$183
B-8	Furnish and install single ply reinforced modified bitumen Membrane roofing system over wood deck, including elastomeric flashing and accessories. (R30 Insulation)	SQ		$343
B-9	Furnish and install single ply reinforced modified bitumen Membrane roofing system over concrete deck. (no insulation)	SQ		$229
B-10	Furnish and install single ply reinforced modified bitumen Membrane roofing system over concrete deck. (R30 Insulation)	SQ		$389

B-11	Furnish and install single ply reinforced modified bitumen Membrane roofing system over steel deck. . Provide minimum insulation (supports 250 lbs at midspan) to bridge deck flutes. ("no insulation")	SQ	$223	
B-12	Furnish and install single ply reinforced modified bitumen Membrane roofing system over steel deck. (R30 Insulation)	SQ	$363	
B-13	Reduce R-30 thermal insulation rating to R-20. (Work items B-2, B-4, B-6, B-8, B-10, and B-12)	SQ	($28) (Deduct)	
B-14	Re-adhere or patch parted or leaking EPDM field seam, tear, split, or cut (adhered mechanical fastened or ballasted.) Repairs to be in accordance with manufacturer's recommendations.	LF	$ 4	
B-15	Patch hole or damaged area in adhered EPDM membrane (0.060-inch thick EPDM). Repairs to be in accordance with manufacturer's recommendations.	SF	$ 4	
B-16	Patch hole or damaged area of loose laid mechanical fastened or ballasted EPDM membrane (0.060-inch thick EPDM). Repairs to be in accordance with manufacturer's recommendations.	SF	$ 4	
B-17	Replace defective or leaking transition base (flexible) flashing Between membrane and metal flashing, wood or masonry on EPDM Roofs (adhered or loose laid systems) in accordance with manufacturer's recommendations.	SF	$ 5	
B-18	Heat apply 18-inch wide (minimum) strip of single ply modified bitumen membrane over split, tear, or break in existing mod bit single ply membrane or built up roof membrane. Includes preparation of existing surface and finishing new surface to match existing roof field. Includes tear-off and disposal of affected existing roofing.	SF	$ 5	
B-19	Replace localized deteriorated or damaged single ply modified Bitumen membrane or BUR membrane with new mod bit heat applied Membrane and mod bit base flashing as needed. Includes preparation of existing surface and finishing new surface to match existing roof field. Includes tear-off and disposal of affected existing roofing.		SF	$ 5

WORK ITEM PRICE LIST

ITEM NO	DESCRIPTION	UNIT	WORK PRICE	UNIT
	SECTION C - TILE ROOFING			
C-1	Furnish and install new clay tile roof to match existing roll type clay tile roof. Includes tear-off and disposal of existing tile roof.	SQ		$1170
C-2	Furnish and install new clay tile roof to match existing flat type clay tile roof. Includes tear-off and disposal of existing tile roof.	SQ		$1170
C-3	Reroofing of existing clay tile roofs using Government furnished salvaged roll type clay tiles. Includes tear-off and disposal of existing tile roof.	SQ		$600
C-4	Reroofing of existing clay tile roof using Government furnished salvaged flat type clay tiles. Includes tear-off and disposal of existing tile roof.	SQ		$600
C-5	Salvage and crate or palletize existing sound clay tiles from tear-Off of existing roofs. (Tiles remain government property.)	SQ		$ 70
C-6	Provide reroofing with roll type inter-locking concrete tile. (Government selects style and color.) Includes tear-off and disposal of existing roof.	SQ		$508
C-7	Provide reroofing with flat type inter-locking concrete tiles. (Government selects style and color.) Includes tear-off and disposal of existing tile roof.	SQ		$508
C-8	Replace damaged or missing scattered or clustered roll type clay tiles to match existing in shape and appearance. (includes roof field tiles, ridge tiles, rake tiles, and special field cut tiles at roof penetrations, valleys, rakes, etc.) Replacement clay tiles to be furnished by the Government. Tiles damaged by contractor's operations shall be replaced (using Government-furnished tiles) by the Contractor at no additional expense to the Government.	EA TILE	$ 14	
C-9	Replace damaged or missing scattered or clustered flat shingle clay tiles and flat interlocking rib (clay) tiles to match existing in shape and appearance. (includes roof field tiles, ridge tiles, rake tiles, and special field cut tiles at roof penetrations, valleys, rakes, etc.) Replacement clay tiles to be furnished by the Government. Tiles damaged by contractor's operations shall be replaced (using Government-furnished tiles) by the Contractor at no additional expense to the Government.	EATILE		$ 14
C-10	Replace damaged or missing scattered or clustered roll type clay tiles to match existing in shape, quality, and appearance (includes roof field tiles, ridge tiles, rake tiles, and special field cut tiles at roof penetrations, valleys, rakes, etc.) All materials to be furnished by the Contractor.	EA TILE	$ 22	

C-11	Replace damaged or missing scattered or clustered flat shingle clay tiles and flat interlocking rib clay tiles to match existing in shape, quality, and appearance (includes roof field tiles, ridge tiles, rake tiles, and special field cut tiles at roof penetrations, valleys, rakes, etc.) All materials to be furnished by the Contractor.	EA TILE	$34	
C-12	Removal and reinstallation of existing roll type clay tiles to facilitate repairs to flashing connections, metal flashing, decking, etc., or to facilitate installation of new roof penetrations and details. Contractor furnishes all tiles to replace those broken by his operation at no additional cost to the Government.	SF		$ 6
C-13	Removal and reinstallation of existing flat shingle type clay tiles or flat interlocking rib clay tiles to facilitate repairs to flashing connections, metal flashing, decking, etc., or to facilitate installation of new roof penetrations and details. Contractor furnishes all tiles to replace those broken by his operation at no additional cost to the Government.	SF	$ 6	
C-14	Replace damaged or missing scattered or clustered concrete tiles to match existing in shape, quality and appearance (includes roof field tiles, ridge tiles, rake tiles, and special field cut tiles at roof penetrations, valleys, rakes, etc.) All materials to be furnished by the Contractor.	EA TILE	$ 16	
C-15	Cement mortar bed, fill and seal and renail under clay or concrete Ridge tiles, rake tiles, hip tiles, or between tiles and metal flashing, mortar to be tinted to match tile colors. (NOTE: This work is already included in Work Item Nos. C-1 – C-14.)	LF	$ 18	
C-16	Replace damaged or missing scattered or clustered imitation shale tiles to match existing in shape, quality and appearance (includes roof field tiles, ridge tiles, rake tiles, and special field cut tiles at roof penetrations, valleys, rakes, etc.) All materials to be furnished by the Contractor.	EA TILE	$ 18	

WORK ITEM PRICE LIST

ITEM NO	DESCRIPTION	UNIT	WORK PRICE	UNIT
	SECTION D - SHINGLE ROOFING			
D-1	Furnish and install asphalt shingle roofing system on bare roof deck with roof slopes between 4:12 and 8:12. Shingle exposure per manufacturer's instructions and single ply of No. 15 felt. (Add Item H-3 for tearoff)	SQ		$160
D-2	Furnish and install asphalt shingle roofing system and double ply No. 15 felt on bare roof deck with roof slopes between 3:12 (minimum) and 4:12 (maximum). Shingle exposure per manufacturer's instructions. (Add Item H-3 for tearoff)	SQ		$165
D-3	Furnish and install asphalt shingle roofing system over existing Shingle roofing system with roof slopes from 3:12 (minimum) to 8:12 (maximum).	SQ		$108

WORK ITEM PRICE LIST

ITEM NO	DESCRIPTION	UNIT	WORK PRICE	UNIT
	SECTION E - METAL ROOFING			
E-1	Patch defective or damaged area of standing seam, flat seam or batten seam sheet copper (20 ounce) roof to match existing field of roof. Includes cutting, fastening, forming, soldering, and finishing required to restore appearance and match existing. Includes tear-off and disposal.	SF		$ 5
E-2	Re-solder existing flat copper sheet built in gutter joints and Joints in copper sheet metal flashing and cap flashing to restore Watertight integrity.	LF		$ 4
E-3	Caulk seal sheet metal to sheet metal and sheet metal to masonry joints to reestablish watertight integrity. Use color matching or clear silicone caulk sealant. Includes all necessary surface preparaion and removal of old caulk.	LF		$ 2
E-4	Patch defective or damaged area of standing seam, flat seam or batten seam stainless steel (type 304) sheet metal roof to match existing field of roof. Includes cutting, fastening, forming, R-30 insulation, soldering and finishing required to restore appearance and match existing. Includes tear-off and disposal.	SF		$ 6
E-5	Re-solder existing flat stainless steel (304) sheet metal built in Gutter joints and joints in stainless steel sheet metal flashing and Cap flashing to restore watertight integrity.	LF		$ 4
E-6	Patch defective or damaged area of standing seam, flat seam or batten seam galvanized steel sheet metal roof to match existing field of roof. Includes cutting, fastening, forming, soldering, and refinishing required to restore appearance and match existing. Includes tear-off and disposal.	SF		$ 4
E-7	Re-solder existing flat galvanized steel sheet metal built in gutter joints and joints in stainless steel sheet metal flashing and cap flashing to restore watertight integrity.	LF		$ 4
E-8	Patch localized puncture, tear or rupture of pre-formed, pre-finished sheet steel roofing membrane with matching cross section of steel sheet overlayment. Seal interface of patch with a sealing mastic and fasten with self sealing stainless steel sheet metal screws. Paint as necessary to match color.	SF		$ 4
E-9	Patch localized puncture, tear or rupture of pre-formed, pre-finished aluminum sheet metal roofing membrane with matching cross section of aluminum sheet steel overlayment. Seal interface of patch with a sealing mastic and fasten with self sealing stainless steel sheet metal screws. Paint as necessary to match color.	SF		$ 4
E-10	Reroof existing sheet metal roofing with preformed, pre-coated			

	and finished steel sheeting with exposed fasteners. Tear-off and disposal of existing roofing included.	SF	$ 3
E-11	Reroof existing sheet metal roofing with new preformed, pre-coated and pre-finished steel roofing with concealed fasteners. Tear-off and disposal of existing roofing included.	SF	$ 4
E-12	Reroof existing sheet metal roofing with new preformed, pre-coated and pre-finished structural standing seam roofing with concealed fasteners. Tear-off and disposal of existing roofing included.	SF	$ 4
E-13	Furnish and install damaged or missing pre-formed closure strips at eaves, ridges and edges of preformed sheet metal roof membrane.	LF	$ 3
E-14	Replace existing or install new edge, ridge, corner, eave, rake and opening closure, trim metal to match existing on pre-formed, pre-finished sheet steel roof membrane (24 gauge steel sheet).	SF	$ 5
E-15	Replace existing or install new edge, ridge, corner, eave, rake and opening closure, trim metal to match existing on pre-formed, pre-finished aluminum roofing (0.032-inch thickness).	SF	$ 5
E-16	Add R-30 insulation under roofs in Work Item Nos. E-11 and E-12.	SF	$ 3

ITEM NO	DESCRIPTION	UNIT	WORK PRICE	UNIT

SECTION F - SHEET METAL, FLASHINGS, GUTTERS AND DOWNSPOUTS

(Items F-1 through F-51 are for either repair, new installation and/or replacement of existing or sections of existing and shall include all preparation, fitting, fastenings, caulks, and sealants required for a completely finished job. Replacement items shall match the existing unless otherwise ordered. Gutter and downspout items ordered by the LF and SF shall include all items required for a complete job from gutter end caps to lower terminal elbow of downspout. Removal of existing items being replaced shall be included. Items listed by the unit each will be ordered separately only when required on existing installations and shall match the existing.)

	(Items F-1 through F-15 are for COPPER)			
F-1	Sheet metal work (flashing) of copper sheet (excluding gutters and downspouts) includes seams, soldering, fastening, removal of existing sheet metal work.	SF		$ 8
F-2	Sheet metal work, copper gutters, includes copper hangers, Brackets soldering and related attachment features.	SF		$ 14
F-3	Sheet metal work, copper downspouts, including all accessories, seams, joints and soldering connections.	SF		$ 16
F-4	5-inch half-round gutter.	LF		$ 15
F-5	6-inch half-round gutter.	LF		$ 18
F-6	2-inch X 3-inch rectangular downspout.	LF		$ 9
F-7	3-inch X 4-inch rectangular downspout.	LF		$ 11
F-8	2-inch round downspout.	LF		$ 9
F-9	Leader head.	EA		$174
F-10	Gutter hanger or bracket.	EA		$ 12
F-11	Downspout strap.		EA	$ 8
F-12	Drop outlet or miter or expansion joint.	EA		$ 38
F-13	2-inch elbow.	EA		$ 11
F-14	2-inch X 3-inch rectangular section elbow or elbow for round tubing larger than 2-inch.	EA		$ 12
F-15	3-inch X 4-inch or larger rectangular section elbow.	EA		$ 18
	(Items F-16 through F-23 are for ALUMINUM)			
F-16	Sheet metal work, aluminum, other than gutters and downspouts.	SF		$ 4
F-17	Sheet metal work, aluminum gutters, including accessories.	SF		$ 8

F-18	Sheet metal work, aluminum downspouts, including accessories.	SF	$ 7
F-19	5-inch OG aluminum gutters.	LF	$ 4
F-20	2-inch X 3-inch rectangular aluminum downspout.	LF	$ 3
F-21	3-inch X 4-inch rectangular aluminum downspout.	LF	$ 4
F-22	Gutter hanger or bracket, downspout strap, end cap or slip joint connector.	EA	$ 3
F-23	Elbow (any size) or miter or drop outlet section in gutter.	EA	$ 6
	(Items F-24 through F-28 are for GALVANIZED STEEL)		
F-24	Sheet metal work, galvanized steel, other than gutters and downspouts.	SF	$ 4
F-25	Sheet metal work, galvanized steel gutters, including accessories.	SF	$ 9
F-26	Sheet metal work, galvanized steel downspouts, including accessories.	SF	$ 5
F-27	Sheet metal work, galvanized steel (prepainted).	SF	$ 4
F-28	Remove existing chimney cap (reglet) flashing and install new flashing. Replacement to match existing in kind and to be similarly installed. Includes disposal.	LF	$ 4
	(Items F-29 through F-31 are for STAINLESS STEEL)		
F-29	Sheet metal work, flashing, stainless steel, other than gutters and downspouts.	SF	$ 5
F-30	Sheet metal work, stainless steel gutters, including all joints, fastening brackets and straps.	SF	$ 10
F-31	Sheet metal work, stainless steel downspouts, including all accessories, fastenings, joints and support brackets.	SF	$ 8
	(Items F-32 through F-37 are for P.V.C)		
F-32	Provide PVC (OG style) gutters, complete with all fittings, fasteners, installed in accordance with manufacturer's instructions. Gutters and downspouts shall match existing capacities of ones Removed.	LF	$ 5
F-33	Provide 3-inch PVC, or smaller if ordered, downspouts complete With fasteners and elbows, in accordance with manufacturer's instructions.	LF	$ 7
F-34	Replace 6-inch downspouts of any material with 6-inch PVC, Including not more than 4 elbows per run of tubing. Use existing Or furnish new anchors.	LF	$ 9

F-35	Provide 4-inch PVC downspouts using fittings ordered from following items (F-35 and F-36).	LF	$ 6
F-36	Provide 5-inch or 6-inch, reduced to 4-inch, PVC reducing coupling.	EA	$ 14
F-37	Provide offset strap anchors for 4-inch or larger downspouts, with fasteners.	EA	$ 4
	(Items F-38 through F-42 are for LEAD)		
F-38	Sheet metal work, lead (4 pounds/SF) including fastening for seams and soldered joints.	SF	$ 10
F-39	Vent flashing, 4 lb lead.	EA	$ 12
F-40	Extend plumbing vent (12 inch minimum above roofing line).	EA	$ 8
F-41	Furnish and install 2.5 LB/SF lead sheet flashing.	SF	$ 7
F-42	Furnish and install 4 LB/SF lead vent pipe flanged sleeve at vent pipe roof penetrations.	EA	$ 10
F-43	Remove, recondition and reset coping tiles on parapets.	LF	$ 8
F-44	Replace coping tiles with 24 gauge galvanized and prefinished steel coping.	SF	$ 5
F-45	Repair and rehang existing gutter. (May require some reshaping In the field.)	LF	$ 6
F-46	Repair and reconnect one existing downspout, any or all joint(s), gutter to terminal. Includes soldering of copper and providing new hangers if needed. Includes reshaping.	EA	$ 50
F-47	Extra charge for high gutter work, except cleaning. (Only for buildings with gutters higher than 26 feet.)	LF	$ 3
F-48	Provide screen in gutter guard screen.	EA	$ 5
F-49	BUR modified bitumen membrane strip flashing per paragraph 7.11.1 of Section 07510 of the Specifications.	SF	$ 5
F-50	Membrane base flashing consisting of modified bitumen membrane Per paragraph 7.11.3 of Section 07510 of the Specifications.	SF	$ 4
F-51	Remove, clean, straighten, recondition, and reinstall existing sheet metal (galvanized steel, stainless steel, copper, lead, and aluminum) flashing and counter flashing, including cap flashing, reglet flashing and counter flashing, eave and gravel stop flashing, and flashing at curbs and roof penetrations. Includes cleaning off existing caulking and sealants and recaulking.	SF	$ 4

F-52	Furnish and install new moss retarding zinc strip at roof ridges, In accordance with manufacturer's instructions.	LF	$ 4

WORK ITEM PRICE LIST

ITEM NO	DESCRIPTION	UNIT	WORK PRICE	UNIT
	SECTION G - CARPENTRY AND INSULATION			
G-1	Add special structural sheathing overlayment of 5/8 inch T & G Plywood on wood decks.	SF		$ 1
G-2	Additional insulation for taper system and cricket construction slope as ordered.	BF		$ 1
*G-3	Replace sheathing - 3/4 inch plywood.	SF		$ 1
*G-4	Replace sheathing - shiplap.	SF		$ 2
*G-5	Replace sheathing - 1 inch x 6 inch tongue and groove.	SF		$ 2
* G-6	Replace sheathing - 2 inch x 6 inch tongue and groove (car decking, commercial grade).	SF		$ 4
G-7	Replace tail rafters.	BF		$ 10
G-8	Replace barge rafter at gables (2 inch x 6 inch). (Painted)	BF		$ 5
G-9	Replace existing or install new fascia board (it is estimated that the majority of fascia boards are 2 inch x 6 inch and 2 inch x 8 inch). (Painted.)	BF		$ 4
G-10	Furnish and install treated lumber perimeter nailers, cant strips, curbs and miscellaneous lumber items. Includes removal of existing.	BF		$ 2
G-11	Replace interior rafters and roof sheathing supports.	BF		$ 4
G-12	Furnish, install and remove temporary wood blocking, bracing, cribbing, posting and shoring necessary for temporary support of structures during re-roofing. (Provide only as ordered.)	BF		$ 4
G-13	Replace existing defective wood decking and tile support battens At existing clay tile or concrete tile roofs. Includes reapplication Of felt underlayment (No. 30 asphalt saturated felt). Replacement Is 3/4 –inch shiplap or ¾ inch plywood.	BF		$ 4
G-14	Remove and replace wet or damaged thermal insulation under roofing area being repaired. Replacement to match existing insulation in kind and to be similarly applied (includes disposal).	SF		$ 1

*Includes removal and disposal of existing roofing and sheet metal.

WORK ITEM PRICE LIST

ITEM NO	DESCRIPTION	UNIT	WORK	PRICE	UNIT
	SECTION H - MISCELLANEOUS: TEAR-OFFS, COATINGS, VAPOR BARRIERS, ETC.				
H-1	Tear off and remove uninsulated BUR, EPDM, single ply or roll roofing membrane (including any gravel). Remaining surface cleaned and prepared for reroofing. (See note.)	SQ			$ 70
H-2	Tear off and remove insulated BUR, EPDM, single ply or roll roofing system (including any gravel). Remaining surface cleaned and prepared for reroofing. (See note.)	SQ			$ 85
H-3	Tear off and remove existing asphalt shingle roofing system. Remaining surface cleaned and prepared for reroofing.	SQ			$ 105
H-4	Additional tearoff for more than one existing shingle roof system.	SQ			$ 35
H-5	Apply prime coating, asphaltic emulsion topping, and EPA Energy Star certified aluminum reflective coating over asphaltic built-up roofs or modified bitumen roof membranes. Includes removal of ballast where applicable.	SQ		$ 55	
H-6	Apply primer and base coats and EPA Energy Star certified acrylic or equal Elastomeric top coating over asphaltic built-up, modified bitumen, or EPDM roof membranes. Includes any necessary roof preparation and cleaning.	SQ			$ 55
H-7	Add modified SBS mineral surface inorganic cap sheet fully Adhered with torch welding over built-up roof membrane. Includes Any necessary roof preparation and cleaning.	SQ			$185
H-8	Furnish and install low profile ridge vent on shingle roofs (18 square Inches of free ventilating area per linear foot). Fire retardant, 12” Width, conforms to d:12 through 12:12 roof pitch and made of Durable polypropylene.	LF			$ 6
H-9	Furnish and install low profile roof jack attic ventilators on shingle roofs (50 square inch minimum air flow cross section). Material shall be galvanized steel -- painted.	EA			$ 50
H-10	Furnish and install wood fabricated louvered attic ventilators with ¼ inch mesh, corrosion resistant screen in gabled end wall of wood framed and sided building (average size – four square feet painted.) (Sample or shop drawing required for approval.)	EA			$140
H-11	Cut or core roof drain openings in concrete or masonry walls. Furnish labor, equipment and materials required to cut hole in existing masonry, concrete and brick walls (parapet walls) to make way for new roof drains. Hole shall be 4 inches in diameter minimum and drilled on an existing parapet wall 6 inches to 20 inches thick. Drilling of holes shall be performed to minimize defacing of exposed surfaces. Areas disturbed during coring or cutting of holes shall be restored and repaired to match				

	existing. Clean up shall be done in all areas where coring or drilling is to be performed. (Without scaffolding).	EA	$200
H-12	Cut or core roof drain openings in concrete or masonry walls. Furnish labor, equipment and materials required to cut hole in existing masonry, concrete and brick walls (parapet walls) to make way for new roof drains. Hole shall be 4 inches in diameter minumum and drilled on an existing parapet wall 6 inches to 20 inches thick. Drilling of holes shall be performed to minimize defacing of exposed surfaces. Areas disturbed during coring or cutting of holes shall be restored and repaired to match existing. Clean up shall be done in all areas where coring or drilling is to be performed. (When scaffolding is required.)	EA	$220
H-13	Furnish and install painted galvanized steel fabricated louvered Attic ventilators with 1/4 inch mesh, corrosion resistant screen in gabled end wall of wood framed and sided building (average size four square feet, greater or lesser sizes shall have unit prices per vent adjusted in proportion to area of vent). (Sample or shop drawing required for approval.)	EA	$200
H-14	Furnish and install painted galvanized steel fabricated screened attic ventilators in gabled end walls (under carport roofs of wood framed and sided buildings) (average size four square feet, greater or lesser sizes shall have unit prices per vent adjusted in proportion to area of vent). (Sample or shop drawing required for approval.)	EA	$175
H-15	Remove existing metal roof vent and patch roof sheathing.	EA	$ 55
H-16	Replace existing 8-inch chimney pipe roof penetration flashing (roof jack) including sheathing and roofing as required, complete.	EA	$ 55
H-17	Replace 8-inch chimney pipe, complete. (Includes supports and Bracing.)	LF	$ 55
H-18	Provide 100% post-consumer recycled splash block.	EA	$ 18
H-19	Additional charge for cutting openings in and removing asbestos siding material. To be used with work items H-9, H-10, H-11, H-12, and H-13.	EA	$350
H-20	Not used.		
H-21	Clean debris from gutters and down-spouts of one-and two-story Miscellaneous buildings.	LF	$ 2
H-22	Clean debris from gutters and down-spouts of three story miscellaneous buildings.	LF	$ 2
H-23	Clean any single length of plugged downspout.	EA	$ 40
H-24	Clean and inspect interior roof drains on buildings with eave not over 26 feet high and report requirements.	EA	$200
H-25	Clean and inspect interior roof drains on buildings with eave over 26 feet high and report requirements.	EA	$250

H-26	Non-prepriced miscellaneous roofing work. Limited to no more than 10% of Delivery Order amount.	Appropriate Unit	To be negotiated per Delivery Order.
H-27	Dump fees for Built-up, Modified Bitumen and Roll Roofing Roof Material. (Includes hauling and material disposal cost)	SQ	$16
H-28	Dump fees for Single Ply Roof Material (for example EPDM) (Includes hauling and material disposal cost)	SQ	$20
H-29	Dump fees for Shingles (Includes hauling and material disposal cost)	SQ	$15
H-30	Perform infrared inspection of roof.	SQ	$7
H-31	Provide and install walking pads on EPDM roofs	SF	$2.85
H-32	Provide and install walking pads on PVC roofs	SF	$2.60
H-33	Provide and install walking pads on TPO roofs	SF	$2.85
H-34	Provide and install ice and water shield under flashings	SF	$1.40
H-35	Provide and install ice and water shield under tile roofing in place Of 30 lb vapor barrier	SQ	$85.00
H-36	Clean and prepare surface per manufactures instructions and apply a Two-component, with catalyst, cold fluid-applied reinforced unsaturated Polyester waterproofing membrane conforming to ASTM C 836. (KEMPER Or equal)	SF	$9.95

NOTE:

1) It is estimated that less than 5% of existing BUR systems subject to this contract utilize coal tar bitumens. No premium compensation will be allowed if coal-tar BUR systems are encountered.

2) Definition of acronyms used for work item units:

SQ - Area of surface exposed to weather in units of 100 square feet per square.

BF- Board feet - A unit of board measure of volume. A board foot measures 12 inches x 12 inches by 1 inch thick.

SF - Square feet of area.

EA – Each.

LF - Linear feet.

WORK ITEM PRICE LIST

ITEM NO	DESCRIPTION	UNIT	WORK PRICE	UNIT
	SECTION I – PERIODIC MAINTENANCE			
I-1	Inspect membrane and flashings and perform general maintenance Tasks as needed. Inspect gutters, drains, and downspouts and clean as needed. (Roofs less than 5,000 SF in area.)	EA		$550
I-2	After performing periodic maintenance (see I-1), provide the Government an assessment of the roof condition and any significant problems. Provide this information in a spreadsheet using format provided by the Government. Includes digital photos. (Roofs less than 5,000 SF in area.)	EA		$150
I-3	Inspect membrane and flashings and perform general maintenance tasks as needed. Inspect gutters, drains, and downspouts and clean as needed. (Roofs 5,000 to 10,000 SF in area.)	EA		$800
I-4	After performing periodic maintenance (see I-1), provide the Government an assessment of the roof condition and any significant problems. Provide this information in a spreadsheet using format provided by the Government. Includes digital photos. (Roofs 5,000 to 10,000 SF in area.)	EA		$200
I-5	Inspect membrane and flashings and perform general maintenance tasks as needed. Inspect gutters, drains, and downspouts and clean as needed. (Roofs over 10,000 SF in area.)	EA		$1050
I-6	After performing periodic maintenance (see I-1), provide the Government an assessment of the roof condition and any significant problems. Report this information in spreadsheet format provided by the Government. Includes digital photos. (Roofs over 10,000 SF in area.)	EA		$250

Note: Government intention for items I-1, I-3, and I-5 is to accomplish periodic maintenance on up to 500 roofs/year. Task includes a roof condition update (approx. 10 items of information in electronic spreadsheet format; Items I-2, I-4, I-6) for the Government's roof management database. Maintenance is for minor repairs only that can be accomplished in manhours proportional to payment. Contractor recommendations for more extensive repairs or roof replacement will be reported to the Contracting Officer.

EMERGENCY SERVICE ORDER DATA

CALLID	SERNO	FY	TYPE	PRI	Facility	Recieved	Onsite	Completed	HRS
1	16623	O	R	2	01452	17-May-00	18-May-00	31-May-00	4
2	17129	0	R	2	09993	24-May-00	26-May-00	01-Jun-00	4
3	17365	O	R	2	03221	26-May-00	26-May-00	26-May-00	4
4	17372	O	R	2	05280	30-May-00	30-May-00	31-May-00	3
5	17529	O	R	2	03741	31-May-00	31-May-00	02-Jun-00	4
6	17624	O	R	2	03952	01-Jun-00	02-Jun-00	09-Jun-00	4
7	17872	O	R	2	02058	05-Jun-00	07-Jun-00	12-Jun-00	2
8	17974	O	R	2	03201	07-Jun-00	07-Jun-00	09-Jun-00	4
9	18044	O	R	2	02111	07-Jun-00	08-Jun-00	09-Jun-00	3
10	18069	O	R	2	03757	08-Jun-00	08-Jun-00	08-Jun-00	3
11	18074	O	R	2	03098	08-Jun-00	09-Jun-00	09-Jun-00	4
12	18095	0	R	2	03670	08-Jun-00	09-Jun-00	09-Jun-00	4
13	18265	O	R	2	3757	12-Jun-00	13-Jun-00	13-Jun-00	3
14	18291	O	R	2	02265	12-Jun-00	12-Jun-00	12-Jun-00	4
15	18063	O	R	2	12418	07-Jun-00	13-Jun-00	14-Jun-00	4
16	18279	O	R	2	12418	12-Jun-00	14-Jun-00	14-Jun-00	4
17	18276	O	R	2	05164	12-Jun-00	15-Jun-00	15-Jun-00	3
18	18517	O	R	2	03420	14-Jun-00	20-Jun-00	20-Jun-00	2
19	18349	O	R	2	02295	12-Jun-00	27-Jun-00	27-Jun-00	4
20	18558	O	R	2	08197	14-Jun-00	29-Jun-00	29-Jun-00	3
21	18781	O	R	2	06071	19-Jun-00	27-Jun-00	27-Jun-00	3
22	18417	O	R	2	01452	12-Jun-00	28-Jun-00	28-Jun-00	4
23	19864	O	R	2	01450	03-Jul-00	08-Jul-00	08-Jul-00	3
24	19887	O	R	2	01324	03-Jul-00	08-Jul-00	08-Jul-00	4
25	20943	O	R	2	12418	19-Jul-00	20-Jul-00	20-Jul-00	4
26	20944	O	R	2	12430	19-Jul-00	20-Jul-00	20-Jul-00	4
27	20945	O	R	2	12458	19-Jul-00	20-Jul-00	20-Jul-00	4
28	23224	O	R	2	05901	18-Aug-00	21-Aug-00	21-Aug-00	4
29	23761	O	R	2	04201	28-Aug-00	30-Aug-00	08-Sep-00	4
30	23990	0	R	2	03123	30-Aug-00	08-Sep-00	08-Sep-00	3
31	24197	O	R	2	09641	05-Sep-00	09-Sep-00	09-Sep-00	2
32	24105	O	R	2	03757	05-Sep-00	08-Sep-00	08-Sep-00	4
33	24319	O	R	2	02202	06-Sep-00	13-Sep-00	28-Sep-00	4
34	24339	O	R	2	03672	07-Sep-00	08-Sep-00	08-Sep-00	3
35	24489	O	R	2	02058	08-Sep-00	28-Sep-00	03-Oct-00	4
36	24491	O	R	2	03036	08-Sep-00	08-Sep-00	08-Sep-00	4
37	NO811	O	R		03757	08-Sep-00	08-Sep-00	08-Sep-00	2
38	24528	O	R	2	09997	08-Sep-00	08-Sep-00	08-Sep-00	3
39	24493	O	R	2	02055	08-Sep-00	28-Sep-00	28-Sep-00	4
40	24505	O	R	2	03087	08-Sep-00	08-Sep-00	27-Sep-00	0
41	24575	O	R	2	03157	11-Sep-00	17-Sep-00	28-Sep-00	4
42	24510	O	R	2	03646	08-Sep-00		28-Sep-00	4
43	24580	O	R	2	02140	11-Sep-00		28-Sep-00	4
44	24910	O	R	2	09052	14-Sep-00	28-Sep-00	28-Sep-00	4
45	25877	0	R	2	O9175	09-Sep-00	10-Sep-oo	13-Oct-00	4.oo
46	26020	0	R	2	11504	29-Sep-00	10-Oct-00	10-Oct-00	2
47	OOO62	0	R	2	O7924	02-Oct-00	13-Oct-00	13-Oct-00	3
48	OO133	o	R	3	O3757	03-Oct-00	10-Oct-00	10-Oct-00	
49	OO513	1	R	2	O3661	10-Oct-00	10-Oct-00	13-Oct-00	4

CALLID	SERNO	FY	TYPE	PRI	Facility	Recieved	Onsite	Completed	HRS
50	OO666	1	R	2	O5164	11-Oct-00	13-Oct-00	17-Oct-00	4
51	OO698	1	R	2	O3063	11-Oct-00	13-Oct-00	13-Oct-00	4
52	OO744	1	R	2	O9998	12-Oct-00	13-Oct-00	13-Oct-00	3
53	OO939	1	R	2	O1020	13-Oct-00	13-Oct-00	16-Oct-00	2
54	OO659	1	R	2	O1163	11-Oct-00	13-Oct-00	17-Oct-00	3
55	OO895	1	R	2	O2202	13-Oct-00	1016/00	20-Oct-00	3
56	OO844	1	R	2	O2202	12-Oct-00	16-Oct-00	16-Oct-00	2
57	O1062	1	R	2	O3139	16-Oct-00	18-Oct-00	18-Oct-00	4
58	O1048	1	R	2	O3168	16-Oct-00	16-Oct-00	16-Oct-00	2
59	O1093	1	R	2	O9640	17-Oct-00	18/00	18-Oct-00	3
60	OO237	1	R	2	12835	17-Oct-00	18-Oct-00	18-Oct-00	3
61	o1193	1	R	2	o3098	17-Oct-00	01-Oct-00	19-Oct-00	3
62	1075	1	R	2	O3299	16-Oct-00	20-Oct-00	20-Oct-00	2
63	O1006	1	R	2	O3236	16-Oct-00	18-Oct-00	20-Oct-00	4
64	O1306	1	R	2	O8972	18-Oct-00	20-Oct-00	20-Oct-00	1
65	O1395	1	R	2	O3405	19-Oct-00	19-Oct-00	19-Oct-00	4
66	O1686	1	R	2	O7914	23-Oct-00	25-Oct-00	30-Oct-00	4
67	O1506	1	R	2	O9179	20-Oct-00	26-Oct-00	26-Oct-00	4
68	O1624	1	R	2	O3119	23-Oct-00	26-Oct-00	26-Oct-00	3
69	O1529	1	R	2	O9665	20-Oct-00	26-Oct-00	26-Oct-00	3
70	O1504	1	R	2	O2272	20-Oct-00	24-Oct-00	24-Oct-00	3
71	O1522	1	R	2	O24OO	20-Oct-00	25-Oct-00	26-Oct-00	3
72	O1168	1	R	2	O3168	17-Oct-00	20-Oct-00	24-Oct-00	4
73	O1524	1	R	2	O3201	20-Oct-00	24-Oct-00	24-Oct-00	3
74	O1503	1	R	2	O3172	20-Oct-00	26-Oct-00	30-Oct-00	4
75	O1521	1	R	2	O9580	20-Oct-00	30-Oct-00	30-Oct-00	3
76	O1978	1	R	2	OO6PF	25-Oct-00	30-Oct-00	30-Oct-00	3
77	3139	1	R	2	O3148	08-Nov-00	09-Nov-00	09-Nov-00	2
78	O2662	1	R	2	O3378	02-Nov-00	06-Nov-00	07-Nov-00	4
79	O2580	1	R	2	O5164	02-Nov-00	02-Nov-00	07-Nov-00	O
80	O2545	1	R	2	O3156	01-Nov-00	01-Nov-00	07-Nov-00	4
81	O3092	1	R	2	O3098	08-Nov-00	08-Nov-00	08-Nov-00	4
82	O3093	1	R	2	O3094	08-Nov-00	08-Nov-00	08-Nov-00	1
83	O3123	1	R	2	O3036	08-Nov-11	08-Nov-00	08-Nov-00	1
84	O3149	1	R	2	O3661	08-Nov-00	09-Nov-00	14-Nov-00	2
85	O3185	1	R	2	O7901	08-Nov-00	09-Nov-00	09-Nov-00	2
86	O3164	1	R	2	O3757	08-Nov-00	10-Nov-00	16-Nov-00	2
87	O3114	1	R	2	O9179	08-Nov-00	15-Nov-00	15-Nov-00	4
88	O3101	1	R	2	O9665	08-Nov-00	15-Nov-00	15-Nov-00	4
89	O2493	1	R	2	O2272	31-Oct-00	06-Nov-00	06-Nov-00	O
90	O3257	1	R	2	O2166	09-Nov-00	14-Nov-00	16-Nov-00	4
91	O3487	1	R	2	O3236	14-Nov-00	15-Nov-00	16-Nov-00	4
92	O3631	1	R	2	O9116	15-Nov-00	17-Nov-00	17-Nov-00	4
93	O3549	1	R	2	O3452	14-Nov-00	17-Nov-00	22-Nov-00	4
94	O4394	1	R	2	O8972	22-Nov-00	22-Nov-00	28-Nov-00	4
95	O3919	1	R	2	O3146	16-Nov-00	26-Nov-00	30-Nov-00	4
96	O4530	1	R	2	O3243	27-Nov-00	27-Nov-00	30-Nov-00	4
97	O4570	1	R	2	O3065	27-Nov-00	29-Nov-00	29-Nov-00	2
98	O4690	1	R	2	O2272	28-Nov-00	29-Nov-00	30-Nov-00	4
99	O4552	1	R	2	O3470	27-Nov-00	29-Nov-00	29-Nov-00	4
100	O4610	1	R	2	O3986	27-Nov-00	29-Nov-00	29-Nov-00	4
101	O4587	1	R	2	O963O	27-Nov-00	29-Nov-00	29-Nov-00	2

CALLID	SERNO	FY	TYPE	PRI	Facility	Recieved	Onsite	Completed	HRS
1O2	O4764	1	R	2	O95OO	28-Nov-00	29-Nov-00	29-Nov-00	2
1O3	O4946	1	R	2	O3455	30-Nov-00	30-Nov-00	30-Nov-00	3
1O4	O1O48	1	R	2	O2O58	16-Oct-00	16-Oct-00	28-Nov-00	4
1O5	O5O43	1	R	2	O3O36	30-Nov-00	01-Dec-00	01-Dec-00	2
1O6	O5O61	1	R	2	O6995	04-Dec-00	04-Dec-00	11-Dec-00	4
1O7	O5472	1	R	2	O9175	06-Dec-00	11-Dec-00	11-Dec-00	3
1O8	NO277	1	R	2	O3906	15-Dec-00	15-Dec-00	15-Dec-00	4
1O9	O6471	1	R	2	O9670	15-Dec-00	15-Dec-00	15-Dec-00	4
11O	O6472	1	R	2	12458	15-Dec-00	15-Dec-00	15-Dec-00	1
111	O6554	1	R	2	O3098	18-Dec-00	19-Dec-00	19-Dec-00	3
112	O6612	1	R	2	O3127	18-Dec-00	19-Dec-00	19-Dec-00	2
113	O6610	1	R	2	O3123	18-Dec-00	19-Dec-00	19-Dec-00	O
114	NO3OO	1	R	2	O1017	22-Dec-00	22-Dec-00	22-Dec-00	3
115	O6998	1	R	2	O2272	22-Dec-00	22-Dec-00	22-Dec-00	O
116	O6959	1	R	2	O3224	22-Dec-00	22-Dec-00	02-Jan-01	4
117	O7456	1	R	2	12458	03-Jan-01	05-Jan-01	05-Jan-01	0
118	O7568	1	R	2	O963O	04-Jan-01	05-Jan-01	05-Jan-01	3
119	O7576	1	R	2	12327	04-Jan-01	05-Jan-01	05-Jan-01	1
12O	O7760	1	R	2	O2014	08-Jan-01	08-Jan-01	08-Jan-01	2
121	O7633	1	R	2	O9630	05-Jan-01	08-Jan-01	08-Jan-01	2
122	O7654	1	R	2	O9178	05-Jan-01	09-Jan-01	09-Jan-01	3
123	O7676	1	R	2	O2295	05-Jan-01	08-Jan-01	08-Jan-01	3
124	O7645	1	R	2	O3765	05-Jan-01	1/1/10/01	10-Jan-01	4
125	O7261	1	R	2	O3765	29-Dec-00	01-Dec-00	10-Jan-01	2
126	O7872	1	R	2	O3236	09-Jan-01	10-Jan-01	10-Jan-01	3
127	O8O11	1	R	2	O1517	10-Jan-01	12-Oct-01	12-Jan-01	4
128	O7576	1	R	2	12327	04-Jan-01	08-Jan-01	31-Jan-01	2
129	O8153	1	R	2	O3758	11-Jan-01	11-Jan-01	18-Jan-00	4
130	O8647	1	R	2	B1419	18-Jan-01	19-Jan-01	19-Jan-00	2
131	O9500	1	R	2	O3208	30-Jan-01	31-Jan-00	31-Jan-01	2
132	O9536	1	R	2	O2022	30-Jan-01	31-Jan-01	31-Jan-01	4
133	O9619	1	R	2	12747	31-Jan-01	31-Jan-01	31-Jan-01	2
134	O6676	1	R	2	O8197	19-Dec-00	21-Dec-00	23-Jan-01	4
135	O6691	1	R	2	O9500	19-Dec-00	20-Dec-00	20-Dec-00	4
136	10029	1	R	2	O5901	06-Feb-01	06-Feb-01	06-Feb-01	2
137	10032	1	R	2	O3419	06-Feb-01	06-Feb-01	06-Feb-01	3
138	1OO8O	1	R	2	O5998	06-Feb-01	07-Feb-01	07-Feb-01	2
139	10270	1	R	2	O3236	08-Feb-01	08-Feb-01	08-Feb-01	2
140	10280	1	R	2	O79O1	08-Feb-01	08-Feb-01	09-Feb-01	3
141	10287	1	R	2	O3299	08-Feb-01	09-Feb-01	09-Feb-01	2
142	11332	1	R	2	O9665	22-Feb-01	23-Feb-01	23-Feb-01	2
143	111O2	1	R	2	O3765	20-Feb-01	21-Feb-01		
144	11654	1	R	2	O9670	27-Feb-01	28-Feb-01	01-Mar-01	4
145	1OO89	1	R	2	O3286	06-Feb-01	01-Mar-01	01-Mar-01	3
146	119OO	1	R	2	O9993	01-Mar-01	01-Mar-01	01-Mar-01	4
147	11988	1	R	2	O9570	02-Mar-01	02-Mar-01	08-Mar-01	4
148	11O4O	1	R	2	O9500	20-Feb-01	22-Feb-01	22-Feb-01	4
149	126O9	1	R	2	O2003	08-Mar-01	O3/08/01	08-Mar-01	4
150	13O22	1	R	2	O9503	13-Mar-01	16-Mar-01	13-Mar-01	3
151	13033	1	R	2	O2111	13-Mar-01	16-Mar-01	16-Mar-01	2
152	13O46	1	R	2	12747	13-Mar-01	13-Mar-01	13-Mar-01	3
153	12986	1	R	2	O3243	13-Mar-01	13-Mar-01	13-Mar-01	3

CALLID	SERNO	FY	TYPE	PRI	Facility	Recieved	Onsite	Completed	HRS
154	13052	1	R	2	O4171	13-Mar-01	13-Mar-01	13-Mar-01	3
155	13O25	1	R	2	O9640	13-Mar-01	13-Mar-01	16-Mar-01	1
156	13391	1	R	2	O2493	19-Mar-01	19-Mar-01	19-Mar-01	4
157	13564	1	R	2	O3945	20-Mar-01	26-Mar-01	26-Mar-01	3
158	13557	1	R	2	O3661	20-Mar-01	26-Mar-01	26-Mar-01	3
159	13793	1	R	2	O328O	22-Mar-01	22-Mar-01	25-Mar-01	4
160	13939	1	R	2	O3645	26-Mar-01	27-Mar-01	27-Mar-01	2
161	14125	1	R	2	AO31O	27-Mar-01	28-Mar-01	27-Mar-01	4
162	14032	1	R	2	O5280	27-Mar-01	28-Mar-01	28-Mar-01	2
163	14276	1	R	2	12458	29-Mar-01	02-Apr-01	02-Apr-01	2
164	14486	1	R	2	O9052	02-Apr-01	02-Apr-01	03-Apr-01	4
165	14512	1	R	2	O3082	02-Apr-01	02-Apr-01	02-Apr-01	2
166	14533	1	R	2	O3644	02-Apr-01	03-Apr-01	03-Apr-01	4
167	14719	1	R	2	O9500	04-Apr-01	04-Apr-01	04-Apr-01	2
168	14836	1	R	2	O7914	05-Apr-01	05-Apr-01	05-Apr-01	2
169	14924	1	R	2	O3098	06-Apr-01	06-Apr-01	06-Apr-01	3
170	14932	1	R	3	OO7NA	06-Apr-01	10-Apr-01	10-Apr-01	3
171	14936	1	R	3	OO8NA	06-Apr-01	10-Apr-01	10-Apr-01	3
172	15268	1	R	2	O2058	10-Apr-01	12-Apr-01	12-Apr-01	2
173	15248	1	R	2	O2063	10-Apr-01	12-Apr-01	12-Apr-01	2
174	15212	1	R	2	O6995	10-Apr-01	12-Apr-01	12-Apr-01	3
175	15279	1	R	2	O7913	10-Apr-01	13-Apr-01	13-Jan-01	2
176	14228	1	R	2	O3414	11-Apr-01	13-Apr-01	13-Apr-01	3
177	14131	1	R	2	O3822	11-Apr-01	13-Apr-01	18-Apr-01	3
178	15370	1	R	2	O7908	11-Apr-01	13-Apr-01	18-Apr-01	3
179	15789	1	R	2	O3765	18-Apr-01	23-Apr-01	23-Apr-01	0
180	15666	1	R	2	O3299	17-Apr-01	23-Apr-01	23-Apr-01	2
181	15724	1	R	2	O3672	17-Apr-01	23-Apr-01	23-Apr-01	3
182	15932	1	R	2	O3419	19-Apr-01	23-Apr-01	23-Apr-01	2
183	15644	1	R	2	O9785	18-Apr-01	O4/23/01	24-Apr-01	2
1	QBCWG	1	R	2	O3116	30-Apr-01	30-Apr-01	30-Apr-01	0
2	QBCZP	1	R	2	O3163	30-Apr-01	30-Apr-01	04/31/01	3
3	QBDCF	1	R	2	O9178	30-Apr-01	01-May-01	01-May-01	3
4	QBDCN	1	R	2	O296O	30-Apr-01	01-May-01	01-May-01	4
5	QBBWX	1	r	3	o9113	25-Apr-01	25-Apr-01	01-May-01	4
6	QBDDD	1	R	2	12435	01-May-01	01-May-01	01-May-01	2
7	QBJHD	1	R	2	O2026	06-Apr-01	06-Apr-01	06-Apr-01	1
8	QBHVB	1	R	2	O5164	30-May-01	30-May-01	30-May-01	0
9	QBCXF	1	R	2	O9660	16-May-01	25-May-01	25-May-01	2
10	QBCXD	1	R	2	O3629	16-May-01	22-May-01	22-May-01	2
11	QBCKZ	1	R	2	O3672	16-May-01	18-May-01	22-May-01	2
12	QBCRT	1	R	2	O2272	16-May-01	18-May-01	18-May-01	1
13	QBCWH	1	R	2	O3098	16-May-01	18-May-01	18-May-01	2
14	QBBYX	1	R	2	O3638	14-May-01	18-May-01	18-May-01	2
15	QBCFD	1	R	2	O2058	14-May-01	18-May-01	18-May-01	4
16	QBCNZ	1	R	2	O3822	15-May-01	25-May-01	08-Jun-01	2
17	QBKDQ	1	R	3	O3414	06-Jun-01	08-Jun-01	08-Jun-01	4
18	QBKDG	1	R	3	O3194	06-Jun-01	08-Jun-01	08-Jun-01	1
19	QBJRK	1	R	3	O4290	05-Jun-01	08-Jun-01	08-Jun-01	2
20	QBKYR	1	R	2	O6995	11-Jun-01	11-Jun-01	11-Jun-01	4
21	QBKWM	1	R	2	O2060	11-Jun-01	11-Jun-01	15-Jun-01	2
22	QBMBV	1	R	2	O3236	11-Jun-01	15-Jun-01	15-Jun-01	2

CALLID	SERNO	FY	TYPE	PRI	Facility	Recieved	Onsite	Completed	HRS
23	QBKYK	1	R	2	O5996	11-Jun-01	11-Jun-01	11-Jun-01	2
24	QBKXK	1	R	2	O3328	11-Jun-01	11-Jun-01	11-Jun-01	2
25	QBMBZ	1	R	2	O3672	11-Jun-01	11-Jun-01	11-Jun-01	4
26	QBMCM	1	R	2	O9178	11-Jun-01	11-Jun-01	11-Jun-01	4
27	QBKWX	1	R	2	O9660	11-Jun-01	11-Jun-01	11-Jun-01	2
28	QBKXF	1	R	2	O2022	11-Jun-01	11-Jun-01	11-Jun-01	1
29	QBKWT	1	R	2	O3952	11-Jun-01	15-Jun-01	15-Jun-01	1
30	QBMJX	1	R	2	O3741	12-Jun-01	15-Jun-01	15-Jun-01	2
31	QBKWB	1	R	2	O2272	11-Jun-01	11-Jun-01	27-Jun-01	3
32	QBKXV	1	R	2	O2275	11-Jun-01	11-Jun-01	28-Jun-01	1
33	QBTXY	1	R	2	12630	25-Jun-01	25-Jun-01	27-Jun-01	2
34	QBVVX	1	R	2	O2008	27-Jun-01	28-Jun-01	02-Jul-01	2
35	QBVTN	1	R	2	O8978	27-Jun-01	28-Jun-01	28-Jun-01	2
36	QBVQR	1	R	2	O2070	27-Jun-01	28-Jun-01	28-Jun-01	2
37	QBVVY	1	R	2	O1451	27-Jun-01	02-Jul-01	02-Jul-01	2
38	QBVTY	1	R	2	O2045	27-Jun-01	02-Jul-01	02-Jul-01	2
39	QBVQW	1	R	2	O2055	27-Jun-01	02-Jul-01	02-Jul-01	2
40	QBVQF	1	R	2	O2058	27-Jun-01	02-Jul-01	02-Jul-01	2
41	QBVQJ	1	R	2	O2202	27-Jun-01	02-Jul-01	02-Jul-01	1
42	QBVQK	1	R	2	O2265	27-Jun-01	02-Jul-01	02-Jul-01	1
43	QBVVB	1	R	2	O3741	27-Jun-01	02-Jul-01	03-Jul-01	3
44	QBVTH	1	R	2	O9640	27-Jun-01	28-Jun-01	05-Jul-01	3
45	QBVQB	1	R	2	O9678	27-Jun-01	02-Jul-01	05-Jul-01	2
46	QBVRM	1	R	2	O9669	27-Jun-01	02-Jul-01	05-Jul-01	3
47	QBVVD	1	R	2	O6995	06/27/	05-Jul-01	05-Jul-01	3
48	QBVVX	1	R	2	O3160	27-Jun-01	02-Jul-01	05-Jul-01	3
49	QBWCB	1	R	2	O3201	28-Jun-01	05-Jul-01	05-Jul-01	3
50	QBVTD	1	R	2	O3236	27-Jun-01	02-Jul-01	05-Jul-01	2
51	QBWFT	1	R	2	12347	28-Jun-01	02-Jul-01	02-Jul-01	2
52	QCBBJ	1	R	2	O1451	24-Jul-01	02-Aug-01	02-Aug-01	1
53	QBZMG	1	R	2	12747	19-Jul-01	27-Jul-01	27-Jul-01	1
54	QBXFH	1	R	2	o3943	06-Jul-01	19-Jul-01	19-Jul-01	1
55	QBXNK	1	R	2	O3124	09-Jul-01	19-Jul-01	19-Jul-01	1
56	QBYHB	1	R	3	O2014	12-Jul-01	19-Jul-01	19-Jul-01	2
57	QBXNT	1	R	2	O4174	09-Jul-01	12-Jul-01	19-Jul-01	2
58	QBWRH	1	R	3	O3419	02-Jul-01	10-Jul-01	10-Jul-01	2
59	QBWJW	1	R	2	O3165	02-Jul-01	05-Jul-01	10-Jul-01	2
60	QBXDX	1	R	2	O9681	06-Jul-01	10-Jul-01	10-Jul-01	2
61	qbwwx	1	R	2	O3157	03-Jul-01	10-Jul-01	10-Jul-01	1
62	QBYVQ	1	R	3	O3214	17-Jul-01	17-Jul-01	19-Jul-01	2
63	QCHMJ	1	R	2	O3758	22-Aug-01	23-Aug-01	23-Aug-01	1
64	QCHPZ	1	R	2	O3672	23-Aug-01	23-Aug-01	23-Aug-01	2
65	QCHPH	1	R	2	O3943	23-Aug-01	23-Aug-01	23-Aug-01	1
66	QCHKQ	1	R	2	O3745	22-Aug-01	23-Aug-01	23-Aug-01	1
67	QCHKK	1	R	2	O3735	22-Aug-01	23-Aug-01	23-Aug-01	0
68	QCHGM	1	R	2	O3741	22-Aug-01	23-Aug-01	23-Aug-01	3
69	QCHCR	1	R	2	O3236	21-Aug-01	22-Aug-01	22-Aug-01	4
70	QCHJN	1	R	2	A0711	22-Aug-01	23-Aug-01	23-Aug-01	4
71	QCHMB	1	R	2	O3417	22-Aug-01	23-Aug-01	23-Aug-01	3
72	QCHNJ	1	R	2	O4174	22-Aug-01	22-Aug-01	22-Aug-01	3
73	QCGMY	1	R	3	O2275	23-Aug-01	23-Aug-01	23-Aug-01	4
74	QCHMP	1	R	2	O5280	22-Aug-01	23-Aug-01	23-Aug-01	2

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75	QCHGZ	1	R	2	O4076	22-Aug-01	23-Aug-01	23-Aug-01	4
76	QCHHN	1	R	2	O9500	22-Aug-01	23-Aug-01	23-Aug-01	4
77	QCHPV	1	R	2	O9680	23-Aug-01	08/23/	23-Aug-01	4
78	QCHHT	1	R	2	O4174	22-Aug-01	23-Aug-01	23-Aug-01	4
79	QCBBJ	1	R	2	O1451	23-Aug-01	26-Aug-01	26-Aug-01	3
80	QCHPW	1	R	2	O3215	23-Aug-01	23-Aug-01	23-Aug-01	0
81	QCKYX	1	R	2	O3222	06-Sep-01	07-Sep-01	07-Sep-01	1
82	QBHVB	1	R	3	O5164	06-Sep-01	06-Sep-01	06-Sep-01	0
83	QBXNK	1	R	2	O3124	05-Sep-01	07-Sep-01	07-Sep-01	1
84	QCPRR	1	R	2	O2110	24-Sep-01	26-Sep-01	28-Sep-01	3
85	QCQGQ	1	R	3	O5280	25-Sep-01	26-Sep-01	26-Sep-01	2
86	QCPHR	1	R	5	O3672	25-Sep-01	28-Sep-01	28-Sep-01	3
87	QCQPN	1	R	3	C0614	26-Sep-01	27-Sep-01	28-Sep-01	4
88	QCRCF	1	R	2	O3670	27-Sep-01	28-Sep-01	28-Sep-01	1
89	QCRFG	1	R	3	O8085	27-Sep-01	05-Oct-01	05-Oct-01	3
90	QCQWC	1	R	2	O1452	26-Sep-01	05-Oct-01	05-Oct-01	2
91	QCNJQ	1	R	2	O3417	9/13/2001	9/18/2001	10/10/2001	0
92	QCQWD	1	R	3	O2013	29-Sep	9/28/2001	10/9/2001	4
93	QCRKB	1	R	3	O9630	9/28/2001	10/5/2001	10/9/2001	2
94	QCRKN	1	R	2	O3087	9/28/2001	10/5/2001	10/9/2001	0
95	QCTKG	1	R	3	O1450	10/5/2001	10/9/2001	10/9/2001	3
96	QCVKV	1	R	2	O3945	10/11/2001	10/12/2001	10/23/2001	4
97	QCVHB	1	R	3	O3638	10/11/2001	10/12/2001	10/17/2001	2
98	QCVVD	1	R	2	O3638	10/12/2001	10/22/2001	10/25/2001	4
99	QCVHN	1	R	3	O9993	10/11/2001	10/11/2001	10/11/2001	4
100	QBPXP	1	R	2	O3098	10/17/2001	10/22/2001	10/23/2001	4
101	QCXGT	1	R	2	O3765	10/18/2001	10/22/2001	10/31/2001	4
102	QCXMQ	1	R	3	12747	10/18/2001	10/22/2001	10/24/2001	4
103	QBMCM	1	R	2	O9178	10/22/2001	10/23/2001	10/23/2001	4
104	QCYYK	1	R	2	B0101	10/25/2001	10/25/2001	10/26/2001	4
105	QCZJZ	1	R	2	O3157	26-Oct	10/30/2001	10/30/2001	0
106	QCZDP	1	R	3	O2020	10/26/2001	10/26/2001	10/26/2001	4
107	QBJHD	1	R	2	O2026	10/29/2001	10/30/2001	10/30/2001	2
108	QCZMW	1	R	3	O9145	10/29/2001	10/30/2001	10/31/2001	4
109	QCZKH	1	R	3	O2272	1027/01	10/31/2001	10/31/2001	3
110	QCZQM	1	R	2	O3082	10/29/2001	10/30/2001	10/30/2001	4
111	QCZVG	1	R	2	O2275	10/29/2001	10/30/2001	10/30/2001	3
112	QBPXP	1	R	2	O3098	10/31/2001	10/31/2001	10/31/2001	4
113	QDBDR	1	R	3	O9500	10/31/2001	11/1/2001	1-Nov	2
114	QDBKM	1	R	3	O2275	10/31/2001	11/2/2001	11/2/2001	3
115	QDBHM	1	R	2	O2202	10/31/2001	11/1/2001	11/1/2001	4
116	QDBJJ	1	R	3	O2022	10/31/2001	11/1/2001	11/1/2001	3
117	QDFJY	1	R	3	O2202	11/14/2001	11/15/2001	11/15/2001	2
118	QDFQX	1	R	3	O3475	11/14/2001	11/15/2001	11/15/2001	2
119	QDFHD	1	R	2	O3419	11/14/2001	11/16/2001	11/16/2001	3
120	QDFGX	1	R	3	O3087	11/14/2001	11/15/2001	11/21/2001	0
121	QDFHK	1	R	2	O3736	11/14/2001	11/15/2001	11/15/2001	0
122	QDFHF	1	R	3	O9681	11/14/2001	11/16/2001	11/16/2001	2
123	QDDYY	1	R	3	O9678	11/13/2001	11/14/2001	11/14/2001	2
124	QDFQY	1	R	3	O9176	11/15/2001	11/15/2001	11/15/2001	3
125	QDFQH	1	R	3	O9630	11/14/2001	11/15/2001	11/15/2001	3
126	QDFDX	1	R	3	O7985	11/14/2001	11/15/2001	11/15/2001	4

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127	QDFDN	1	R	3	O1401	11/14/2001	11/15/2001	11/15/2001	3
128	QDFGG	1	R	3	B1216	11/14/2001	11/15/2001	11/15/2001	4
129	QDFKN	1	R	3	O2025	11/14/2001	11/14/2001	11/16/2001	4
130	QDFFN	1	R	3	O3672	11/14/2001	11/14/2001	11/14/2001	3
131	QDDPR	1	R	3	O8085	11/8/2001	11/13/2001	11/13/2001	3
132	QDDYD	1	R	3	O3810	11/13/2001	11/13/2001	11/13/2001	3
133	QDFDG	1	R	3	O22O2	11/14/2001	11/14/2001	11/15/2001	4
134	QDFKP	1	R	3	O1451	11/14/2001	11/15/2001	11/15/2001	4
135	QDFFF	1	R	3	O1162	11/14/2001	11/15/2001	11/15/2001	2
136	QDFDF	1	R	3	O2260	11/14/2001	11/15/2001	11/15/2001	2
137	QDFCX	1	R	3	O3118	11/14/2001	11/16/2001	11/16/2001	4
138	QDFPB	1	R	3	O22O2	11/14/2001	11/15/2001	11/19/2001	4
139	QDFJZ	1	R	3	O1315	11/14/2001	11/15/2001	11/15/2001	2
140	QDFWM	1	R	3	O6995	11/15/2001	11/15/2001	11/15/2001	2
141	QDFPH	1	R	3	O7901	11/14/2001	11/15/2001	11/15/2001	4
142	QDFKH	1	R	3	O3121	11/14/2001	11/14/2001	11/14/2001	3
143	QDFJH	1	R	3	O3201	11/14/2001	11/15/2001	11/15/2001	3
144	QDFGH	1	R	2	O3243	11/14/2001	11/15/2001	11/15/2001	2
145	QDFFB	1	R	3	O3670	11/14/2001	11/15/2001	11/15/2001	3
146	QDFKY	1	R	3	O3474	14-Nov	11/15/2001	11/15/2001	2
147	QDFJT	1	R	3	O3427	11/14/2001	11/15/2001	11/15/2001	2
148	QDFHZ	1	R	2	O4170	11/15/2001	11/15/2001	11/15/2001	2
149	QDFFZ	1	R	3	O4320	11/14/2001	11/15/2001	11/15/2001	3
150	QDFFT	1	R	2	O3960	11/14/2001	11/15/2001	11/15/2001	2
151	QDFXP	1	R	3	O3420	11/15/2001	11/15/2001	11/15/2001	2
152	QDFXV	1	R	3	O2272	11/15/2001	11/15/2001	11/15/2001	2
153	QDFDK	1	R	3	O9660	11/14/2001	11/15/2001	11/15/2001	2
154	QDFCR	1	R	3	O9500	11/14/2001	11/14/2001	11/14/2001	3
155	QDFJW	1	R	3	O9190	11/14/2001	11/15/2001	11/15/2001	2
156	QDFCY	1	R	3	O9669	11/14/2001	11/14/2001	11/14/2001	2
157	QDFCM	1	R	3	O9630	11/14/2001	11/14/2001	11/15/2001	3
158	QDFHB	1	R	3	O9665	11/14/2001	11/15/2001	11/15/2001	2
159	QDFJM	1	R	3	O3743	11/14/2001	11/15/2001	11/15/2001	1
160	QDFFR	1	R	3	O3082	11/14/2001	11/15/2001	11/15/2001	2
161	qdffx	1	r	3	O3036	11/14/2001	11/15/2001	11/15/2001	2
162	QDFFJ	1	R	3	O3063	11/14/2001	11/15/2001	11/15/2001	3
163	QDFNY	1	R	3	O3656	11/14/2001	11/15/2001	11/15/2001	3
164	QDFNP	1	R	3	O3735	11/14/2001	11/15/2001	11/15/2001	0
165	QDFRW	1	R	3	O3758	11/15/2001	1/15/2001	11/15/2001	3
166	QDFVZ	1	R	3	O3745	11/15/2001	11/15/2001	11/15/2001	2
167	QDFKF	1	R	3	O3378	11/14/2001	11/15/2001	11/16/2001	4
168	QDFDP	1	R	3	O2492	11/14/2001	11/16/2001	11/16/2001	2
169	QDFYJ	1	R	3	O3646	11/15/2001	11/16/2001	11/16/2001	2
170	QDFND	1	R	2	O9176	11/14/2001	11/15/2001	11/15/2001	2
171	QDFYK	1	R	3	O9176	11/15/2001	11/15/2001	11/15/2001	4
172	QDFPD	1	R	3	O3123	11/14/2001	11/16/2001	11/16/2001	2
173	QDFFK	1	R	3	O3279	11/14/2001	11/16/2001	11/16/2001	2
174	QDFQD	1	R	3	O3075	11/14/2001	11/16/2001	11/16/2001	2
175	QDFCZ	1	R	3	O4174	11/14/2001	11/19/2001	11/19/2001	3
176	QDFGY	1	R	3	12744	11/14/2001	11/14/2001	11/19/2001	4
177	QDFPT	1	R	3	O5164	11/14/2001	11/19/2001	1119/01	2

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178	QDGGW	1	R	3	A1491	11/19/2001	11/19/2001	11/19/2001	1
179	QDFZF	1	R	3	O9670	11/15/2001	11/19/2001	11/19/2001	2
180	QDGGN	1	R	3	O6995	11/19/2001	11/19/2001	11/19/2001	3
181	QDJGC	1	R	3	O9660	11/28/2001	11/29/2001	11/29/2001	2
182	QDHYR	1	R	3	O9052	1128/01	11/29/2001	11/29/2001	2
183	QDJJM	1	R	3	O5903	11/28/2001	11/29/2001	11/29/2001	2
184	QDJMG	1	R	3	O3106	11/29/2001	11/29/2001	11/29/2001	4
185	QDHZB	1	R	3	O3227	11/28/2001	11/28/2001	11/28/2001	3
186	QDJFN	1	R	3	O3427	11/28/2001	11/28/2001	11/29/2001	4
187	QDJBY	1	R	3	O3175	11/28/2001	11/28/2001	11/28/2001	4
188	QDHKG	1	R	3	O3743	11/26/2001	11/28/2001	11/28/2001	4
189	QDGPD	1	R	3	O3414	11/20/2001	11/28/2001	1/28/2001	3
190	QDHZX	1	R	3	O3106	11/28/2001	11/28/2001	11/28/2001	3
191	QDJCJ	1	R	3	O3081	11/28/2001	11/28/2001	11/28/2001	2
192	QDHYZ	1	R	3	12430	11/28/2001	11/28/2001	11/28/2001	2
193	QDHYV	1	R	3	O3146	11/28/2001	11/28/2001	11/28/2001	1
194	QDJBV	1	R	3	O5183	11/28/2001	11/28/2001	11/29/2001	3
195	QDHZH	1	R	3	O5173	11/28/2001	11/28/2001	11/28/2001	2
196	QDHWC	1	R	3	O3761	11/27/2001	11/28/2001	11/28/2001	3
197	QDHYY	1	R	3	O1236	11/28/2001	11/29/2001	11/29/2001	1
198	QDJHK	1	R	3	B1216	11/28/2001	11/29/2001	11/29/2001	4
199	QDJGN	1	R	3	O3656	11/28/2001	11/29/2001	11/29/2001	0
200	QDJHN	1	R	3	O3735	11/28/2001	11/29/2001	11/29/2001	0
201	QDJHY	1	R	3	O2272	11/28/2001	11/29/2001	11/29/2001	3
202	QDJRM	1	R	3	12341	11/29/2001	11/30/2001	11/30/2001	3
203	QDHZW	1	R	3	O9680	11/28/2001	11/28/2001	11/28/2001	3
204	QDJDZ	1	R	3	O9178	11/28/2001	11/28/2001	11/28/2001	2
205	QDGDN	1	R	3	O2013	11/16/2001	11/16/2001	11/16/2001	0
206	QDFGW	1	R	3	O3278	11/14/2001	11/15/2001	11/15/2001	2
207	QDFFD	1	R	2	O3236	11/14/2001	11/15/2001	11/15/2001	3
208	QDFKX	1	R	3	O3461	11/14/2001	11/20/2001	11/20/2001	2
209	QDFCT	1	R	3	12430	11/14/2001	11/14/2001	11/20/2001	3
210	QDGPY	1	R	3	O2166	11/20/2001	11/20/2001	11/20/2001	2
211	QDFHG	1	R	2	12344	11/14/2001	11/14/2001	11/14/2001	3
212	QDGYT	1	R	3	O3761	11/21/2001	11/21/2001	11/21/2001	1
213	QDGYX	1	R	3	O2111	11/21/2001	11/21/2001	11/21/2001	3
214	QDKBC	1	R	3	O2111	12/3/2001	12/6/2001	12/6/2001	0
215	QDMDD	1	R	3	O9181	12/6/2001	12/6/2001	12/6/2001	3
216	QDKBX	1	R	3	O5183	12/3/2001	12/6/2001	12/6/2001	2
217	QDFHJ	1	R	2	O3146	11/14/2001	11/11/14/01	12/6/2001	4
218	QDKPF	1	R	3	O9500	12/4/2001	12/6/2001	12/6/2001	4
219	QDKTN	1	R	3	O3656	12/5/2001	12/6/2001	12/6/2001	3
220	QDJVW	1	R	3	O2265	11/30/2001	11/30/2001	12/4/2001	3
221	QDKDK	1	R	3	O3148	12/3/2001	12/4/2001	12/5/2001	3
222	QDCNZ	1	R	2	O2012	11/5/2001	11/5/2001	11/5/2001	2
223	QDJYZ	1	R	3	O3025	12/1/2001	12/4/2001	12/5/2001	3
224	QDNQH	1	R	2	O2161	12/13/2001	12/13/2001	12/13/2001	2
225	QDMYP	1	R	3	UOO93	12/11/2001	12/12/2001	12/12/2001	4
226	QDNTB	1	R	2	O4081	12/13/2001	12/13/2001	12/13/2001	2
227	QDNWR	1	R	3	O2202	12/13/2001	12/14/2001	12/14/2001	2
228	QDNVY	1	R	3	O2272	12/13/2001	12/14/2001	12/14/2001	4

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229	QDNRR	1	R	3	O2163	12/13/2001	12/13/2001	12/13/2001	2
230	QDNRP	1	R	3	O3041	12/13/2001	12/14/2001	12/14/2001	3
231	QDNTT	1	R	3	O2400	12/13/2001	12/14/2001	12/14/2001	3
232	QDNRY	1	R	3	O9993	12/13/2001	12/14/2001	12/14/2001	2
233	QDNVR	1	R	3	O3941	12/13/2001	12/14/2001	12/14/2001	2
234	QDPBP	1	R	3	O3236	12/14/2001	12/17/2001	12/17/2001	2
235	QDNYR	1	R	3	O3733	12/14/2001	12/17/2001	12/18/2001	4
236	QDPFF	1	R	3	B1216	12/17/2001	12/17/2001	12/17/2001	2
237	QDPHG	1	R	3	O3736	12/17/2001	12/18/2001	12/18/2001	0
238	QDNXR	1	R	3	O9640	12/14/2001	12/18/2001	12/18/2001	3
239	QDPGC	1	R	3	O3822	12/17/2001	12/17/2001	12/18/2001	4
240	QDNYH	1	R	3	O6242	12/14/2001	12/14/2001	12/19/2001	4
241	QDPDP	1	R	2	O2014	12/17/2001	12/17/2001	12/19/2001	0
242	QDPMT	1	R	3	O2015	12/18/2001	12/19/2001	12/19/2001	0
243	QDPRD	1	R	3	O9630	12/18/2001	12/19/2001	12/19/2001	3
244	QDPWP	1	R	3	O4170	12/19/2001	12/19/2001	12/19/2001	4
245	QDPVC	1	R	3	BO101	12/19/2001	12/20/2001	12/20/2001	2
246	QDQCD	1	R	3	O3082	12/20/2001	12/20/2001	12/20/2001	3
247	QDPHD	1	R	3	O3238	12/17/2001	12/17/2001	12/20/2001	2
248	QDNYQ	1	R	3	O3960	12/14/2001	12/17/2001	12/20/2001	4
249	QDPXX	1	R	3	12327	12/19/2001	12/17/2001	12/19/2001	0
250	QDTQQ	1	R	3	O3735	1/8/2002	1/11/2002	1/11/2002	0
251	QDTWN	1	R	3	O3422	1/9/2002	1/11/2002	1/11/2002	2
252	QDVDH	1	R	3	O3271	1/10/2002	1/11/2002	1/11/2002	0
253	QDTMZ	1	R	3	O3419	1/8/2002	1/11/2002	1/11/2002	2
254	QDTK	1	R	3	O9540	1/9/2002	1/11/2002	1/11/2002	2
255	QDTXY	1	R	3	O3272	1/9/2002	1/11/2002	1/11/2002	3
256	QDTMH	1	R	3	O3733	1/8/2002	1/9/2002	1/9/2002	3
257	QDTDK	1	R	3	O3734	1/8/2002	1/9/2002	1/9/2002	2
258	QDPXX	1	R	3	12327	1/3/2002	1/3/2002	1/2/2002	2
259	QDRPD	1	R	3	11504	1/3/2002	1/3/2002	1/7/2002	3
260	QDRJD	1	R	3	A1491	1/2/2002	1/3/2002	1/7/2002	4
261	QDRGR	1	R	3	O9570	1/2/2002	1/7/2002	1/7/2002	2
262	QDQFN	1	R	3	O9532	12/21/2001	1/2/2002	1/7/2002	2
263	QDRZM	1	R	3	O2265	1/7/2002	1/7.02	1/7/2002	2
264	QDRVR	1	R	3	O2207	1/4/2002	1/7/2002	1/7/2002	0
265	QDNYF	1	R	3	O3916	12/14/2001	12/14/2001	1/2/2002	2
266	QDTKH	1	R	3	O6071	1/8/2002	1/8/2002	1/8/2002	2
267	QDRYM	1	R	3	O3124	1/7/2002	1/7/2002	1/7/2002	0
268	QDWGF	1	R	3	O3733	1/15/2002	1/17/2002	1/17/2002	2
269	QDWFJ	1	R	3	O2166	1/15/2002	1/18/2002	1/18/2002	2
270	QDWMJ	1	R	3	O3123	1/16/2002	1/18/2002	1/18/2002	0
271	QDWTG	1	R	3	O1401	1/16/2002	1/18/2002	1/18/2002	2
272	QDRYX	1	R	3	O4174	1/7/2002	1/7/2002	1/23/2002	4
273	QDWQN	1	R	3	11504	1/16/2002	1/18/2002	1/22/2001	4
274	QDWWK	1	R	3	O9176	1/17/2002	1/22/2002	1/22/2002	3
275	QDXNP	1	R	3	O3421	1/22/2002	1/22/2002	1/22/2001	0
276	QDXWT	1	R	3	O9181	1/23/2002	1/23/2002	1/23/2002	3
277	QDXWX	1	R	3	O3822	1/23/2002	1/23/2002	1/23/2002	4
278	QDYVV	1	R	3	O2161	1/25/2002	1/25/2002	1/25/2002	3

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279	QDYTG	1	R	3	O3279	1/25/2002	1/25/2002	1/25/2002	3
280	QDYRV	1	R	3	AO711	1/25/2002	1/25/2002	1/25/2002	2
281	QDYPN	1	R	3	O6242	1/25/2002	1/25/2002	1/25/2002	2
1	QDYRC	1	R	3	O2163	1/25/2002	1/25/2002	1/28/2002	1
2	QDYMB	1	R	3	O2014	1/25/2002	1/25/2002	1/25/2002	3
3	QDYCZ	1	R	3	O3413	1/23/2002	1/24/2002	1/24/2002	0
4	QDYVF	1	R	3	O3736	1/25/2002	1/25/2002	1/25/2002	0
5	QDYMG	1	R	3	O3272	1/24/2002	1/25/2002	1/25/2002	0
6	QDYYJ	1	R	3	O3063	1/25/2002	1/31/2002	1/31/2002	2
7	QDYZP	1	R	3	O9177	1/25/2002	1/31/2002	1/31/2002	3
8	QDZKW	1	R	3	O9691	1/28/2002	1/31/2002	2/102	4
9	QDZJD	1	R	3	O3214	1/28/2002	1/31/2002	1/31/2002	0
10	QDZWH	1	R	3	O2202	1/29/2002	1/31/2002	1/31/2002	3
11	QDBHP	1	R	3	12821	1/31/2002	1/31/2002	2/1/2002	4
12	QFGJJ	1	R	3	O9641	1/31/2002	1/31/2002	1/31/2002	2
13	QFBJT	1	R	3	12344	1/31/2002	1/31/2002	2/1/2002	4
14	QDZKM	1	R	3	O9176	1/28/2002	1/31/2002	1/31/2002	2
15	QFDKR	1	R	3	O6071	2/7/2002	2/12/2002	2/12/2002	1
16	QFDKW	1	R	3	O5280	2/7/2002	2/12/2002	2/12/2002	2
17	QFDVK	1	R	3	O5173	2/8/2002	2/12/2002	2/12/2002	2
18	QFDXQ	1	R	3	O3236	2/11/2002	2/12/2002	2/12/2002	2
19	QDHPQ	1	R	3	O3420	2/12/2002	2/12/2002	2/22/2002	4
20	QFGPT	1	R	3	O9690	2/20/2002	2/20/2002	2/20/2002	2
21	QFGQM	1	R	3	O3757	2/20/2002	2/20/2002	2/20/2002	2
22	QFGZB	1	R	3	O3415	2/21/2002	2/22/2002	2/22/2002	0
23	QFHCF	1	R	3	O3661	2/21/2002	2/22/2002	2/22/2002	2
24	QFHGX	1	R	3	O9500	2/22/2002	2/22/2002	2/22/2002	4
25	QFJGF	1	R	3	O3419	2/27/2002	3/5/2002	3/5/2002	0
26	QFJKB	1	R	2	O3317	2/27/2002	3/6/2002	3/6/2002	2
27	QFJPG	1	R	3	O3278	2/26/2002	3/6/2002	3/6/2002	0
28	QFJZV	1	R	3	O3643	3/1/2002	3/5/2002	3/6/2002	2
29	QFJWY	1	R	3	A1006	3/1/2002	3/6/2002	3/6/2002	2
30	QFKVG	1	R	3	O9570	3/6/2002	3/7/2002	3/7/2002	2
31	QFKNP	1	R	3	O9993	3/5/2002	3/6/2002	3/8/2002	4
32	QFMJW	1	R	3	O3419	3/8/2002	3/8/2002	3/8/2002	0
33	QFMGH	1	R	3	O3941	3/7/2002	3/11/2002	3/11/2002	4
34	QFMVH	1	R	3	O3175	3/11/2002	3/11/2002	3/11/2002	4
35	QFMTP	1	R	3	O9179	3/11/2002	3/11/2002	3/11/2002	4
36	QFMQG	1	R	3	O3146	3/11/2002	3/11/2002	3/11/2002	2
37	QFMTX	1	R	3	O2166	3/11/2002	3/11/2002	3/11/2002	2
38	QFMVF	1	R	3	O3735	3/11/2002	3/11/2002	3/11/2002	0
39	QFMVX	1	R	3	O9993	3/11/2002	3/11/2002	3/11/2002	2
40	QFNBY	1	R	3	O2272	3/12/2002	3/12/2002	3/12/2002	0
41	QFMXV	1	R	3	O9162	3/12/2002	3/12/2002	3/12/2002	3
42	QFMWP	1	R	3	O7924	3/12/2002	3/12/2002	3/12/2002	2
43	QFNDF	1	R	3	O2295	3/12/2002	3/12/2002	3/12/2002	2
44	QFNCD	1	R	3	O3041	3/12/2002	3/12/2002	3/12/2002	4
45	QFNGK	1	R	3	O3670	3/13/2002	3/13/2002	3/13/2002	0
46	QFNFG	1	R	3	O3168	3/13/2002	3/13/2002	3/12/2002	3
47	QFNFZ	1	R	3	O9640	3/13/2002	3/13/2002	3/12/2002	2
48	QFMTG	1	R	3	O1451	3/11/2002	3/11/2002	3/14/2002	3

CALLID	SERNO	FY	TYPE	PRI	Facility	Recieved	Onsite	Completed	HRS
49	QFMXZ	1	R	3	12324	3/12/2002	3/14/2002	3/14/2002	4
50	QFNDV	1	R	3	O3661	3/12/2002	3/13/2002	3/15/2002	4
51	QFNPF	1	R	3	3758	3/13/2002	3/13/2002	3/20/2002	3
52	QFPHJ	1	R	3	O9993	3/18/2002	3/20/2002	3/20/2002	4
53	QFPVC	1	R	3	O3299	3/19/2002	3/20/2002	3/20/2002	2
54	QFPQR	1	R	3	O1450	3/19/2002	3/20/2002	3/20/2002	4
55	QFPRY	1	R	3	O3945	3/19/2002	3/20/2002	3/20/2002	2
56	QFPQW	1	R	3	O9670	3/19/2002	3/20/2002	3/20/2002	4
57	QFPVW	1	R	3	O9671	3/20/2002	3/20/2002	3/20/2002	4
58	QFPYM	1	R	3	O9177	3/20/2002	3/25/2002	3/25/2002	3
59	QFQDC	1	R	3	O3298	3/20/2002	3/25/2002	3/25/2002	3
60	QFQJJ	1	R	3	O5280	3/21/2002	3/25/2002	3/25/2002	4
61	QFQBX	1	R	3	O2202	3/21/2002	3/25/2002	3/25/2002	3
62	QFQXB	1	R	3	O9661	3/25/2002	4/4/2002	4/8/2002	3
63	QFTWM	1	R	3	12430	4/3/2002	4/4/2002	4/4/2002	0
64	QFTTP	1	R	3	O2492	4/3/2002	4/4/2002	4/5/2002	3
65	QFBJT	1	R	3	12344	4/2/2002	4/3/2002	4/3/2002	0
66	QFTDV	1	R	3	O8275	3/29/2002	4/5/2002	4/5/2002	3
67	QFQBT	1	R	3	O5280	3/20/2002	3/25/2002	3/25/2002	0
68	QFQGB	1	R	3	O7985	3/21/2002	3/25/2002	3/26/2002	3
69	QFTZZ	1	R	3	O3224	4/3/2002	4/4/2002	4/4/2002	0
70	QFWHF	1	R	3	O9665	4/10/2002	4/12/2002	4/12/2002	3
71	QFWTD	1	R	3	O3906	4/12/2002	4/12/2002	4/12/2002	3
72	QFWRZ	1	R	3	A1006	4/12/2002	4/12/2002	4/12/2002	3
73	QFWJQ	1	R	3	O3645	412/02	4/12/2002	4/12/2002	0
74	QFWTY	1	R	3	O3236	4/12/2002	4/12/2002	4/12/2002	3
75	QFWNZ	1	R	3	O3124	4/12/2002	4/12/2002	4/12/2002	0
76	QFVVR	1	R	3	O5280	4/9/2002	4/9/2002	4/9/2002	2
77	QFXBW	1	R	3	O145O	4/15/2002	4/15/2002	4/15/2002	4
78	QFYYP	1	R	3	O9660	4/24/2002	4/25/2002	4/25/2002	4
79	QFYKP	1	R	3	O3291	4/22/2002	4/23/2002	4/23/2002	3
80	QFXTB	1	R	3	O3176	4/17/2002	4/18/2002	5/1/2002	3
81	QFZPF	1	R	3	12435	4/26/2002	4/29/2002	5/1/2002	4

CALLID	SERNO	FY	TYPE	PRI	Facility	Recieved	Onsite	Completed	HRS
1	QGCCN	1	R	3	O3759	5/6/2002	5/7/2002	5/7/2002	4
2	QGCNV	1	R	3	O5280	5/7/2002	5/9/2002	5/9/2002	2
3	QGCJW	1	R	3	O7901	5/7/2002	5/9/2002	5/9/2002	2
4	QGFQB	1	R	3	O3674	5/20/2002	5/21/2002	5/21/2002	3
5	QGFMF	1	R	3	O6995	17-May	21-May	21-May	3
6	QGFXQ	1	R	3	O2161	5/21/2002	5/21/2002	5/21/2002	4
7	QGFXP	1	R	3	O2160	5/21/2002	5/21/2002	5/21/2002	4
8	QGHXG	1	R	3	12324	6/4/2002	6/4/2002	6/4/2002	2
9	QGJGF	1	R	3	O3629	6/4/2002	6/4/2002	6/19/2002	4
10	QGDTB	1	R	3	O3759	5/14/2002	5/21/2002	5/21/2002	4
11	QGHBR	1	R	3	12248	5/29/2002	5/31/2002	5/31/2002	2
12	QGKVK	1	R	3	O3919	6/12/2002	6/13/2002	6/13/2002	4
13	QGNHC	1	R	3	O2160	6/21/2002	6/21/2002	6/21/2002	4
14	QGPWG	1	R	3	O9532	6/28/2002	7/2/2002	7/2/2002	2
15	QGPWH	1	R	3	O2025	6/28/2002	7/2/2002	7/2/2002	4

CALLID	SERNO	FY	TYPE	PRI	Facility	Recieved	Onsite	Completed	HRS
16	QGPWT	1	R	3	O2003	7/1/2002	7/2/2002	7/2/2002	2
17	QGPRV	1	R	3	O3041	6/28/2002	7/2/2002	7/2/2002	2
18	QGPNN	1	R	3	O8300	6/27/2002	7/1/2002	7/1/2002	2
19	QGFXN	1	R	3	O4320	5/21/2002	6/21/2002	6/28/2002	4
20	QGPWN	1	R	3	O8094	7/1/2002	7/2/2002	7/3/2002	3
21	qgpxn	1	R	3	O1020	7/1/2002	7/2/2002	7/8/2002	4
22	QGPVY	1	R	3	O1450	6/28/2002	7/2/2002	7/2/2002	2
23	QGTFM	1	R	3	12327	7/16/2002	7/22/2002	7/23/2002	4
24	QGRVN	1	R	3	O3245	7/22/2002	7/22/2002	7/25/2002	4
25	QGVPF	1	R	3	O2899	7/23/2002	7/24/2002	7/24/2002	2
26	QGVNY	1	R	3	O3654	7/23/2002	7/25/2002	7/25/2002	4
27	QGVYC	1	R	3	O3422	7/25/2002	7/29/2002	7/29/2002	3
28	QGPVT	1	R	3	O3299	6/28/2002	6/28/2002	7/1/2002	3
29	QGYPG	1	R	3	O3650	8/7/2002	8/12/2002	8/14/2002	4
30	QGXTV	1	R	3	O3165	8/2/2002	8/5/2002	8/6/2002	3
31	QGYKW	1	R	3	O5903	8/7/2002	8/12/2002	8/13/2002	3
32	QGXMV	1	R	3	9580	8/1/2002	8/5/2002	8/5/2002	4
33	QGBYM	1	R	3	O9580	8/20/2002	8/22/2002	8/26/2002	4
34	QGGDQ	1	R	3	O3283	9/9/2002	9/10/2002	9/10/2002	2
35	QHHPJ	1	R	3	O3236	9/16/2002	9/16/2002	9/16/2002	4
36	QHHYD	1	R	3	O3474	9/17/2002	9/19/2002	9/19/2002	2
37	QHJTR	1	R	3	O2160	9/20/2002	9/20/2002	9/20/2002	2
38	QHJMP	1	R	3	O3672	9/19/2002	9/24/2002	9/25/2002	4
39	QBBXP	1	R	3	O9181	10/3/2002	10/7/2002	10/7/2002	3
40	QBBXR	1	R	3	O3025	10/3/2002	10/7/2002	10/7/2002	3
41	QBBXV	1	R	3	O3822	10/3/2002	10/7/2002	10/7/2002	3
42	QBBYY	1	R	3	O3906	10/3/2002	8-Oct	10/8/2002	3
43	QBCQZ	1	R	3	O3165	10/7/2002	10/9/2002	10/9/2002	3
44	QBCRV	1	R	3	O3674	10/7/2002	10/9/2002	10/9/2002	2
45	QBDCW	1	R	3	O3174	10/9/2002	10/9/2002	10/9/2002	2
46	QBBXT	1	R	3	O5280	10/3/2002	10/3/2002	10/6/2002	4
47	QBMQG	1	R	3	O3643	11/6/2002	11/6/2002	11/6/2002	3
48	QBMPY	1	R	3	O9640	11/6/2002	11/6/2002	11/6/2002	3
49	QBMTR	1	R	3	O9670	11/6/2002	11/6/2002	11/6/2002	2
50	QBMTF	1	R	3	O3903	11/6/2002	11/6/2002	11/6/2002	2
51	QBMXC	1	R	3	O9785	11/6/2002	11/13/2002	11/13/2002	2
52	QBNDM	1	R	3	12737	11/7/2002	11/13/2002	11/18/2002	4
53	QBMZP	1	R	3	12603	11/7/2002	11/15/2002	11/15/2002	2
54	QBNKG	1	R	3	O3176	11/12/2002	11/12/2002	11/12/2002	2
55	QBNKY	1	R	3	O9993	11/12/2002	11/12/2002	11/12/2002	1
56	QBNTN	1	R	3	13818	11/12/2002	11/13/2002	11/13/2002	2
57	QBNYM	1	R	3	O3041	11/13/2002	11/15/2002	11/15/2002	3
58	QBNWH	1	R	3	3299	11/13/2002	11/18/2002	11/18/2002	2
59	QBQDC	1	R	3	3906	11/19/2002	11/19/2002	11/19/2002	3
60	QBQPR	1	R	3	O3086	11/20/2002	11/20/2002	11/22/2002	2
61	QBQVZ	1	R	3	O3087	11/21/2002	11/22/2002	11/22/2002	1
62	QBRFJ	1	R	3	O2492	11/22/2002	11/26/2002	11/26/2002	2
63	QBQCW	1	R	3	O2160	11/19/2002	11/19/2002	11/22/2002	3
64	QBRGD	1	R	3	O3177	11/22/2002	12/2/2002	12/3/2002	2
65	QBQZG	1	R	3	O9175	11/21/2002	12/3/2002	12/6/2002	3
66	QBVPJ	1	R	3	O3476	12/4/2002	12/10/2002	12/10/2002	2

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67	QBVBR	1	R	3	O3082	12/2/2002	12/3/2002	12/4/2002	2
68	QBVPQ	1	R	3	O9179	12/4/2002	12/6/2002	12/6/2002	3
69	QBWFM	1	R	3	O3629	12/6/2002	12/9/2002	12/9/2002	2
70	QBWYP	1	R	3	O9630	12/10/2002	12/10/2002	12/10/2002	3
71	QBWYV	1	R	3	5280	12/10/2002	12/10/2002	12/10/2002	3
72	QBXBR	1	R	3	O3822	12/10/2002	12/12/2002	12/12/2002	3
73	QBXCV	1	R	3	O9178	12/10/2002	12/11/2002	12/11/2002	3
74	QBXMY	1	R	3	O2022	12/11/2002	12/12/2002	12/12/2002	3
75	QBXHM	1	R	3	O9665	12/11/2002	12/11/2002	12/11/2002	4
76	QBXJJ	1	R	3	O3176	12/11/2002	12/11/2002	12/11/2002	2
77	QBXHH	1	R	3	O3444	12/11/2002	12/11/2002	12/11/2002	2
78	QBXGR	1	R	3	O3661	12/11/2002	12/11/2002	12/11/2002	4
79	QBXJT	1	R	3	O1162	12/11/2002	12/12/2002	12/12/2002	2
80	QBXGN	1	R	3	O6071	12/11/2002	12/11/2002	12/11/2002	2
81	QBVXK	1	R	3	O2058	12/10/2002	12/16/2002	12/16/2002	4
82	QBXPX	1	R	3	O3743	12/11/2002	12/12/2002	12/12/2002	2
83	QBXNR	1	R	3	O3426	12/11/2002	12/12/2002	12/12/2002	2
84	QBXKG	1	R	3	O2272	12/11/2002	12/12/2002	12/12/2002	2
85	QBXNH	1	R	3	O3041	12/11/2002	12/12/2002	12/12/2002	2
86	QBXXC	1	R	3	12841	12/12/2002	12/13/2002	12/16/2002	3
87	QBXZP	1	R	3	O5280	12/12/2002	12/16/2002	12/16/2002	2
88	QBXYF	1	R	3	A0310	12/12/2002	12/13/2002	12/13/2002	2
89	QBXVD	1	R	3	O5173	12/12/2002	12/12/2002	12/13/2002	3
90	QBXZZ	1	R	3	O4061	12/13/2002	12/13/2002	12/13/2002	2
91	QBYHQ	1	R	3	O6071	12/16/2002	12/16/2002	12/16/2002	2
92	QBYTK	1	R	3	O3119	12/17/2002	12/16/2002	12/16/2002	2
93	QBZFT	1	R	3	O2275	12/18/2002	12/19/2002	12/19/2002	2
94	QBZJB	1	R	3	O9640	12/19/2002	12/20/2002	12/20/2002	2
95	QBZKN	1	R	3	BO810	12/19/2002	12/20/2002	12/20/2002	2
96	QBBJB	1	R	3	O9052	12/27/2002	12/30/2002	12/30/2002	2
97	QCBKY	1	R	1	O7913	12/27/2002	12/27/2002	12/30/2002	4
98	QCBGW	1	R	3	O9630	12/27/2002	12/30/2002	12/30/2002	3
99	QCBNK	1	R	3	O5998	12/30/2002	12/30/2002	12/30/2002	3
100	QCBPX	1	R	3	O2027	12/30/2002	12/30/2002	12/30/2002	3
101	QCBRV	1	R	2	O3098	12/31/2002	12/31/2002	12/31/2002	2
102	QCBXM	1	R	3	11166	1/2/2003	1/6/2003	1/6/2002	2
103	QCBXN	1	R	3	O3243	1/2/2003	1/6/2003	1/6/2003	2
104	QCBXQ	1	R	3	O3849	1/2/2003	1/6/2003	1/6/2003	2
105	QCCFV	1	R	3	O3082	1/3/2003	1/3/2003	1/3/2003	3
106	QCCTP	1	R	3	O3036	1/6/2003	1/13/2003	1/13/2003	3
107	QCFKJ	1	R	3	O9690	1/13/2003	1/13/2003	1/13/2003	2
108	QCCVN	1	R	3	O9176	1/6/2003	1/13/2003	1/13/2003	4
109	QCDVD	1	R	3	O3998	1/9/2003	1/14/2003	1/14/2003	2
110	QCFTX	1	R	3	O3656	1/14/2003	1/14/2003	1/14/2003	2
111	QCDTR	1	R	3	O3979	1/9/2003	1/13/2003	1/23/2003	2
112	QCFVY	1	R	3	O1020	1/14/2003	1/14/2002	1/24/2003	4
113	QCGCM	1	R	3	O3629	1/15/2003	1/16/2003	1/23/2003	3
114	QCGJY	1	R	3	O1451	16-Jan	1/16/2003	1/21/2003	4
115	QCHJF	1	R	3	O2O22	1/21/2003	1/22/2003	1/23/2003	3
116	QCJJD	1	R	3	O3672	1/24/2003	1/27/2003	1/27/2003	3
117	QCJNF	1	R	3	O3656	1/27/2003	1/29/2003	1/29/2003	3

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118	QCJNP	1	R	3	AO303	1/27/2003	1/27/2003	1/27/2003	2
119	QCJPD	1	R	3	12418	1/27/2003	1/27/2003	1/27/2003	2
120	QCJPJ	1	R	3	O3943	1/27/2003	1/28/2003	1/29/2003	4
121	QCJXK	1	R	3	12435	1/28/2003	1/29/2003	1/29/2003	2
122	QCJVM	1	R	3	O9670	1/28/2003	1/29/2003	1/29/2003	3
123	QCJVN	1	R	3	O9752	1/28/2003	1/29/2003	1/29/2003	3
124	QCKHF	1	R	3	O3380	1/29/2003	1/30/2003	1/30/2003	2
125	QCKBP	1	R	3	O3941	1/29/2003	1/29/2003	1/29/2003	3
126	QCKWR	1	R	3	O3236	1/31/2003	1/31/2003	1/31/2003	2
127	QCKVN	1	R	3	O3165	1/31/2003	1/31/2003	1/31/2003	2
128	QCKTC	1	R	3	O3148	1/31/2003	1/31/2003	1/31/2003	4
129	QCKVG	1	R	3	O3063	1/31/2003	1/31/2003	1/31/2003	3
130	QCKVB	1	R	3	O8197	1/31/2003	1/31/2003	1/31/2003	2
131	QCKVD	1	R	3	O9986	1/31/2003	1/31/2003	1/31/2003	2
132	QCKWJ	1	R	3	O3102	1/31/2003	1/31/2003	1/31/2003	2
133	QCHNH	1	R	3	O9500	1/22/2003	1/23/2003	1/23/2003	3
134	QCHPG	1	R	3	O2295	1/22/2003	1/22/2003	1/22/2003	3
135	QCHMP	1	R	3	O7985	1/22/2003	1/23/2003	1/23/2003	4
136	QCHRR	1	R	3	12344	1/22/2003	1/23/2003	1/23/2003	3
137	QCHND	1	R	3	O3146	1/22/2003	1/23/2003	1/23/2003	3
138	QCHVW	1	R	3	O3941	1/23/2003	1/23/2003	1/23/2003	4
139	QCHYC	1	R	3	11166	1/23/2003	1/24/2003	1/24/2003	3
140	QCHVN	1	R	3	O3643	1/23/2003	1/24/2003	1/24/2003	3
141	QCGVX	1	R	4	O2007	1/17/2003	1/22/2003	2/9/2003	4
142	QCDXQ	1	R	3	12418	1/9/2003	1/13/2003	2/3/2003	4
143	QCKQG	1	R	3	O9640	1/30/2003	2/4/2003	2/4/2003	2
144	QCKZP	1	R	3	11596	1/31/2003	2/3/2003	2/4/2003	3
145	QCKYG	1	R	3	O9181	1/31/2003	1/31/2003	1/31/2003	2
146	QCMCC	1	R	3	O9500	2/3/2003	2/4/2003	2/4/2003	2
147	QCKYD	1	R	3	O9176	1/31/2003	2/3/2003	2/7/2003	4
148	QCMXB	1	R	3	O3901	2/5/2003	2/10/2003	2/10/2003	3
149	QCMRV	1	R	3	O2025	2/5/2003	2/7/2003	2/10/2003	3
150	QCNHR	1	R	3	O9177	2/7/2003	2/10/2003	2/10/2003	2
151	QCXPK	1	R	3	O9580	12/11/2003	12/18/2003	2/7/2003	2
152	QCKVH	1	R	3	O3476	1/31/2003	1/31/2003	2/3/2003	0
153	QCCYC	1	R	3	O3082	1/7/2003	1/7/2003	1/7/2003	3
154	QCFXZ	1	R	3	O2001	1/14/2003	1/22/2003	2/10/2003	3
155	QCKRQ	1	R	3	O9178	1/30/2003	2/3/2003	2/3/2003	2
156	QCNRC	1	R	3	O2160	2/10/2003	2/11/2003	2/11/2003	3
157	QCQNP	1	R	3	O3674	2/19/2003	2/20/2003	2/20/2003	4
158	QCQQM	1	R	3	O3945	2/19/2003	2/20/2003	2/20/2003	4
159	QCKQV	1	R	3	O2060	1/30/2003	1/31/2003	1/31/2003	2
160	QCPTF	1	R	3	O9175	2/13/2003	2/14/2003	2/14/2003	2
161	QCQCF	1	R	3	11596	2/16/2003	2/16/2003	2/26/2003	3
162	QCQYH	1	R	3	O9500	2/20/2003	2/25/2003	2/25/2003	3
163	QCRYN	1	R	3	O2150	2/26/2003	2/26/2003	3/7/2003	3
164	QCTQR	1	R	3	O7901	2/28/2003	2/28/2003	2/28/2003	3
165	QCVJH	1	R	3	O3822	3/5/2003	3/6/2003	3/6/2003	2
166	QCVJT	1	R	3	O9640	3/5/2003	3/6/2003	3/6/2003	2
167	QCVVN	1	R	3	O3651	3/6/2003	3/7/2003	3/7/2003	3
168	QCVVB	1	R	3	O3476	3/6/2003	3/7/2003	3/7/2003	3

CALLID	SERNO	FY	TYPE	PRI	Facility	Recieved	Onsite	Completed	HRS
169	QCVQF	1	R	3	O3643	3/6/2003	3/7/2003	3/7/2003	3
170	QCWGB	1	R	3	O2163	3/10/2003	3/10/2003	3/11/2003	2
171	QCWBN	1	R	3	O3629	3/7/2003	3/10/2003	3/11/2003	3
172	QCWTP	1	R	3	O9690	3/12/2003	3/13/2003	3/13/2003	2
173	QCWVQ	1	R	3	O3098	3/12/2003	3/13/2003	3/19/2003	4
174	QCWYZ	1	R	3	O3761	3/13/2003	3/13/2003	3/19/2003	3
175	QCWYY	1	R	3	O3098	3/13/2003	3/14/2003	3/15/2003	4
176	QCXRG	1	R	3	O9665	3/17/2003	3/18/2003	3/18/2003	2
177	QCYTY	1	R	3	O9532	3/21/2003	3/25/2003	3/25/2003	2
178	QCYZM	1	R	3	O3094	3/24/2003	3/26/2003	3/26/2003	3
179	QDBPV	1	R	3	O2140	4/1/2003	4/1/2003	4/1/2003	3
180	QDBRK	1	R	3	O3653	4/1/2003	4/4/2003	4/4/2003	3
181	QDBPV	1	R	3	O2140	4/1/2003	4/1/2003	4/1/2003	2
182	QDCCR	1	R	3	O3288	4/3/2003	4/7/2003	4/7/2003	4
183	QDBFQ	1	R	3	O3643	3/31/2003	4/1/2003	4/11/2003	4
184	QDBZB	1	R	3	O9665	4/3/2003	4/4/2003	4/11/2003	4
185	QDCHT	1	R	3	O9993	4/4/2003	4/7/2003	4/11/2003	4
186	QDCQF	1	R	3	O3234	4/7/2003	4/11/2003	4/14/2003	4
187	QDDDY	1	R	3	O3378	4/9/2003	4/15/2003	4/15/2003	4
188	QDDNH	1	R	3	O3901	4/11/2003	4/11/2003	4/11/2003	3
189	QDDWW	1	R	3	12321	4/14/2003	4/15/2003	4/15/2003	4
190	QDDTV	1	R	3	O5995	4/14/2003	4/15/2003	4/15/2003	3
191	QDFXP	1	R	3	O3098	4/21/2003	4/21/2003	4/22/2003	4
192	QDGCJ	1	R	3	O3096	4/21/2003	4/24/2003	4/24/2003	4
193	QDGJJ	1	R	3	6995	4/22/2003	4/25/2003	4/25/2003	3
194	QDGWZ	1	R	3	O9669	4/25/2003	4/28/2003	4/28/2003	4
195	QDGYW	1	R	3	O4319	4/25/2003	4/28/2003	4/28/2003	4
196	QCQCZK	1	R	3	12435	2/20/2003	2/20/2003	2/27/2003	4
197	QDGWK	1	R	3	O3745	4/24/2003	4/28/2003	4/30/2003	4
198	QDHWN	1	R	3	O1010	4/30/2003	4/30/2003	4/30/2003	2
199	QDHQT	1	R	3	O22O2	4/29/2003	4/30/2003	4/30/2003	2

DATE: 1-May-03 to 30-Apr-04

CALLID	SERNO	FY	TYPE	PRI	Facility	Recieved	Onsite	Completed	HRS
1	QDHQT	1	R	3	O2202	5/6/2003	5/8/2003	05/114/03	3
2	QDKCP	1	R	3	M0008	5/7/2003	5/9/2003	5/13/2003	4
3	QDJZQ	1	R	3	O3298	5/6/2003	5/14/2003	5/14/2003	3
4	QDKMH	1	R	3	O8584	5/8/2003	5/8/2003	5/8/2003	2
5	QDMXX	1	R	3	O3643	5/16/2003	5/6/2003	5/19/2003	4
6	QDNQM	1	R	3	O9670	5/21/2003	5/27/2003	5/27/2003	4
7	qdpcm	1	r	3	O5280	5/23/2003	5/23/2003	5/23/2003	2
8	qdpbc	1	r	3	O2260	5/22/2003	5/28/2003	5/28/2003	3
9	qdrqw	1	r	3	11565	6/9/2003	6/11/2003	6/11/2003	3
10	qdvjr	1	r	3	12747	6/18/2003	6/24/2003	6/24/2003	4
11	qdwrx	1	r	3	moo87	6/24/2003	6/24/2003	6/30/2003	3
12	qdyww	1	r	3	12430	7/8/2003	7/8/2003	7/22/2003	4
13	qdzkw	1	r	3	12731	7/10/2003	7/22/2003	7/30/2003	4
14	qdbbx	1	r	3	O2095	7/15/2003	7/18/2003	7/18/2003	3
15	qdzvb	1	r	3	o3643	7/14/2003	7/18/2003	7/18/2003	2
16	qdbhz	1	r	3	o5280	7/16/2003	7/18/2003	7/18/2003	4
17	qdvhy	1	r	3	12603	7/17/2003	7/25/2003	7/25/2003	4

CALLID	SERNO	FY	TYPE	PRI	Facility	Recieved	Onsite	Completed	HRS
18	qdcwv	1	r	3	o5183	7/23/2003	7/31/2003	7/31/2003	3
19	qfgwm	1	r	1	O3799	8/9/2003	8/12/2003	8/12/2003	3
20	qfhdc	1	r	3	O2163	8/12/2003	8/18/2003	8/18/2003	2
21	qfgwp	1	r	3	o2163	8/12/2003	8/18/2003	8/18/2003	2
22	qdyrr	1	r	3	O6016	7/8/2003	7/8/2003	7/15/2003	2
23	QFPVD	1	R	3	O3643	9/15/2003	9/17/2003	9/17/2003	3
24	QFQNG	1	R	4	11166	9/18/2003	9/22/2003	9/22/2003	2
25	QFQPV	1	R	3	O9670	9/18/2003	9/19/2003	9/19/2003	3
26	QFRNZ	1	R	4	O3173	9/24/2003	9/30/2003	9/30/2003	2
27	QFTMP	1	R	4	A1006	9/29/2003	9/30/2003	9/30/2003	3

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DAVIS-BACON GENERAL WAGE DECISIONS:

1. WA030002 (Building) – All work inside and within 5 feet (1.5 meters) of a building shall be performed under this wage decision.

2. **WA030013 (Building) --** All work inside and within 5 feet (1.5 meters) of a building shall be performed under this wage decision.

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GENERAL DECISION: WA20030002 08/20/2004 WA2

Date: August 20, 2004
General Decision Number: WA20030002 08/20/2004

Superseded General Decision Number: WA020002

State: Washington

Construction Types: Building

Counties: Chelan, Clallam, Grays Harbor, Jefferson, King, Kitsap, Kittitas, Lewis, Mason, Pacific, Pierce, Snohomish and Thurston Counties in Washington.

BUILDING CONSTRUCTION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories)

Modification Number	Publication Date
0	06/13/2003
1	02/06/2004
2	02/13/2004
3	03/05/2004
4	03/12/2004
5	05/14/2004
6	06/18/2004
7	06/25/2004
8	07/02/2004
9	07/23/2004
10	08/06/2004
11	08/20/2004

ASBE0007-001 06/01/2004

	Rates	Fringes
Asbestos Workers/Insulator (Includes application of all insulating materials, protective coverings, coating and finishes to all types of mechanical systems)	$ 32.16	9.77

BOIL0242-003 01/01/2004

CHELAN AND KITTITAS COUNTIES

	Rates	Fringes
Boilermaker	$ 28.10	15.37

BOIL0502-001 01/01/2004

CLALLAM, GRAYS HARBOR, JEFFERSON, KING, KITSAP, LEWIS, MASON, PACIFIC, SNOHOMISH AND THURSTON COUNTIES

	Rates	Fringes
Boilermaker	$ 28.10	15.37

BRWA0001-001 06/01/2004

CLALLAM, GRAYS HARBOR, JEFFERSON, KING, KITSAP, LEWIS, MASON, PACIFIC (northern part), PIERCE, SNOHOMISH AND THURSTON COUNTIES

	Rates	Fringes
Bricklayer	$ 29.21	10.66

BRWA0001-005 06/01/2004

PACIFIC COUNTY (SOUTHERN PART)

	Rates	Fringes
Bricklayer	$ 27.92	11.05
Marble Mason	$ 28.92	11.05

BRWA0001-006 05/01/2004

PACIFIC (SOUTHERN PORTION) COUNTY

	Rates	Fringes
Terrazzo Worker & Tile Setter	$ 24.55	9.18
Tile & Terrazzo Finisher	$ 18.41	6.95

BRWA0001-007 06/01/2004

CLALLAM, GRAYS HARBOR, JEFFERSON, KING, KITSAP,LEWIS, MASON, PACIFIC (NORTHERN HALF), PIERCE, THURSTON AND SNOHOMISH COUNTIES

	Rates	Fringes
Tile & Terrazzo Finisher	$ 20.90	9.98
Tile & Terrazzo Worker	$ 26.62	10.41

BRWA0003-001 06/01/2004

CHELAN AND KITTITAS COUNTIES

	Rates	Fringes

Bricklayer	$ 23.56	9.46

BRWA0003-005 06/01/2003

CHELAN AND KITTITAS

	Rates	Fringes
Tile & Terrazzo Finisher	$ 14.70	7.13

BRWA0003-006 06/01/2003

CHELAN AND KITTITAS

	Rates	Fringes
Tile Layer/Terrazzo Worker	$ 18.50	7.13

CARP0770-004 06/01/2004

	Rates	Fringes
Carpenters:		
CENTRAL WASHINGTON: CHELAN AND KITTITAS COUNTIES		
ACCOUSTICAL WORKERS	$ 20.98	10.27
CARPENTERS AND DRYWALL APPLICATORS	$ 20.72	10.27
CARPENTERS ON CREOSOTED MATERIALS	$ 20.82	10.27
DIVERS TENDER	$ 31.17	10.55
DIVERS	$ 70.07	10.55
INSULATION APPLICATORS	$ 20.72	10.27
MILLWRIGHTS AND MACHINE ERECTORS	$ 29.40	10.27
PILDRIVER, DRIVING, PULLING, CUTTING, PLACING COLLARS, SETTING, WELDING, OR CREOSOTE TREATED MATERIAL, ALL PILING	$ 28.60	10.27
PILEDRIVER, BRIDGE DOCK & WHARF CARPENTERS	$ 28.40	10.27
SAWFILER, STATIONARY POWER SAW OPERATORS, FLOOR FINISHER, FLOOR LAYER, SHINGLERS, FLOOR SANDER OPERATOR AND OPERATORS OF OTHER STATIONARY WOOD WORKING TOOLS	$ 20.85	10.27

WESTERN WASHINGTON:
CLALLAM, GRAYS HARBOR,
JEFFERSON, KING, KITSAP,
LEWIS, MASON, PACIFIC
(NORTH), PIERCE, SNOHOMISH
AND THURSTON COUNTIES

ACOUSTICAL WORKERS	$ 28.56	10.55
CARPENTERS AND DRYWALL APPLICATORS	$ 28.40	10.55
CARPENTERS ON CREOSOTE MATERIAL	$ 28.50	10.55
DIVERS TENDER	$ 31.17	10.55
DIVERS	$ 70.07	10.55
INSULATION APPLICATORS	$ 28.40	10.55
MILLWRIGHT AND MACHINE ERECTORS	$ 29.40	10.55
PILDRIVER, BRIDGE DOCK & WHARF CARPENTERS	$ 28.40	10.55
PILEDRIVER, DRIVING, PULLING, CUTTING, PLACING COLLARS, SETTING, WELDING OR CRESOTE TREATED MATERIAL, ALL PILING	$ 28.60	10.55
SAWFILERS, STATIONARY POWER SAW OPERATORS, FLOOR FINISHER, FLOOR LAYER, SHINGLER, FLOOR SANDER OPERATORS OF OTHER STATIONARY WOOD WORKING TOOLS	$ 28.53	10.55

(HOURLY ZONE PAY:WESTERN WASHINGTON AND CENTRAL WASHINGTON CARPENTERS ONLY)

Hourly Zone Pay shall be paid on jobs located outside of the free zone computed from the city center of the following listed cities:

Seattle	Olympia	Bellingham
Auburn	Bremerton	Anacortes
Renton	Shelton	Yakima
Aberdeen-Hoquiam	Tacoma	Wenatchee
Ellensburg	Everett	Port Angeles
Centralia	Mount Vernon	Sunnyside
Chelan	Pt. Townsend	

Zone Pay:

0 -25 radius miles	Free
25-35 radius miles	$1.00/hour
35-45 radius miles	$1.15/hour
45-55 radius miles	$1.35/hour
Over 55 radius miles	$1.55/hour

(HOURLY ZONE PAY:WESTERN AND CENTRAL WASHINGTON-MILLWRIGHTS AND PILEDRIVERS ONLY)

Hour Zone Pay shall be computed from Seattle Union Hall, Tacoma City center, and Everett City center

Zone Pay:

0 -25 radius miles	Free
25-45 radius miles	$ .70/hour
Over 45 radius miles	$1.50/hour

Millwrights and Piledrivers who reside in Aberdeen, Bellingham, Port Angeles, Mount Vernon, Olympia, Wenatchee, or Yakima Local Union jurisdication areas, working on jobs in their respective area, shall have their Zone Pay measured from their respective city center

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CARP9003-001 06/01/2004

PACIFIC COUNTY (South of a straight line made by extending the north boundary line of Wahkiakum County west to Willapa Bay to the Pacific Ocean, and thence north through the natural waterway to the Pacific Ocean (this will include the entire peninsula west of Willapa Bay)

SEE ZONE DESCRIPTION FOR CITIES BASE POINTS

ZONE 1:

	Rates	Fringes
Carpenters:		
CARPENTERS	$ 27.72	10.70
DIVERS TENDERS	$ 30.27	10.70
DIVERS	$ 65.51	10.70
DRYWALL, ACOUSTICAL & LATHERS	$ 27.72	10.70
FLOOR LAYERS & FLOOR FINISHERS (the laying of all hardwood floors nailed and mastic set, parquet and wood-type tiles, and block floors, the sanding and finishing of floors, the prepara- tion of old and new floors when the materials mentioned above are to be installed;		
INSULATORS (fiberglass and similar irritating material)	$ 27.87	10.70
MILLWRIGHTS	$ 28.22	10.70

PILEDRIVERS.....$ 28.22 10.70

Zone Differential (Add to Zone 1 rates):
Zone 2 - $0.85
Zone 3 - 1.25
Zone 4 - 1.70
Zone 5 - 2.00
Zone 6 - 3.00

BASEPOINTS: GOLDENDALE, LONGVIEW, AND VANCOUVER

ZONE 1: Projects located within 30 miles of the respective city hall of the above mentioned cities

ZONE 2: Projects located more than 30 miles and less than 40 miles of the respective city of the above mentioned cities

ZONE 3: Projects located more than 40 miles and less than 50 miles of the respective city of the above mentioned cities

ZONE 4: Projects located more than 50 miles and less than 60 miles of the respective city of the above mentioned cities.

ZONE 5: Projects located more than 60 miles and less than 70 miles of the respective city of the above mentioned cities

ZONE 6: Projects located more than 70 miles of the respected city of the above mentioned cities

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ELEC0046-002 12/01/2003

CALLAM, JEFFERSON, KING AND KITSAP COUNTIES

	Rates	Fringes
Cable splicer	$ 36.85	3%+10.55
Electrician	$ 33.50	3%+10.55

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* ELEC0046-003 08/02/2004

CALLAM, JEFFERSON, KING, KITSAP COUNTIES

	Rates	Fringes
Sound & Communication Technician	$ 21.59	5.54

SCOPE OF WORK:

Includes the installation, testing, service and maintenance, of the following systems which utilize the transmission and/or transference of voice, sound vision and digital for

commercial, education, security and entertainment purposes for the following: TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms, fire alarms and life safety systems (hang, terminate devices and panels and to conduct functional and systems tests), and low voltage master clock systems. Install chases and/or nipples, not to exceed ten (10) feet, on systems not in conduit.

WORK EXCLUDED:

Raceway systems are not covered (excluding Ladder-Rack for the purpose of the above listed systems). Chases and/or nipples (over 10 feet) may be installed on open wiring systems.

ELEC0076-001 07/01/2003

GRAYS HARBOR, LEWIS, MASON, PACIFIC, PIERCE, THURSTON COUNTIES

	Rates	Fringes
Cable splicer	$ 33.32	3%+12.06
Electrician	$ 30.02	3%+12.06

ELEC0076-003 06/01/2001

GRAYS HARBOR, LEWIS, MASON, PACIFIC, PIERCE AND THURSTON COUNTIES

	Rates	Fringes
Sound & Communication Technician	$ 18.77	5.97

SCOPE OF WORK

Includes the installation, testing, service and maintenance, of the following systems which utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for the following: TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms and low voltage master clock systems.

A. Communication systems that transmit or receive information

and/or control systems that are intrinsic to the above listed systems: SCADA (Supervisory control/data acquisition PCM (Pulse code modulation) Inventory control systems Digital data systems Broadband & baseband and carriers Point of sale systems VSAT data systems Data communication systems RF and remote control systems Fiber optic data systems

B. Sound and Voice Transmission/Transference Systems: Background-Foreground Music Intercom and Telephone Interconnect Systems Sound and Musical Entertainment Systems Nurse Call Systems Radio Page Systems School Intercom and Sound Systems Burglar Alarm Systems Low-Voltage Master Clock Systems Multi-Media/Multiplex Systems Telephone Systems RF Systems and Antennas and Wave Guide

C. *Fire Alarm Systems-installation, wire pulling and testing.

D. Television and Video Systems: Television Monitoring and Surveillance Systems Video Security Systems Video Entertainment Systems Video Educational Systems Microwave Transmission Systems CATV and CCTV

E. Security Systems: Perimeter Security Systems Vibration Sensor Systems Sonar/Infrared Monitoring Equipment Access Control Systems Card Access Systems

F. Energy Management Systems.

1. Install all low voltage devices or equipment.
2. Install all low voltage wire not in conduit.
3. Make all low voltage wire terminations that are properly seperated from the line voltage side.
4. Install any panel or equipment the contains only low voltage control elements, but has line voltage as a power source.
5. Install chases and /or nipples, not to exceed ten (10) feet, on sytems not in conduit.
6. Install all low voltage wire through chases and/or nipples on systems not in conduit.

*Fire Alarm Systems:
1. Fire Alarms-In Raceways
a. Wire and cable pulling, in raceways, performed at the current electrician wage rate and fringe benefits.
b. Installation and termination of devices, panels, startup, testing and programming performed by the technician.

2. Fire Alarms-Open Wire Systems
a. Open wire systems installed by the technician.

ELEC0112-002 06/01/2004

KITTITAS COUNTY

	Rates	Fringes
Cable splicer	$ 31.24	3%+12.28
Electrician	$ 29.75	3%+12.28

ELEC0112-007 06/01/2002

KITTTITAS COUNTY

	Rates	Fringes
Sound & Communication Technician	$ 19.97	5.93

SCOPE OF WORK

The work covered shall include the installation, testing, service and maintenance, of the following systems that utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for TV monitoring and surveillance, background foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms and low voltage master clock systems.

A. Communication systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems: SCADA (Supervisory control/data acquisition PCM (Pulse code modulation) Inventory control systems Digital data systems Broadband & baseband and carriers Point of sale systems VSAT data systems Data communication systems RF and remote control systems Fiber optic data systems

B. Sound and Voice Transmission/Transference Systems: Background-Foreground Music Intercom and Telephone Interconnect Systems Sound and Musical Entertainment Systems Nurse Call Systems Radio Page Systems School Intercom and Sound Systems Burglar Alarm Systems Low-Voltage Master Clock Systems Multi-Media/Multiplex Systems Telephone Systems RF Systems and Antennas and Wave Guide

C. *Fire Alarm Systems-installation, wire pulling and testing.

D. Television and Video Systems: Television Monitoring and Surveillance Systems Video Security Systems Video Entertainment Systems Video Educational System Microwave Transmission Systems CATV and CCTV

E. Security Systems: Perimeter Security Systems Vibration Sensor Systems Sonar/Infrared Monitoring Equipment Access Control Systems Card Access Systems

F. Energy Management Systems.

1. Install all low voltage devices or equipment.
2. Install all low voltage wire not in conduit.
3. Make all low voltage wire terminations that are properly seperated from the line voltage side.
4. Install any panel or equipment the contains only low voltage control elements, but has line voltage as a power source.
5. Install chases and /or nipples, not to exceed ten (10) feet, on sytems not in conduit.
6. Install all low voltage wire through chases and/or nipples on systems not in conduit.

*Fire Alarm Systems:
1. Fire Alarms-In Raceways
a. Wire and cable pulling, in raceways, performed at the current electrician wage rate and fringe benefits.
b. Installation and termination of devices, panels, startup, testing and programing performed by the technician.

2. Fire Alarms-Open Wire Systems
a. Open wire systems installed by the technician.

ELEC0191-001 09/01/2003

CHELAN COUNTY

	Rates	Fringes
Cable splicer	$ 29.33	3%+9.78
Electrician	$ 26.66	3%+9.78

ELEC0191-005 06/01/2003

CHELAN AND SNOHOMISH COUNTIES

	Rates	Fringes
Sound & Communication Technician	$ 22.50	4.87

SCOPE OF WORK

The work covered shall include the installation, testing, service and maintenance, of the following systems that utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for TV monitoring and surveillance, background foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms and low voltage master clock systems.

A. Communication systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems: SCADA (Supervisory control/data acquisition PCM (Pulse code modulation) Inventory control systems Digital data systems Broadband & baseband and carriers Point of sale systems VSAT data systems Data communication systems RF and remote control systems Fiber optic data systems

B. Sound and Voice Transmission/Transference Systems: Background-Foreground Music Intercom and Telephone Interconnect Systems Sound and Musical Entertainment Systems Nurse Call Systems Radio Page Systems School Intercom and Sound Systems Burglar Alarm Systems Low-Voltage Master Clock Systems Multi-Media/Multiplex Systems Telephone Systems RF Systems and Antennas and Wave Guide

C. *Fire Alarm Systems-installation, wire pulling and testing.

D. Television and Video Systems: Television Monitoring and Surveillance Systems Video Security Systems Video Entertainment Systems Video Educational Systems Microwave Transmission Systems CATV and CCTV

E. Security Systems:
Perimeter Security Systems Vibration Sensor Systems Sonar/Infrared Monitoring Equipment Access Control Systems Card Access Systems

F. Energy Management Systems.

1. Install all low voltage devices or equipment.
2. Install all low voltage wire not in conduit.
3. Make all low voltage wire terminations that are properly seperated from the line voltage side.
4. Install any panel or equipment the contains only low voltage control elements, but has line voltage as a power

source.
5. Install chases and /or nipples, not to exceed ten (10) feet, on sytems not in conduit.
6. Install all low voltage wire through chases and/or nipples on systems not in conduit.

*Fire Alarm Systems:
1. Fire Alarms-In Raceways
a. Wire and cable pulling, in raceways, performed at the current electrician wage rate and fringe benefits.
b. Installation and termination of devices, panels, startup, testing and programming performed by the technician.

2. Fire Alarms-Open Wire Systems
a. Open wire systems installed by the tchnician.

ELEC0191-010 09/01/2003

SNOHOMISH COUNTY

	Rates	Fringes
Cable splicer	$ 33.72	3%+9.83
Electrician	$ 30.66	3%+9.83

ELEV0019-001 01/01/2004

CHELAN, CLALLAM, GRAYS HARBOR, JEFFERSON, KING, KITSAP, KITTITAS, LEWIS, MASON, PIERCE, SNOHOMISH AND THURSTON COUNTIES

	Rates	Fringes
Elevator Mechanic	$ 35.335	10.765 + A

FOOTNOTE: a. Employer contributes 8% of the basic hourly rate for over 5 year's service and 6% of the basic hourly rate for 6 months to 5 years' of service as vacation paid credit. Seven paid holidays: New Year's Day; Memorial Day; Independence Day; Labor Day, Thanksgiving Day; Friday after Thanksgiving and Christmas Day

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ELEV0023-002 01/01/2004

PACIFIC COUNTY

	Rates	Fringes
Elevator Mechanic	$ 35.505	10.415+a

FOOTNOTE
a: Vacation Pay: 8% with 5 or more years of service, 6% for 6 months to 5 years service. Paid Holidays: Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Friday after, and Christmas Day, and New Years Day.

ENGI0302-001 06/01/2004

CHELAN (WEST OF THE 120TH MERIDIAN), CLALLAM, GRAYS HARBOR, JEFFERSON, KING, KITSAP, KITTITAS, MASON AND SNOHOMISH COUNTIES

ON PROJECTS DESCRIBED IN FOOTNOTE A BELOW, THE RATE FOR EACH GROUP SHALL BE 95% OF THE BASE RATE PLUS FULL FRINGE BENEFITS. ON ALL OTHER WORK, THE FOLLOWING RATES APPLY.

Zone 1 (0-25 radius miles):

	Rates	Fringes
Power equipment operators:		
Group 1A	$ 30.61	10.25
Group 1AA	$ 31.15	10.25
Group 1AAA	$ 31.67	10.25
Group 1	$ 30.09	10.25
Group 2	$ 29.63	10.25
Group 3	$ 29.24	10.25
Group 4	$ 27.01	10.25

Zone Differential (Add to Zone 1 rates):
Zone 2 (26-45 radius miles) - $ .70
Zone 3 (Over 45 radius miles) - $1.00

BASEPOINTS: Aberdeen, Bellingham, Bremerton, Everett, Kent, Mount Vernon, Port Angeles, Port Townsend, Seattle, Shelton, Wenatchee, Yakima

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1AAA - Cranes-over 300 tons, or 300 ft of boom (including jib with attachments)

GROUP 1AA - Cranes 200 to 300 tons, or 250 ft of boom (including jib with attachments); Tower crane over 175 ft in height, base to boom

GROUP 1A - Cranes, 100 tons thru 199 tons, or 150 ft of boom (including jib with attachments); Crane-overhead, bridge type, 100 tons and over; Tower crane up to 175 ft in height base to boom; Loaders-overhead, 8 yards and over; Shovels, excavator, backhoes-6 yards and over with attachments

GROUP 1 - Cableway; Cranes 45 tons thru 99 tons, under 150 ft

of boom (including jib with attachments); Crane-overhead, bridge type, 45 tons thru 99 tons; Derricks on building work; Excavator, shovel, backhoes over 3 yards and under 6 yards; Hard tail end dump articulating off-road equipment 45 yards and over; Loader- overhead 6 yards to, but not including 8 yards; Mucking machine, mole, tunnel, drill and/or shield; Quad 9, HD 41, D-10; Remote control operator on rubber tired earth moving equipment; Rollagon; Scrapers-self propelled 45 yards and over; Slipform pavers; Transporters, all truck or track type

GROUP 2 - Barrier machine (zipper); Batch Plant Operaor-Concrete; Bump Cutter; Cranes, 20 tons thru 44 tons with attachments; Crane-overhead, bridge type-20 tons through 44 tons; Chipper; Concrete Pump-truck mount with boom attachment; Crusher; Deck Engineer/Deck Winches (power); Drilling machine; Excavator, shovel, backhoe-3 yards and under; Finishing Machine, Bidwell, Gamaco and similar equipment; Guardrail punch; Horizontal/directional drill operator; Loaders-overhead under 6 yards; Loaders-plant feed; Locomotives-all; Mechanics-all; Mixers-asphalt plant; Motor patrol graders-finishing; Piledriver (other than crane mount); Roto-mill,roto-grinder; Screedman, spreader, topside operator-Blaw Knox, Cedar Rapids, Jaeger, Caterpillar, Barbar Green; Scraper-self propelled, hard tail end dump, articulating off-road equipment-under 45 yards; Subgrade trimmer; Tractors, backhoes-over 75 hp; Transfer material service machine-shuttle buggy, blaw knox-roadtec; Truck crane oiler/driver-100 tons and over; Truck Mount portable conveyor; Yo Yo Pay dozer

GROUP 3 - Conveyors; Cranes-thru 19 tons with attachments; A-frame crane over 10 tons; Drill oilers-auger type, truck or crane mount; Dozers-D-9 and under; Forklift-3000 lbs. and over with attachments; Horizontal/directional drill locator; Outside hoists-(elevators and manlifts), air tuggers, strato tower bucket elevators; Hydralifts/boom trucks over 10 tons; Loader-elevating type, belt; Motor patrol grader-nonfinishing; Plant oiler- asphalt, crusher; Pumps-concrete; Roller, plant mix or multi-lift materials; Saws-concrete; Scrpers-concrete and carry-all; Service engineer-equipment; Trenching machines; Truck Crane Oiler/Driver under 100 tons; Tractors, backhoe 75 hp and under

GROUP 4 - Assistant Engineer; Bobcat; Brooms; Compressor; Concrete finish mahine-laser screed; Cranes-A frame-10 tons and under; Elevator and Manlift-permanent or shaft type; Gradechecker, Stakehop; Forklifts under 3000 lbs. with attachments; Hydralifts/boom trucks, 10 tons and under; Oil distributors, blower distribution and mulch seeding operator; Pavement breaker; Posthole digger, mechanical; Power plant; Pumps, water; Rigger and Bellman; Roller-other than plant

mix; Wheel Tractors, farmall type; Shotcrete/gunite equipment operator

FOOTNOTE A- Reduced rates may be paid on the following:

1. Projects involving work on structures such as buildings and bridges whose total value is less than $1.5 million excluding mechanical, electrical, and utility portions of the contract.
2. Projects of less than $1 million where no building is involved. Surfacing and paving including, but utilities excluded.
3. Marine projects (docks, wharfs, ect.) less than $150,000.

HANDLING OF HAZARDOUS WASTE MATERIALS: Personnel in all craft classifications subject to working inside a federally designed hazardous perimeter shall be elgible for compensation in accordance with the following group schedule relative to the level of hazardous waste as outlined in the specific hazardous waste project site safety plan.

H-1 Base wage rate when on a hazardous waste site when not outfitted with protective clothing.
H-2 Class "C" Suit - Base wage rate plus $.25 per hour.
H-3 Class "B" Suit - Base wage rate plus $.50 per hour.
H-4 Class "A" Suit - Base wage rate plus $.75 per hour.

ENGI0370-008 08/01/2003

CHELAN (EAST OF THE 120TH MERIDIAN) COUNTY

ZONE 1:

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 20.99	7.37
GROUP 1A	$ 20.44	7.37
GROUP 2	$ 21.31	7.37
GROUP 3	$ 21.92	7.37
GROUP 4	$ 22.08	7.37
GROUP 5	$ 22.24	7.37
GROUP 6	$ 22.52	7.37
GROUP 7	$ 22.79	7.37
GROUP 8	$ 23.89	7.37

ZONE DIFFERENTIAL (Add to Zone 1 rate):
Zone 2 - $2.00

Zone 1: Within 45 mile radius of Spokane, Moses Lake, Pasco, Washington; Lewiston, Idaho
Zone 2: Outside 45 mile radius of Spokane, Moses Lake, Pasco, Washington; Lewiston, Idaho

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1A: Boat Operator; Crush Feeder; Oiler; Steam Cleaner

GROUP 1: Bit Grinders; Bolt Threading Machine; Compressors (under 2000 CFM, gas, diesel, or electric power); Deck Hand; Drillers Helper (assist driller in making drill rod connections, service drill engine and air compressor, repair drill rig and drill tools; drive drill support truck to and on the job site, remove drill cuttings from around bore hole and inspect drill rig while in operation); Fireman & Heat Tender; Grade Checker; Hydro- seeder, Mulcher, Nozzleman; Oiler Driver, & Cable Tender, Mucking Machine; Pumpman; Rollers, all types on subgrade, including seal and chip coatings (farm type, Case, John Deere & similar, or Compacting Vibrator), except when pulled by Dozer with operable blade; Welding Machine

GROUP 2: A-frame Truck (single drum); Assistant Refrigeration Plant (under 1000 ton); Assistant Plant Operator, Fireman or Pugmixer (asphalt); Bagley or Stationary Scraper; Belt Finishing Machine; Blower Operator (cement); Cement Hog; Compressor (2000 CFM or over, 2 or more, gas diesel or electric power); Concrete Saw (multiple cut); Distributor Leverman; Ditch Witch or similar; Elevator Hoisting Materials; Dope Pots (power agitated); Fork Lift or Lumber Stacker, hydra-lift & similar; Gin Trucks (pipeline); Hoist, single drum; Loaders (bucket elevators and conveyors); Longitudinal Float; Mixer (portable-concrete); Pavement Breaker, Hydra-Hammer & similar; Power Broom; Railroad Ballast Regulation Operator (self-propelled); Railroad Power Tamper Operator (self-propelled); Railroad Tamper Jack Operator (self-propelled; Spray Curing Machine (concrete); Spreader Box (self-propelled); Straddle Buggy (Ross & similar on construction job only); Tractor (Farm type R/T with attachment, except Backhoe); Tugger Operator

GROUP 3: A-frame Truck (2 or more drums); Assistant Refrigeration Plant & Chiller Operator (over 1000 ton); Backfillers (Cleveland & similar); Batch Plant & Wet Mix Operator, single unit (concrete); Belt-Crete Conveyors with power pack or similar; Belt Loader (Kocal or similar); Bending Machine; Bob Cat; Boring Machine (earth); Boring Machine (rock under 8 inch bit) (Quarry Master, Joy or similar); Bump Cutter (Wayne, Saginau or similar); Canal Lining Machine (concrete); Chipper (without crane); Cleaning & Doping Machine (pipeline); Deck Engineer; Elevating Belt-type Loader (Euclid, Barber Green & similar); Elevating Grader-type Loader (Dumor, Adams or similar); Generator Plant Engineers (diesel or electric);

Gunnite Combination Mixer & Compressor; Locomotive Engineer; Mixermobile; Mucking Machine; Posthole Auger or Punch; Pump (grout or jet); Soil Stabilizer (P & H or similar); Spreader Machine; Tractor (to D-6 or equivalent) and Traxcavator; Traverse Finish Machine; Turnhead Operator

GROUP 4: Concrete Pumps (squeeze-crete, flow-crete, pump-crete, Whitman & similar); Curb Extruder (asphalt or concrete); Drills (churn, core, calyx or diamond)(Operate drilling machine, drive or transport drill rig to and on job site and weld well casing); Equipment Serviceman, Greaser & Oiler; Hoist (2 or more drums or Tower Hoist); Loaders (overhead & front-end, under 4 yds. R/T); Refrigeration Plant Engineer (under 1000 ton); Rubber-tired Skidders (R/T with or without attachments); Surface Heater & Planer Machine; Trenching Machines (under 7 ft. depth capacity); Turnhead (with re-screening); Vacuum Drill (reverse circulation drill under 8 inch bit)

GROUP 5: Backhoe (under 45,000 gw); Backhoe and Hoe Ram (under 3/4 yd.); Carrydeck & boom truck (under 25 tons); Cranes (25 tons & under),all attachments including clamshell, dragline); Derricks & Stifflegs (under 65 tons); Drilling Equipment (8 inch bit & over) (Robbins, reverse circulation & similar)(operates drill machine, drive or transport drill rig to and on job site and weld well casing); Hoe Ram; Piledriving Engineers; Paving (dual drum); Railroad Track Liner Operator(self-propelled); Refrigeration Plant Engineer (1000 tons & over); Signalman (Whirleys, Highline Hammerheads or similar)

GROUP 6: Asphalt Plant Operator; Automatic Subgrader (Ditches & Trimmers) (Autograde, ABC, R.A. Hansen & similar on grade wire); Backhoe (45,000 gw and over to 110,000 gw); Backhoes & Hoe Ram (3/4 yd. to 3 yd.); Batch Plant (over 4 units); Batch & Wet Mix Operator (multiple units, 2 & incl. 4); Blade Operator (Motor Patrol & Attachments, Athey & Huber); Boom Cats (side); Cableway Controller (dispatcher); Clamshell Operator (under 3 yds.); Compactor (self-propelled with blade); Concrete Pump Boom Truck; Concrete Slip Form Paver; Cranes (over 25 tons including 45 tons), all attachments including clamshell, dragline; Crusher, Grizzle & Screening Plant Operator; Dozer, 834 R/T & similar; Draglines (under 3 yds.); Drill Doctor; H.D.Mechanic; H.D. Welder; Loader Operator (front-end & overhead, 4 yds. incl. 8 yds.), Multiple Dozer Units with single blade; Paving Machine (asphalt and concrete); Quad-Track or similar equipment; Rollerman (finishing asphalt pavement); Roto Mill (pavement grinder); Scrapers, all rubber-tired; Screed Operator; Shovel (under 3 yds.); Tractors (D-6 & equilvalent & over); Trenching Machines (7 ft. depth & over); Tug Boat Operator; Vactor Guzzler, super

sucker

GROUP 7: Backhoe (over 110,000 gw); Backhoes & Hoe Ram (3 yds. & over); Blade (finish & bluetop), Automatic, CMI, ABC, Finish Athey & Huber & similar when used as automatic; Cableway Operators; Clamshell Operator (3 yds. & over); Cranes (over 45 tons to but not including 85 tons), all attachments including clamshell and dragline; Derricks & Stifflegs (65 tons & over); Draglines (3 yds. & over); Elevating Belt (Holland type); Heavy Equipment Robotics Operator; Loader (360 degrees revolving Koehring Scooper or similar); Loaders (overhead & front-end, over 8 yds. to 10 yds.); Rubber-tired Scrapers (multiple engine with three or more scrapers); Shovels (3 yds. & over); Ultra High Pressure Wateriet Cutting Tool System Operator (30,000 psi); Vacuum Blasting Machine Operator; Whirleys & Hammerheads, ALL

GROUP 8: Cranes (85 tons and over, and all climbing, overhead, rail and tower); Loaders (overhead and front-end, 10 yards and over); Helicopter Pilot

BOOM PAY: (All Cranes, Including Tower

180 ft to 250 ft	$.30 over scale
Over 250 ft	$.60 over scale

NOTE:
In computing the length of the boom on Tower Cranes, they shall be measured from the base of the tower to the point of the boom.

HAZMAT: Anyone working on HAZMAT jobs, working with supplied air shall receive $1.00 an hour above classification.

ENGI0612-002 06/01/2004

LEWIS, PIERCE, PACIFIC (portion lying north of a parallel line extending west from the northern boundary of Wahkaikum County to the sea) AND THURSTON COUNTIES

ON PROJECTS DESCRIBED IN FOOTNOTE A BELOW, THE RATE FOR EACH GROUP SHALL BE 90% OF THE BASE RATE PLUS FULL FRINGE BENEFITS. ON ALL OTHER WORK, THE FOLLOWING RATES APPLY.

Zone 1 (0-25 radius miles):

	Rates	Fringes
Power equipment operators:		
GROUP 1A	$ 30.61	10.25
GROUP 1AA	$ 31.15	10.25
GROUP 1AAA	$ 31.67	10.25

GROUP 1	$ 30.09	10.25
GROUP 2	$ 29.63	10.25
GROUP 3	$ 29.24	10.25
GROUP 4	$ 27.01	10.25

Zone Differential (Add to Zone 1 rates):
Zone 2 (26-45 radius miles) = $ .70
Zone 3 (Over 45 radius miles) - $1.00

BASEPOINTS: CENTRALIA, OLYMPIA, TACOMA

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1 AAA - Cranes-over 300 tons or 300 ft of boom (including jib with attachments)

GROUP 1AA - Cranes- 200 tonsto 300 tons, or 250 ft of boom (including jib with attachments; Tower crane over 175 ft in height, bas to boom

GROUP 1A - Cranes, 100 tons thru 199 tons, or 150 ft of boom (including jib with attachments); Crane-overhead, bridge type, 100 tons and over; Tower crane up to 175 ft in height base to boom; Loaders-overhead, 8 yards and over; Shovels, excavator, backhoes-6 yards and over with attachments

GROUP 1 - Cableway; Cranes 45 tons thru 99 tons under 150 ft of boom (including jib with attachments); Crane-overhead, bridge type, 45 tons thru 99 tons; Derricks on building work; Excavator, shovel, backhoes over 3 yards and under 6 yards; Hard tail end dump articulating off-road equipment 45 yards and over; Loader- overhead, 6 yards to, but not including, 8 yards; Mucking machine, mole, tunnel, drill and/or shield; Quad 9 HD 41, D-10; Remote control operator on rubber tired earth moving equipment; Rollagon; Scrapers-self-propelled 45 yards and over; Slipform pavers; Transporters, all track or truck type

GROUP 2 - Barrier machine (zipper); Batch Plant Operator-concrete; Bump Cutter; Cranes, 20 tons thru 44 tons with attachments; Crane-Overhead, bridge type, 20 tons through 44 tons; Chipper; Concrete pump-truck mount with boom attachment; Crusher; Deck engineer/deck winches (power); Drilling machine; Excavator, shovel, backhoe-3 yards and under; Finishing machine, Bidwell, Gamaco and similar equipment; Guardrail punch; Loaders, overhead under 6 yards; Loaders-plant feed; Locomotives-all; Mechanics- all; Mixers, asphalt plant; Motor patrol graders, finishing; Piledriver (other than crane mount); Roto-mill, roto-grinder; Screedman, spreader, topside operator-Blaw Knox, Cedar Rapids, Jaeger, Caterpillar, Barbar Green; Scraper-self- propelled, hard tail end dump, articulating

off-road equipment- under 45 yards; Subgrader trimmer; Tractors, backhoe over 75 hp; Transfer material service machine-shuttle buggy, Blaw Knox- Roadtec; Truck Crane oiler/driver-100 tons and over; Truck Mount Portable Conveyor; Yo Yo pay

GROUP 3 - Conveyors; Cranes through 19 tons with attachments; Crane-A-frame over 10 tons; Drill oilers-auger type, truck or crane mount; Dozer-D-9 and under; Forklift-3000 lbs. and over with attachments; Horizontal/directional drill locator; Outside Hoists-(elevators and manlifts), air tuggers, strato tower bucket elevators; Hydralifts/boom trucks over 10 tons; Loaders-elevating type, belt; Motor patrol grader-nonfinishing; Plant oiler- asphalt, crusher; Pump-Concrete; Roller, plant mix or multi-lfit materials; Saws-concrete; Scrapers, concrete and carry all; Service engineers-equipment; Trenching machines; Truck crane oiler/driver under 100 tons; Tractors, backhoe under 75 hp

GROUP 4 - Assistant Engineer; Bobcat; Brooms; Compressor; Concrete Finish Machine-laser screed; Cranes A-frame 10 tons and under; Elevator and manlift (permanent and shaft type); Forklifts-under 3000 lbs. with attachments; Gradechecker, stakehop; Hydralifts/boom trucks, 10 tons and under; Oil distributors, blower distribution and mulch seeding operator; Pavement breaker; Posthole digger-mechanical; Power plant; Pumps-water; Rigger and Bellman; Roller-other than plant mix; Wheel Tractors, farmall type; Shotcrete/gunite equipment operator

FOOTNOTE A- Reduced rates may be paid on the following:

1. Projects involving work on structures such as buildings and bridges whose total value is less than $1.5 million excluding mechanical, electrical, and utility portions of the contract.

2. Projects of less than $1 million where no building is involved. Surfacing and paving included, but utilities excluded.

3. Marine projects (docks, wharfs, etc.) less than $150,000.

HANDLING OF HAZARDOUS WASTE MATERIALS: Personnel in all craft classifications subject to working inside a federally designated hazardous perimeter shall be elgible for compensation in accordance with the following group schedule relative to the level of hazardous waste as outlined in the specific hazardous waste project site safety plan.

H-1 Base wage rate when on a hazardous waste site when not outfitted with protective clothing

H-2 Class "C" Suit - Base wage rate plus $ .25 per hour.
H-3 Class "B" Suit - Base wage rate plus $ .50 per hour.
H-4 Class "A" Suit - Base wage rate plus $ .75 per hour.

ENGI0701-008 01/01/2004

PACIFIC (remaining portion) COUNTY

	Rates	Fringes
Power equipment operators:		
(See Footnote A)		
ZONE 1:		
GROUP 1A	$ 30.99	9.70
GROUP 1B	$ 32.46	9.70
GROUP 1	$ 29.51	9.70
GROUP 2	$ 28.25	9.70
GROUP 3	$ 27.47	9.70
GROUP 4	$ 26.93	9.70
GROUP 5	$ 26.32	9.70
GROUP 6	$ 23.91	9.70

Zone Differential (add to Zone 1 rates):
Zone 2 - $1.50
Zone 3 - 3.00

For the following metropolitan counties: MULTNOMAH; CLACKAMAS; MARION; WASHINGTON; YAMHILL; AND COLUMBIA; CLARK; AND COWLITZ COUNTY, WASHINGTON WITH MODIFICATIONS AS INDICATED:

All jobs or projects located in Multnomah, Clackamas and Marion Counties, West of the western boundary of Mt. Hood National Forest and West of Mile Post 30 on Interstate 84 and West of Mile Post 30 on State Highway 26 and West of Mile Post 30 on Highway 22 and all jobs or projects located in Yamhill County, Washington County and Columbia County and all jobs or porjects located in Clark & Cowlitz County, Washington except that portion of Cowlitz County in the Mt. St. Helens "Blast Zone" shall receive Zone I pay for all classifications.

All jobs or projects located in the area outside the identified boundary above, but less than 50 miles from the Portland City Hall shall receive Zone II pay for all classifications.

All jobs or projects located more than 50 miles from the Portland City Hall, but outside the identified border above, shall receive Zone III pay for all classifications.

For the following cities: ALBANY; BEND; COOS BAY; EUGENE;

GRANTS PASS; KLAMATH FALLS; MEDFORD; ROSEBURG

All jobs or projects located within 30 miles of the respective city hall of the above mentioned cities shall receive Zone I pay for all classifications.

All jobs or projects located more than 30 miles and less than 50 miles from the respective city hall of the above mentioned cities shall receive Zone II pay for all classifications.

All jobs or projects located more than 50 miles from the respective city hall of the above mentioned cities shall receive Zone III pay for all classifications.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: CONCRETE: Batch Plant and/or Wet Mix Operator, three units or more; CRANE: Helicopter Operator, when used in erecting work; Whirley Operator, 90 ton and over; LATTICE BOOM CRANE: Operator 200 tons through 299 tons, and/or over 200 feet boom; HYDRAULIC CRANE: Hydraulic Crane Operator 90 tons through 199 tons with luffing or tower attachments; FLOATING EQUIPMENT: Floating Crane, 150 ton but less than 250 ton

GROUP 1A: HYDRAULIC CRANE: Hydraulic Operator, 200 tons and over (with luffing or tower attachment); LATTICE BOOM CRANE: Operator, 200 tons through 299 tons, with over 200 feet boom; FLOATING EQUIPMENT: Floating Crane 250 ton and over

GROUP 1B: LATTICE BOOM CRANE: Operator, 300 tons through 399 tons with over 200 feet boom; Operator 400 tons and over; FLOATING EQUIPMENT: Floating Crane 350 ton and over

GROUP 2: ASPHALT: Asphalt Plant Operator (any type); Roto Mill, pavement profiler, operator, 6 foot lateral cut and over; BLADE: Auto Grader or "Trimmer" (Grade Checker required); Blade Operator, Robotic; BULLDOZERS: Bulldozer operator over 120,000 lbs and above; Bulldozer operator, twin engine; Bulldozer Operator,tandem, quadnine, D10, D11, and similar type; Bulldozere Robotic Equipment (any type; CONCRETE: Batch Plant and/or Wet Mix Operator, one and two drum; Automatic Concrete Slip Form Paver Operator; Concrete Canal Line Operator; Concrete Profiler, Diamond Head; CRANE: Cableway Operator, 25 tons and over; HYDRAULIC CRANE: Hydraulic crane operator 90 tons through 199 tons (with luffing or tower attachment); TOWER/WHIRLEY OPERATOR: Tower Crane Operator; Whirley Operator, under 90 tons; LATTICE BOOM CRANE: 90 through 199 tons and/or 150 to 200 feet boom; CRUSHER: Crusher Plant Operator; FLOATING

EQUIPMENT: Floating Clamshell, etc.operator, 3 cu. yds. and over; Floating Crane (derrick barge) Operator, 30 tons but less than 150 tons; LOADERS: Loader operator, 120,000 lbs. and above; REMOTE CONTROL: Remote controlled earth-moving equipment; RUBBER-TIRED SCRAPERS: Rubber-tired scraper operator, with tandem scrapers, multi-engine; SHOVEL, DRAGLINE, CLAMSHELL, SKOOPER OPERATOR: Shovel, Dragline, Clamshell, operator 5 cu. yds and over; TRENCHING MACHINE: Wheel Excavator, under 750 cu. yds. per hour (Grade Oiler required); Canal Trimmer (Grade Oiler required); Wheel Excavator, over 750 cu. yds. per hour; Band Wagon (in conjunction with wheel excavator); UNDERWATER EQUIPMENT: Underwater Equipment Operator, remote or otherwise; HYDRAULIC HOES-EXCAVATOR: Excavator over 130,000 lbs.

GROUP 3: BULLDOZERS: Bulldozer operator, over 70,000 lbs. up to and including 120,000 lbs.; HYDRAULIC CRANE: Hydraulic crane operator, 50 tons through 89 tons (with luffing or tower attachment); LATTICE BOOM CRANES: Lattice Boom Crane-50 through 89 tons (and less than 150 feet boom); FORKLIFT: Rock Hound Operator; HYDRAULIC HOES-EXCAVATOR: excavator over 80,000 lbs. through 130,000 lbs.; LOADERS: Loader operator 60,000 and less than 120,000; RUBBER-TIRED SCRAPERS: Scraper Operator, with tandem scrapers; Self-loading, paddle wheel, auger type, finish and/or 2 or more units; SHOVEL, DRAGLINE, CLAMSHELL,SKOOPER OPERATOR: Shovel, Dragline, Clamshell operators 3 cu. yds. but less than 5 cu yds.

GROUP 4: ASPHALT: Screed Operator; Asphalt Paver operator (screeman required); BLADE: Blade operator; Blade operator, finish; Blade operator, externally controlled by electronic, mechanical hydraulic means; Blade operator, multi-engine; BULLDOZERS: Bulldozer Operator over 20,000 lbs and more than 100 horse up to 70,000 lbs; Drill Cat Operator; Side-boom Operator; Cable-Plow Operator (any type); CLEARING: Log Skidders; Chippers; Incinerator; Stump Splitter (loader mounted or similar type); Stump Grinder (loader mounted or similar type; Tub Grinder; Land Clearing Machine (Track mounted forestry mowing & grinding machine); Hydro Axe (loader mounted or similar type); COMPACTORS SELF-PROPELLED: Compactor Operator, with blade; Compactor Operator, multi-engine; Compactor Operator, robotic; CONCRETE: Mixer Mobile Operator; Screed Operator; Concrete Cooling Machine Operator; Concrete Paving Road Mixer; Concrete Breaker; Reinforced Tank Banding Machine (K-17 or similar types); Laser Screed; CRANE: Chicago boom and similar types; Lift Slab Machine Operator; Boom type lifting device, 5 ton capacity or less; Hoist Operator, two (2) drum; Hoist Operator, three (3) or more drums; Derrick Operator, under 100 ton; Hoist Operator, stiff leg, guy

derrick or similar type, 50 ton and over; Cableway Operator up to twenty (25) ton; Bridge Crane Operator, Locomotive, Gantry, Overhead; Cherry Picker or similar type crane; Carry Deck Operator; Hydraulic Crane Operator, under 50 tons; LATTICE BOOM CRANE OPERATOR: Lattice Boom Crane Operator, under 50 tons; CRUSHER: Generator Operator; Diesel-Electric Engineer; Grizzley Operator; Drill Doctor; Boring Machine Operator; Driller-Percussion, Diamond, Core, Cable, Rotary and similar type; Cat Drill (John Henry); Directional Drill Operator over 20,000 lbs pullback; FLOATING EQUIPMENT: Diesel-electric Engineer; Jack Operator, elevating barges, Barge Operator, self-unloading; Piledriver Operator (not crane type) (Deckhand required); Floating Clamshelll, etc. Operator, under 3 cu. yds. (Fireman or Diesel-Electric Engineer required); Floating Crane (derrick barge) Operator, less than 30 tons; GENERATORS: Generator Operator; Diesel-electric Engineer; GUARDRAIL EQUIPMENT: Guardrail Punch Operator (all types); Guardrail Auger Operator (all types); Combination Guardrail machines, i.e., punch auger, etc.; HEATING PLANT: Surface Heater and Planer Operator; HYDRAULIC HOES EXCAVATOR: Robotic Hydraulic backhoe operator, track and wheel type up to and including 20,0000 lbs. with any or all attachments; Excavator Operator over 20,000 lbs through 80,000 lbs.; LOADERS: Belt Loaders, Kolman and Ko Cal types; Loaders Operator, front end and overhead, 25,000 lbs and less than 60,000 lbs; Elevating Grader Operator by Tractor operator, Sierra, Euclid or similar types; PILEDRIVERS: Hammer Operator; Piledriver Operator (not crane type); PIPELINE, SEWER WATER: Pipe Cleaning Machine Operator; Pipe Doping Machine Operator; Pipe Bending Machine Operator; Pipe Wrapping Machine Operator; Boring Machine Operator; Back Filling Machine Operator; REMOTE CONTROL: Concrete Cleaning Decontamination Machine Operator; Ultra High Pressure Water Jet Cutting Tool System Operator/Mechanic; Vacuum Blasting Machine Operator/mechanic; REPAIRMEN, HEAVY DUTY: Diesel Electric Engineer (Plant or Floating; Bolt Threading Machine operator; Drill Doctor (Bit Grinder); H.D. Mechanic; Machine Tool Operator; RUBBER-TIRED SCRAPERS: Rubber-tired Scraper Operator,single engine, single scraper; Self-loading, paddle wheel, auger type under 15 cu. yds.; Rubber-tired Scraper Operator, twin engine; Rubber-tired Scraper Operator, with push- ull attachments; Self Loading, paddle wheel, auger type 15 cu. yds. and over, single engine; Water pulls, water wagons; SHOVEL, DRAGLINE, CLAMSHELL, SKOOPER OPERATOR: Diesel Electric Engineer; Stationay Drag Scraper Operator; Shovel, Dragline, Clamshell, Operator under 3 cy yds.; Grade-all Operator; SURFACE (BASE) MATERIAL: Blade mounted spreaders, Ulrich and similar types; TRACTOR-RUBBERED TIRED: Tractor operator, rubber-tired, over 50 hp flywheel; Tractor operator, with boom attachment; Rubber-tired dozers and

pushers (Michigan, Cat, Hough type); Skip Loader, Drag Box; TRENCHING MACHINE: Trenching Machine operator, digging capacity over 3 ft depth; Back filling machine operator; TUNNEL: Mucking machine operator

GROUP 5: ASPHALT: Extrusion Machine Operator; Roller Operator (any asphalt mix); Asphalt Burner and Reconditioner Operator (any type); Roto-Mill, pavement profiler, ground man; BULLDOZERS: Bulldozer operator, 20,000 lbs. or less or 100 horse or less; COMPRESSORS: Compressor Operator (any power), over 1,250 cu. ft. total capacity; COMPACTORS: Compactor Operator, including vibratory; Wagner Pactor Operator or similar type (without blade); CONCRETE: Combination mixer and Compressor Operator, gunite work; Concrete Batch Plant Quality Control Operator; Beltcrete Operator; Pumpcrete Operator (any type); Pavement Grinder and/or Grooving Machine Operator (riding type); Cement Pump Operator, Fuller-Kenyon and similar; Concrete Pump Operator; Grouting Machine Operator; Concrete mixer operator, single drum, under (5) bag capacity; Cast in place pipe laying machine; maginnis Internal Full slab vibrator operator; Concrete finishing mahine operator, Clary, Johnson, Bidwell, Burgess Bridge deck or similar type; Curb Machine Operator, mechanical Berm, Curb and/or Curb and Gutter; Concrete Joint Machine Operator; Concrete Planer Operator; Tower Mobile Operator; Power Jumbo Operator setting slip forms in tunnels; Slip Form Pumps, power driven hydraulic lifting device for concrete forms; Concrete Paving Machine Operator; Concrete Finishing Machine Operator; Concrete Spreader Operator; CRANE: Helicopter Hoist Operator; Hoist Operator, single drum; Elevator Operator; A-frame Truck Operator, Double drum; Boom Truck Operator; HYDRAULIC CRANE OPERATOR: Hydraulic Boom Truck, Pittman; DRILLING: Churm Drill and Earth Boring Machine Operator; Vacuum Truck; Directional Drill Operator over 20,000 lbs pullback; FLOATING EQUIPMENT: Fireman; FORKLIFT: Fork Lift, over 10 ton and/or robotic; HYDRAULIC HOES EXCAVATORS: Hydraulic Backhoe Operator, wheel type (Ford, John Deere, Case type); Hydraulic Backhoe Operator track type up to and including 20,000 lbs.; LOADERS: Loaders, rubber- tired type, less than 25,000 lbs; Elevating Grader Operator, Tractor Towed requiring Operator or Grader; Elevating loader operator, Athey and similar types; OILERS: Service oiler (Greaser); PIPELINE-SEWER WATER: Hydra hammer or simialr types; Pavement Breaker Operator; PUMPS: Pump Operator, more than 5 (any size); Pot Rammer Operator; RAILROAD EQUIPMENT: Locomotive Operator, under 40 tons; Ballast Regulator Operator; Ballast Tamper Multi-Purpose Operator; Track Liner Operator; Tie Spacer Operator; Shuttle Car Operator; Locomotive Operator, 40 tons and over; MATERIAL HAULRS: Cat wagon DJBs Volvo similar types; Conveyored material hauler;

SURFACING (BASE) MATERIAL: Rock Spreaders, self-propelled; Pulva-mixer or similar types; Chiip Spreading machine operator; Lime spreading operator, construction job siter; SWEEPERS: Sweeper operator (Wayne type) self-propelled construction job site; TRACTOR-RUBBER TIRED: Tractor operator, rubber-tired, 50 hp flywheel and under; Trenching machine operator, maximum digging capacity 3 ft depth; TUNNEL: Dinkey

GROUP 6: ASPHALT: Plant Oiler; Plant Fireman; Pugmill Operator (any type); Truck mounted asphalt spreader, with screed; COMPRESSORS: Compressor Operator (any power), under 1,250 cu. ft. total capacity; CONCRETE: Plant Oiler, Assistant Conveyor Operator; Conveyor Operator; Mixer Box Operator (C.T.B., dry batch, etc.); Cement Hog Operator; Concrete Saw Operator; Concrete Curing Machine Operator (riding type); Wire Mat or Brooming Machine Operator; CRANE: Oiler; Fireman, all equipment; Truck Crane Oiler Driver; A-frame Truck Operator, single drum; Tugger or Coffin Type Hoist Operator; CRUSHER: Crusher Oiler; Crusher Feederman; CRUSHER: Crusher oiler; Crusher feederman; DRILLING: Drill Tender; Auger Oiler; FLOATING EQUIPMENT: Deckhand; Boatman; FORKLIFT: Self-propelled Scaffolding Operator, construction job site (exclduing working platform); Fork Lift or Lumber Stacker Operator, construction job site; Ross Carrier Operator, construction job site; Lull Hi-Lift Operator or Similar Type; GUARDRAIL EQUIPMENT: Oiler; Auger Oiler; Oiler, combination guardrail machines; Guardrail Punch Oiler; HEATING PLANT: Temporary Heating Plant Operator; LOADERS: Bobcat, skid steer (less than 1 cu yd.); Bucket Elevator Loader Operator, BarberGreene and similar types; OILERS: Oiler; Guardrail Punch Oiler; Truck Crane Oiler-Driver; Auger Oiler; Grade Oiler, required to check grade; Grade Checker; Rigger; PIPELINE-SEWER WATER: Tar Pot Fireman; Tar Pot Fireman (power agitated); PUMPS: Pump Operator (any power); Hydrostatic Pump Operator; RAILROAD EQUIPMENT: Brakeman; Oiler; Switchman; Motorman; Ballast Jack Tamper Operator; SHOVEL, DRAGLINE, CLAMSHELL, SKOOPER, ETC. OPERATOR: Oiler, Grade Oiler (required to check grade); Grade Checker; Fireman; SWEEPER: Broom operator, self propelled, construction job site; SURFACING (BASE) MATERIAL: Roller Operator, grading of base rock (not asphalt); Tamping Machine operartor, mechanical, self-propelled; Hydrographic Seeder Machine Operator; TRENCHING MACHINE: Oiler; Grade Oiler; TUNNEL: Conveyor operator; Air filtration equipment operator

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IRON0086-001 07/01/2004

CHELAN AND KITTITAS COUNTIES

	Rates	Fringes
Ironworker	$ 28.02	13.30

IRON0086-003 07/01/2004

CALLAM,GRAYS HARBOR, JEFFERSON, KING,KITSAP, LEWIS, MASON, PACIFIC, PIERCE, SNOHOMISH AND THURSTON COUNTIES

	Rates	Fringes
Ironworker	$ 29.82	13.30

LABO0001-003 06/01/2004

	Rates	Fringes
Laborers:		
CHELAN AND KITTITAS COUNTIES ZONE 1:		
GROUP 1	$ 14.70	7.70
GROUP 2	$ 17.02	7.70
GROUP 3	$ 18.74	7.70
GROUP 4	$ 19.22	7.70
GROUP 5	$ 19.58	7.70
CLALLAM, GRAYS HARBOR, JEFFERSON, KING, KITSAP, LEWIS, MASON, PACIFIC (North of a straight line made by extending the north boundary of Wahkiakum County west to the Pacific Ocean), PIERCE, SNOHOMISH AND THURSTON COUNTIES ZONE 1:		
GROUP 1	$ 19.96	7.70
GROUP 2	$ 20.28	7.70
GROUP 3	$ 24.96	7.70
GROUP 4	$ 25.44	7.70
GROUP 5	$ 25.80	7.70

ZONE DIFFERENTIAL (ADD TO ZONE 1 RATES):
ZONE 2 - $ .70
ZONE 3 - $1.00

BASE POINTS: CHELAN, SUNNYSIDE, WENATCHEE, AND YAKIMA

ZONE 1 - Projects within 25 radius miles of the respective city hall
ZONE 2 - More than 25 but less than 45 radius miles from the respective city hall
ZONE 3 - More than 45 radius miles from the respective city hall

BASE POINTS: BELLINGHAM, MT. VERNON, EVERETT, SEATTLE, KENT, TACOMA, OLYMPIA, CENTRALIA, ABERDEEN, SHELTON, PT. TOWNSEND, PT. ANGELES, AND BREMERTON

ZONE 1 - Projects within 25 radius miles of the respective city hall
ZONE 2 - More than 25 but less than 45 radius miles from the respective city hall
ZONE 3 - More than 45 radius miles from the respective city hall

LABORERS CLASSIFICATIONS

GROUP 1: Landscaping and Planting; Watchman; Window Washer/Cleaner (detail clean-up, such as but not limited to cleaning floors, ceilings, walls, windows, etc., prior to final acceptance by the owner)

GROUP 2: Batch Weighman; Crusher Feeder; Fence Laborer; Flagman; Pilot Car

GROUP 3: General Laborer; Air, Gas, or Electric Vibrating Screed; Asbestos Abatement Laborer; Ballast Regulator Machine; Brush Cutter; Brush Hog Feeder; Burner; Carpenter Tender; Cement Finisher Tender; Change House or Dry Shack; Chipping Gun (under 30 lbs.); Choker Setter; Chuck Tender; Clean-up Laborer; Concrete Form Stripper; Curing Laborer; Demolition (wrecking and moving including charred material); Ditch Digger; Dump Person; Fine Graders; Firewatch; Form Setter; Gabian Basket Builders; Grout Machine Tender; Grinders; Guardrail Erector; Hazardous Waste Worker (Level C); Maintenance Person; Material Yard Person; Pot Tender; Rip Rap Person; Riggers; Scale Person; Sloper Sprayer; Signal Person; Stock Piler; Stake Hopper; Toolroom Man (at job site); Topper-Tailer; Track Laborer; Truck Spotter; Vinyl Seamer

GROUP 4: Cement Dumper-Paving; Chipping Gun (over 30 lbs.); Clary Power Spreader; Concrete Dumper/Chute Operator; Concrete Saw Operator; Drill Operator (hydraulic, diamond, aiartrac); Faller and Bucker Chain Saw; Grade Checker and Transit Person; Groutmen (pressure) including post tension beams; Hazardous Waste Worker (Level B); High Scaler; Jackhammer; Laserbeam Operator; Manhole Builder-Mudman; Mortarman and Hodcarrier; Nozzleman (concrete pump, green cutter when using combination of high pressure air and water on concrete and rock, sandblast, gunite, shotcrete, water blaster, vacuum blaster); Pavement Breaker; Pipe Layer and Caulker; Pipe Pot Tender; Pipe Reliner (not insert type); Pipe Wrapper; Power Jacks; Railroad Spike Puller-Power; Raker-Asphalt; Rivet Buster; Rodder; Sloper (over 20 ft); Spreader (concrete); Tamper and Similar

electric, air and glas operated tool; Timber Person-sewer (lagger shorer and cribber); Track Liner Power; Tugger Operator; Vibrator; Well Point Laborer

GROUP 5: Caisson Worker; Miner; Powderman; Re-Timberman; Hazardous Waste Worker (Level A).

LABO0238-008 06/01/2004

CHELAN COUNTY

	Rates	Fringes
Hod Carrier	$ 21.05	6.80

LABO0335-003 06/01/2004

PACIFIC (South of a straight line made by extending the north Boundary line of Wahkiakum County west to the Pacific Ocean) COUNTY

	Rates	Fringes
Laborers:		
ZONE 1:		
GROUP 1	$ 23.73	7.50
GROUP 2	$ 24.27	7.50
GROUP 3	$ 24.68	7.50
GROUP 4	$ 25.03	7.50
GROUP 5	$ 21.44	7.50
GROUP 6	$ 19.22	7.50
GROUP 7	$ 16.30	7.50

LABORERS CLASSIFICATIONS

GROUP 1: Asphalt Plant Laborers; Asphalt Spreaders; Batch Weighman; Broomers; Brush Burners and Cutters; Car and Truck Loaders; Carpenter Tender; Change-House Man or Dry Shack Man; Choker Setter; Clean-up Laborers; Curing-concrete; Demolition, Wrecking, and Moving Laborers; Dumpers, road oiling crew; Dumpmen (for grading crew); Elevator Feeders; Guard Rail, Median Rail, Reference Post, Guide Post, Right-of-way Marker; Fine Graders; Fire Watch; Form Strippers (not swinging stages); General Laborers; Hazardous Waste Worker; Leverman or Aggregate Spreader (Flaherty and similar types); Loading Spotters; Material Yard Man (including electrical); Pittsburgh Chipper Operator or similar types; Railroad Track Laborers; Ribbon Setters (including steel forms); Rip Rap Man (hand placed); Road Pump Tender; Sewer Laborer; Signalman; Skipman; Slopers; Spraymen; Stake Chaser; Stockpiler; Tie Back Shoring; Timber Faller and Bucker (hand labor); Toolroom

Man (at job site); Tunnel Bullgang (above ground); Weight-Man-Crusher (aggregate when used)

GROUP 2: Applicator (including pot power tender for same), applying protective material by hand or nozzle on utility lines or storage tanks on project; Brush (power saw); Burners; Choker Splicer; Clary Power Spreader and similar types; Clean up-nozzleman-Green cutter (concrete, rock, etc.); Concrete Laborer; Concrete Power Buggyman; Crusher Feeder; Demolition and Wrecking Charred Materials; Gunite Nozzleman Tender; Gunite or Sand Blasting Pot Tender; Handlers or Mixers of all Materials of an irritating nature (including cement and lime); Pipe Doping & Wrapping; Tool Operators (includes but not limited to: Dry pack machine, Jackhammer, Chipping guns, Paving breakers); Post Hole Digger, air, gas or electric; Vibrating Screed; Tampers; Sand Blasting (wet); Stake-Setter; Tunnel-Muckers, Brakemen, Concrete Crew, Bull gang (Underground)

GROUP 3: Asbestos Removal (structural removal only); Bit Grinder; Drill Doctor; Drill Operators, air tracks cat drills, wagon drills, rubber-mounted drills, and other similar types; Concrete Saw Operator; Gunite Nozzleman; High scalers, strippers and drillers (covers work in swinging stages, chairs or belts, under extreme conditions unusual to normal drilling, blasting, barring-down, or sloping and stripping); Manhole Builder; Powdermen; Power Saw Operators (Bucking and Falling); Pumpcrete Nozzlemen; Sand Blasting (dry); Sewer Timberman; Track Liners; Anchor Machines; Ballast Regulators; Multiple Tampers; Power Jacks; Tugger Operator; Tunnel-Chuck Tenders, Nippers and Timbermen; Vibrator; Water Blaster

GROUP 4: Asphalt Raker; Concrete Saw Operator (walls); Concrete Nozzelman; Grade Checker; Pipelayer; Laser Beam (Tunnel) applicable when assigned to move, set up, align laser beam; Miner-Tunnel; Motorman-dinky Locomotive-Tunnel; Powderman-Tunnel; Shield Operator-Tunnel

GROUP 5: Traffic Flaggers

GROUP 6: Fence Builders

GROUP 7: Landscaping and Planting Laborers

ZONE DIFFERENTIAL (ADD TO ZONE 1 RATES):
ZONE 2 - $0.65
ZONE 3 - 1.15
ZONE 4 - 1.70
ZONE 5 - 2.75

ZONE DEFINITIONS

BASE POINTS: GOLDENDALE, LONGVIEW, AND VANCOUVER

ZONE 1: Projects within 30 miles of the respective city hall

ZONE 2: More than 30 miles but less than 40 miles from the respective city hall.
ZONE 3: More than 40 miles but less than 50 miles from the respective city hall.
ZONE 4: More than 50 miles but less than 80 miles from the respective city hall.
ZONE 5: More than 80 miles from the respective city hall.

LABO0335-009 06/01/2004

PACIFIC(south of a straight line made by extending the north boundary of Wahkiakum County west to the Pacific Ocean)

	Rates	Fringes
Hod Carrier	$ 25.49	7.50

PAIN0005-001 03/01/2004

CLALLAM, GRAYS HARBOR, JEFFERSON, KING, KITSAP, LEWIS, MASON, PIERCE, SNOHOMISH AND THURSTON COUNTIES

	Rates	Fringes
Painter	$ 24.36	6.41

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* PAIN0005-003 06/10/2004

CLALLAM, GRAYS HARBOR, JEFFERSON, KING, KITSAP, LEWIS, MASON, PIERCE, SNOHOMISH AND THURSTON COUNTIES

	Rates	Fringes
Drywall Finisher	$ 27.33	12.11

PAIN0005-007 07/01/2004

CHELAN AND KITTITAS COUNTIES

	Rates	Fringes
Painters:		
BRUSH, PAPERHANGER, STEAM-CLEANING, STRIPING and SPRAY	$ 18.89	6.43
TV, RADIO, ELECTRICAL TRANSMISSION TOWERS	$ 20.64	6.43

PAIN0005-013 07/01/2004

CALLAM, GRAYS HARBOR, JEFFERSON, LEWIS, MASON, PACIFIC (NORTHERN PORTION), PIERCE AND THURSTON COUNTIES

	Rates	Fringes
Soft Floor Layer	$ 21.70	9.18

PAIN0054-003 07/01/2004

CHELAN AND KITTITAS COUNTIES

	Rates	Fringes
Drywall Finisher (TAPER)	$ 20.69	7.15

PAIN0054-008 09/01/2003

CHELAN AND KITTITAS COUNTIES

	Rates	Fringes
Glazier	$ 18.00	5.26

PAIN0055-008 07/01/2004

PACIFIC COUNTY

	Rates	Fringes
Drywall Finisher	$ 27.28	10.38

PAIN0055-009 07/01/2003

PACIFIC COUNTY

	Rates	Fringes
Painters:		
Brush & Roller	$ 17.61	6.12
High work - All work 60 ft. or higher	$ 18.36	6.12
Spray and Sandblasting	$ 18.21	6.12

PAIN0188-001 07/01/2004

CLALLAM, JEFFERSON, KING, KITSAP, LEWIS, MASON, PIERCE, SNOHOMISH, THURSTON COUNTIES

	Rates	Fringes

Glazier.....$ 28.87 11.09

PAIN0188-002 07/01/2004

GRAYS HARBOR AND PACIFIC COUNTIES

	Rates	Fringes
Glazier.....	$ 12.65	8.87

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* PAIN1238-001 07/01/2004

KING, KITSAP AND SNOHOMISH COUNTIES

	Rates	Fringes
Soft Floor Layer.....	$ 23.02	9.32

PLAS0072-002 06/01/2004

CHELAN AND KITTITAS COUNTIES

Zone 1:

	Rates	Fringes
Cement Mason.....	$ 21.66	7.28

Zone Differential (Add to Zone 1 rates): Zone 2 - $2.00

BASE POINTS: Spokane, Pasco, Moses Lake, and Lewiston

Zone 1: 0 - 45 radius miles from the main post office
Zone 2: 45 radius miles from the main post office

PLAS0082-003 06/01/2004

PACIFIC (South of a straight line made by extending the north boundary line of Wahkiakum County west to the Pacific Ocean) COUNTY

	Rates	Fringes
Plasterer.....	$ 26.49	8.28

PLAS0528-002 06/01/2004

CLALLAM, GRAYS HARBOR, JEFFERSON, KING, KITSAP, LEWIS, MASON, PACIFIC (North of a straight line made by extending the north boundary line of Wahkiakum Count, west to the Pacific Ocean), PIERCE, SNOHOMISH AND THURSTON COUNTIES

	Rates	Fringes
Cement Mason.....	$ 29.14	10.87

PLUM0032-001 01/01/2004

CHELAN AND KITTITAS (NORTHERN TIP) COUNTIES

	Rates	Fringes
Plumbers and Pipefitters.....	$ 26.38	11.68

PLUM0032-002 01/01/2004

CLALLAM, KING AND JEFFERSON COUNTIES

	Rates	Fringes
Plumbers and Pipefitters.....	$ 34.43	14.33

PLUM0082-004 01/01/2004

GRAYS HARBOR, LEWIS, MASON (EXCLUDING NE SECTION), PACIFIC, PIERCE AND THURSTON COUNTIES

	Rates	Fringes
Plumbers and Pipefitters.....	$ 30.40	13.17

PLUM0265-001 01/01/2004

SNOHOMISH COUNTY

	Rates	Fringes
Plumbers and Pipefitters.....	$ 30.20	13.17

PLUM0598-002 06/01/2004

KITTITAS (ALL BUT NORTHERN TIP)

	Rates	Fringes
Plumbers and Pipefitters.....	$ 31.57	15.25

PLUM0631-001 01/01/2004

MASON (NE SECTION), AND KITSAP COUNTIES

	Rates	Fringes
Plumbers and Pipefitters		

All new construction, additions, and remodeling of commercial building projects such as: cocktail lounges and taverns, professional buildings, medical clinics, retail stores, hotels and motels, restaurants and fast food types, gasoline service stations, and car washes where the plumbing and mechanical cost of the project is less than $100,000.....$ 20.85 4.58

All other work where the plumbing and mechanical cost of the project is $100,000 and over.....$ 29.29 13.17

ROOF0054-001 06/01/2003

CLALLAM, JEFFERSON, KING, KITSAP, MASON AND SNOHOMISH COUNTIES

	Rates	Fringes
Roofer	$ 25.62	8.91

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* ROOF0153-001 04/01/2004

GRAYS HARBOR, LEWIS, PACIFIC, PIERCE AND THURSTON COUNTIES

	Rates	Fringes
Roofer	$ 25.25	7.29

ROOF0189-001 07/01/2004

CHELAN COUNTY

	Rates	Fringes
Roofer	$ 20.36	6.95

ROOF0189-004 07/01/2004

KITTITAS COUNTY

	Rates	Fringes
Roofer	$ 21.30	6.20

SFWA0699-001 04/01/2004

KING, KITSAP, PIERCE, SNOHOMISH AND THURSTON COUNTIES

	Rates	Fringes
Sprinkler Fitter.....	$ 33.34	13.90

SHEE0066-003 07/01/2004

CHELAN COUNTY

	Rates	Fringes
Sheet Metal Worker.....	$ 23.62	10.05

SHEE0066-004 07/01/2004

CLALLAM, GRAYS HARBOR, JEFFERSON, KING, KITSAP, LEWIS, MASON, PACIFIC, PIERCE, SNOHOMISH AND THURSTON COUNTIES

	Rates	Fringes
Sheet Metal Worker.....	$ 32.35	14.29

SHEE0066-010 07/01/2004

KITTITAS COUNTY

	Rates	Fringes
Sheet Metal Worker.....	$ 25.26	11.83

TEAM0174-002 06/01/2004

CLALLAM, GRAYS HARBOR, JEFFERSON, KING, KITSAP, LEWIS, MASON, PACIFIC (North of a straight line made by extending the north boundary line of Wahkiakum County west to the Pacific Ocean), PIERCE, SNOHOMISH AND THURSTON COUNTIES

	Rates	Fringes
Truck drivers:		
ZONE A:		
GROUP 1:.....	$ 26.39	11.08
GROUP 2:.....	$ 25.81	11.08
GROUP 3:.....	$ 23.41	11.08
GROUP 4:.....	$ 19.16	11.08
GROUP 5:.....	$ 26.15	11.08

ZONE B (25-45 miles from center of listed cities*): Add $.70 per hour to Zone A rates. ZONE C (over 45 miles from centr

of listed cities*): Add $1.00 per hour to Zone A rates.

*Zone pay will be calculated from the city center of the following listed cities:

BELLINGHAM	CENTRALIA	RAYMOND	OLYMPIA
EVERETT	SHELTON	ANACORTES	BELLEVUE
SEATTLE	PORT ANGELES	MT. VERNON	KENT
TACOMA	PORT TOWNSEND	ABERDEEN	BREMERTON

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1 -"A-frame or Hydralift" trucks and Boom trucks or similar equipment when "A" frame or "Hydralift" and Boom truck or similar equipment is used; Buggymobile; Bulk Cement Tanker; Dumpsters and similar equipment, Tournorockers, Tournowagon, Tournotrailer, Cat DW series, Terra Cobra, Le Tourneau, Westinghouse, Athye Wagon, Eucid Two and Four-Wheeled power tractor with trailer and similar top-loaded equipment transporting material: Dump Trucks, side, end and bottom dump, including semi-trucks and trains or combinations thereof with 16 yards to 30 yards capacity: Over 30 yards $.15 per hour additional for each 10 yard increment; Explosive Truck (field mix) and similar equipment; Hyster Operators (handling bulk loose aggregates); Lowbed and Heavy Duty Trailer; Road Oil Distributor Driver; Spreader, Flaherty Transit mix used exclusively in heavy construction; Water Wagon and Tank Truck-3,000 gallons and over capacity

GROUP 2 - Bulllifts, or similar equipment used in loading or unloading trucks, transporting materials on job site; Dumpsters, and similar equipment, Tournorockers, Tournowagon, Turnotrailer, Cat. D.W. Series, Terra Cobra, Le Tourneau, Westinghous, Athye wagon, Euclid two and four-wheeled power tractor with trailer and similar top-loaded equipment transporting material, Dump trucks, side, end and bottom dump, including semi-trucks and trains or combinations thereof with less than 16 yards capacity; Flatbed: (Dual Rear Axle); Grease Truck, Fuel Truck, Greaser, Battery Service Man and/or Tire Service Man; Leverman and loader at bunkers and batch plants; Oil tank transport; Scissor, Slurry Truck; Sno-Go and similar equipment; Swampers; Straddler Carrier (Ross, Hyster) and similar equipment; Team Driver; Tractor (small rubber-tired (when used within Teamster jurisdiction); Vacuum truck; Water Wagon and Tank trucks-less than 3,000 gallons capacity; Winch truck; Wrecker, tow truck and similar equipment

GROUP 3 - Flatbed: single rear axle; Pickup sweeper, Pickup Truck (Adjust upward by $2.00 per hour for onsite work)

GROUP 4 - Escort or pilot driver

GROUP 5 - Mechanic

HAZMAT PROJECTS

Anyone working on a HAZMAT job, where HAZMAT certification is required, shall be compensated as a premium, in addition to the classification working in as follows:
LEVEL C: +$.25 per hour - This level uses an air purifying respirator or additional protective clothing.
LEVEL B: +$.50 per hour - Uses same respirator protection as Level A. Supplied air line is provided in conjunction with a chemical "splash suit."
LEVEL A: +$.75 per hour - This level utilizes a fully-encapsulated suit with a self-contained breathing apparatus or a supplied air line.

TEAM0760-004 06/01/2004

CHELAN AND KITTITAS COUNTIES

(ANYONE WORKING ON HAZMAT JOBS SEE FOOTNOTE A BELOW)

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 19.43	9.50
GROUP 2	$ 22.07	9.50
GROUP 3	$ 22.18	9.50
GROUP 4	$ 22.51	9.50
GROUP 5	$ 22.62	9.50
GROUP 6	$ 22.78	9.50
GROUP 7	$ 23.32	9.50
GROUP 8	$ 23.64	9.50

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Escort Driver or Pilot Car; Employee Haul; Power Boat Hauling Employees or Material

GROUP 2: Fish Truck; Flat Bed Truck; Fork Lift (3000 lbs. and under); Trailer Mounted Hydro Seeder and Mulcher; Leverperson (loading trucks at bunkers); Seeder & Mulcher; Stationary Fuel Operator; Tractor (small, rubber-tired, pulling trailer or similar equipment)

GROUP 3: Auto Crane (2000 lbs. capacity); Buggy Mobile & Similar; Bulk Cement Tanks & Spreader; Dumptor (6 yds. & under); Flat Bed Truck with Hydraulic System; Fork Lift (3001-16,000 lbs.); Fuel Truck Driver; Steamcleaner & Washer; Power Operated Sweeper; Rubber-tired Tunnel Jumbo;

Scissors Truck; Slurry Truck Driver; Straddle Carrier (Ross, Hyster, & similar); Tireperson; Transit Mixers & Truck Hauling Concrete (3 yd. to & including 6 yds.); Trucks, side, end, bottom and articulated end dump (3 yards to and including 6 yds.); Warehouseperson (to include shipping & receiving); Wrecker & Tow Truck

GROUP 4: A-Frame; Burner, Cutter, & Welder; Service Greaser; Trucks, side, end, bottom and articulated end dump (over 6 yds. to & including 12 yds.); Truck Mounted Hydro Seeder; Warehouseperson; Water Tank truck (0-8000 gallons)

GROUP 5: Dumpster (over 6 yds.); Lowboy (50 tons & under); Self- Loading Roll Off; Semi-Truck & Trailer; Tractor with Steer Trailer; Transit Mixers and Trucks Hauling Concrete (over 6 yds. to and including 10 yds.); Trucks, side, end, bottom and articulated end dump (over 12 yds. to & including 20 yds.); Truck-Mounted Crane (with load bearing surface either mounted or pulled)(up to 14 ton); Vacuum Truck (super sucker, guzzler, etc.)

GROUP 6: Flaherty Spreader Box Driver; Flowboys; Fork Lift (over 16,000 lbs.); Dumps (Semi-end); Lowboy (over 50 tons); Mechanic (Field); Transfer Truck and Trailer; Transit Mixers & Trucks Hauling Concrete (over 10 yds. to & including 20 yds.); Trucks, side, end, bottom and end dump (over 20 yds. to & including 40 yds.); Truck and Pup; Tournarocker, DWs & similar with 2 or more 4 wheel-power tractor with trailer, gallonage or yardage scale, whichever is greater; Water Tank Truck (8,001- 14,000 gallons)

GROUP 7: Oil Distributor Driver; Stringer Truck (cable operated trailer); Transit Mixers & Hauling Concrete (over 20 yds.); Truck, side, end, bottom and articulated end dump (over 40 yds. to & including 100 yds.); Truck Mounted Crane (with load bearing surface either mounted or pulled (16 through 25 tons)

GROUP 8: Prime Movers and Stinger Truck; Trucks, side, end, bottom and articulated end dump (over 100 yds.); Helicopter Pilot Hauling Employees or Materials

Footnote A- Anyone working on a HAZMAT job, where HAZMAT certification is required, shall be compensated as a premium, in additon to the classification working in as follows:

LEVEL D: - $.25 PER HOUR (This is the lowest level of protection. No respirator is used and skin protection is minimal.

LEVEL C: - $.50 PER HOUR (This level uses an air purifying

respirator or additional protective clothing.

LEVEL B: - $.75 PER HOUR (Uses same respirator protection as Level A. Supplied air line is provided in conjunction with a chemical "spash suit."

LEVEL A: - $1.00 PER HOUR (this level utilizes a fully encapsulated suit with a self-contained breathing apparatus or a supplied air line.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

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GENERAL DECISION: WA20030013 08/06/2004 WA13

Date: August 6, 2004
General Decision Number: WA20030013 08/06/2004

Superseded General Decision Number: WA020013

State: Washington

Construction Type: Building

County: Yakima County in Washington.

BUILDING CONSTRUCTION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories)

Modification Number	Publication Date
0	06/13/2003
1	01/23/2004
2	03/05/2004
3	05/14/2004
4	06/18/2004
5	07/02/2004
6	07/23/2004
7	08/06/2004

ELEC0112-009 06/01/2002

	Rates	Fringes
Communications & Systems Technician.....	$ 19.97	5.93

SCOPE OF WORK

The work covered shall include the installation, testing, service and maintenance, of the following systems that utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for TV monitoring and surveillance, background foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms and low voltage master clock systems.

A. Communication systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems SCADA (Supervisory control/data acquisition PCM (Pulse code modulation) Inventory control systems

Digital data systems Broadband & baseband and carriers Point of sale systems VSAT data systems Data communication systems RF and remote control systems Fiber optic data systems

B. Sound and Voice Transmission/Transference Systems Background-Foreground Music Intercom and Telephone Interconnect Systems Sound and Musical Entertainment Systems Nurse Call Systems Radio Page Systems School Intercom and Sound Systems Burglar Alarm Systems Low-Voltage Master Clock Systems Multi-Media/Multiplex Systems Telephone Systems RF Systems and Antennas and Wave Guide

C. *Fire Alarm Systems-installation, wire pulling and testing.

D. Television and Video Systems Television Monitoring and Surveillance Systems Video Security Systems Video Entertainment Systems Video Educational Systems Microwave Transmission Systems CATV and CCTV

E. Security Systems Perimeter Security Systems Vibration Sensor Systems Sonar/Infrared Monitoring Equipment Access Control Systems Card Access Systems

F. Energy Management Systems.

1. Install all low voltage devices or equipment.
2. Install all low voltage wire not in conduit.
3. Make all low voltage wire terminations that are properly seperated from the line voltage side.
4. Install any panel or equipment the contains only low voltage control elements, but has line voltage as a power source.
5. Install chases and /or nipples, not to exceed ten (10) feet, on sytems not in conduit.
6. Install all low voltage wire through chases and/or nipples on systems not in conduit.

*Fire Alarm Systems
1. Fire Alarms-In Raceways
a. Wire and cable pulling, in raceways, performed at the current electrician wage rate and fringe benefits.
b. Installation and termination of devices, panels, startup, testing and programming performed by the technician.
2. Fire Alarms-Open Wire Systems
a. Open wire systems installed by the technician.

ELEC0112-011 06/01/2004

	Rates	Fringes

```
  Cable splicer..................$ 31.24         3%+12.28
  Electrician....................$ 29.75         3%+12.28
-----------------------------------------------------------------
* PLAS0072-003 06/01/2004

ZONE 1:

                                    Rates          Fringes

  Cement Mason...................$ 21.66             7.28

Zone Differential (Add to Zone 1 rate):  Zone 2:  $2.00

BASE POINTS:  Spokane, Pasco, Moses Lake, Lewiston

Zone 1:  0 - 45 radius miles from the main post office
Zone 2:   Over 45 radius miles from the main post office
-----------------------------------------------------------------
PLUM0598-003 06/01/2004

                                    Rates          Fringes

  Plumber and Steamfitter........$ 31.57            15.25
-----------------------------------------------------------------
* ROOF0189-003 07/01/2004

                                    Rates          Fringes

  Roofer (Excluding
  waterproofing).................$ 21.30             6.20
-----------------------------------------------------------------
SHEE0066-002 07/01/2004

                                    Rates          Fringes

  Sheet metal worker (Excluding
  structural iron work on
  metal building)................$ 25.26            11.83
-----------------------------------------------------------------
 SUWA1990-001 02/08/1990

                                    Rates          Fringes

  Bricklayer.....................$ 17.99             3.73
  Carpenter......................$ 12.24             3.20
  Laborer........................$  9.15
  Painter........................$ 14.03             2.70

  WELDERS - Receive rate prescribed for craft performing
  operation to which welding is incidental.
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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.
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END OF GENERAL DECISION

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SECTION 01001

SUPPLEMENTARY REQUIREMENTS

PART 1 GENERAL

1.1 DEFINITIONS

The references listed below are to be defined as indicated wherever they may be used in the TECHNICAL SPECIFICATIONS.

"SUPPLEMENTARY REQUIREMENTS " shall be read to pertain to any of the sections of the DIVISION 1 as required by the content of the section or paragraph containing the reference.

Specification “SECTION 01300 – SUBMITTALS” shall be read as a specification “SECTION 01330 – SUBMITTAL PROCEDURES”.

1.2 CONSTRUCTION SCHEDULING

The instructions for preparation and submittal of the Contractor-prepared project schedules are found in SECTION 01320, PROJECT SCHEDULE.

1.3 CORRESPONDENCE

Not used.

1.4 ADVANCED NOTICE OF CONTRACTOR PERFORMED ACCEPTANCE TESTING

Not used.

1.5 CONTRACTOR'S FILES

Not used.

1.6 AUDIO-VIDEO RECORDINGS

Not used.

1.7 MECHANICAL AND ELECTRICAL LAYOUT DRAWINGS

Not used.

1.8 PROJECT PHOTOGRAPHS

See Section 01010, requirements for Roofing Condition Report.

1.9 COLOR BOARDS

Not used.

1.10 SAMPLE ROOM

Not used.

1.11 IDENTIFICATION OF EMPLOYEES AND MILITARY REGULATIONS:

1.11.1 COMMERCIAL VEHICLE ACCESS TO FORT LEWIS - REGISTERED AND PREVIOUSLY ID'D (RAPID) GATE PROGRAM

Procedures for commercial vehicle access to Fort Lewis are subject to change without prior notice. Current access information may be obtained by calling (253) 967-1733. As of 1 May 2004, the following requirements apply:

a) Unless the contractor voluntarily participates in the RAPID Gate Program, commercial vehicle access to Fort Lewis will be allowed only at the Logistics Center Gate (Exit 123 from I-5) and through the D Street Commercial Vehicle Inspection Point on North Fort. Both gates are open Monday through Friday, excluding federal holidays. These gates will be open for inbound commercial vehicle access and inspection between 0530 hours and 2100 hours. These gates are closed on weekends (Saturdays and Sundays) and federal holidays. On Saturdays, Sundays and federal holidays, commercial vehicles must use the Main Gate (Exit 120 from I-5). Main Gate is open 24 hours per day everyday. A visitor pass must be obtained. All commercial vehicles will be searched. The Contractor should anticipate delays in getting commercial vehicles on post. The Contractor must also allow additional time for commercial vehicles to reach their destination by driving through Fort Lewis.

If the commercial vehicle is carrying a load of cement concrete or hot asphalt concrete for delivery, the driver shall notify the gate guard as soon as possible and request that the vehicle be given priority for being searched; however, the Government does not guarantee that the vehicle will be given priority.

On weekends large vehicles (needing greater than 12'-5" clearance) will require a time stamped "searched" label to gain access to North Fort Lewis. "Searched" labels will be issued at the Main Gate, as appropriate. Drivers needing access to North Fort Lewis must inform the gate guard that their vehicle is over 12'-5" in height and that they will require access to North Fort Lewis. The driver will receive a briefing on proper procedures and a "searched" label. The Contractor shall ensure that its drivers, including drivers of subcontractors at any tier, comply with the procedures as explained to them for access to North Fort Lewis.

b) If the contractor participates in the RAPID Gate Program, contractor vehicles may enter the installation through any RAPID gate lane except at Force Protection Level Charlie or

Delta. During Force Protection Level Charlie or Delta, all contractor vehicles must enter through the Logistics Center gate or, if the Logistics Center Gate is closed, through the Main Gate. All passengers in the contractor vehicle must have a RAPID identification card; otherwise, the contractor vehicle must enter through the Logistics Center Gate or the Main Gate, as appropriate and obtain visitor passes. Once the RAPID Gate Program is fully implemented, RAPID gate lanes will be at the Main (Liberty) Gate, the East Gate, the DuPont Gate, the D Street Gate, the Logistics Center Gate, the Madigan Army Medical Center Gate, and the North Fort Gate. The contractor shall use only those lanes specifically marked as RAPID lanes.

c) NOTE: The RAPID Gate Program is a test program which is scheduled to end on 30 April 2005 but may be terminated by the Government or by Eid Passports, Inc., at any time. If the program is terminated, the contractor will be allowed access only through the Logistics Center Gate or the D Street Gate or, when they are closed, the Main Gate unless the contractor is otherwise notified by the Contracting Officer.

1.11.2 IDENTIFICATION OF EMPLOYEES AND MILITARY REGULATIONS:

1.11.2.1 Compliance with Regulations

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.

1.11.2.2 Specific Requirement for Vehicle Registration

The Commanding Officer of Fort Lewis, Washington, has initiated the following specific requirement regarding vehicle registration for this contract:

a) Contractors performing work on Fort Lewis shall, after award, register all vehicles to be used on the installation with the Vehicle Registration Section of the Law Enforcement Command. Contractor employees entering the installation in privately owned vehicles (POVs) shall also register their vehicles. A copy of contract award, proof of liability insurance, current driver's license and state vehicle registration shall be required to register Contractor, subcontractor, and employee vehicles.

b) Upon completion of the contract, it shall be the prime Contractor's responsibility to collect all vehicle decals issued under the contract including those issued to employees and subcontractors. Decals are to be carefully removed from the vehicle, placed in an envelope and attached to the original documentation (i.e., post vehicle registration document) received with the decal. Decals, with documentation, must be returned to Vehicle Registration, Building 2140. Proof of decal clearance for all vehicles registered under this contract will be issued to the prime Contractor and shall be returned to the Contracting Officer prior to final payment.

c) In the event of contract extension, it shall be the prime Contractor's responsibility to report time extension to Vehicle Registration, with evidence of same. For further information, contact Vehicle Registration at Waller Hall, Building 2140 (Telephone: (253) 967-5065), Fort Lewis, Washington 98433-9500.

1.11.3 Employee Access and Identification

a) Each employee who requires access to Fort Lewis to perform work under any contract, at any tier, must obtain either a RAPID identification badge or a visitor's pass to obtain access to Fort Lewis. A RAPID identification badge will only be issued to an employee, at any tier, if the employee requires access to Fort Lewis more than twice per week. Contractor employees, at any tier, who require access to Fort Lewis twice per week or less often or who do not participate in the RAPID Gate Program shall obtain a visitor's pass at the Main (Liberty) Gate, the Logistics Center Gate or the D Street Gate. The visitor's pass will be issued for a maximum of 30 days at a time. A RAPID identification badge will only be issued to contractor employees if the contractor participates in the RAPID Gate Program. The RAPID Gate Program is a voluntary program. The production of RAPID badges has been contracted out and the cost of the identification card shall be borne by the contractor. Current established costs are: $99.00 for company start-up and $99.00 per individual.

b) If an employee no longer needs an identification badge for any reason (e.g., quits his/her job or no longer performs work under the contract), the contractor shall return the identification badge to Eid within two (2) calendar days of such change. If the identification badge cannot be returned within the required time frame for any reason, the contractor shall immediately notify both Eid and the Contracting Officer verbally, followed up in writing the next work day. An employee's inability to obtain entrance to a Government installation because he/she does not have the required identification badge or visitor's pass shall not excuse timely performance of the requirements of this contract. Eid or the Government may change the location at which identification badges are issued or returned, with or without advance notice to the contractor. Any such changes shall not be a basis for adjusting the contract price under any clause of this contract.

c) RAPID identification badges shall not be reproduced or copied by the contractor, its subcontractors, or their employees. If an employee's identification badge is lost, stolen, or reproduced, the contractor shall verbally report the loss, theft, or reproduction to both Eid and the Contracting Officer on the day such loss, theft, or reproduction is discovered, followed by a written report of the circumstances to both Eid and the Contracting Officer within one (1) calendar day after the loss, theft, or reproduction is discovered.

d) Each contractor employee shall wear the RAPID identification badge while performing work under the contract. The identification badge shall be worn on the upper front of the outer garment unless precluded by OSHA regulation(s). The identification badge shall not be used for access to any Government installation except for performance of work under the contract for which it was issued.

e) The contractor shall, upon expiration or termination of the contract, collect all identification badges and turn them in to Eid. The final invoice will not be considered proper for purposes of the Prompt Payment Act (FAR 52.232-25 or FAR 52.212-4(i)) until all identification badges have been accounted for."

1.11.3.1 Issuance of RAPID Identification Badge

The contractor shall provide information as required by Eid Passport, Inc. (Eid), to enable Eid to conduct a criminal history background check (CHBC) on contractor employees who are to have access to Fort Lewis. The contractor is responsible for paying Eid the fee per employee for conducting the CHBC and issuing the RAPID identification card. If the CHBC is not adverse, a RAPID identification badge will be issued by Eid to the contractor employee. If the CHBC is adverse, Eid is prohibited from issuing a RAPID identification badge to the contractor employee. If a RAPID identification badge is denied for any reason, the contractor employee may only enter the installation by obtaining a visitor's pass; however, if the contractor employee does not meet the criteria for being issued a RAPID identification badge, the Government may, in its sole discretion, decide not to issue a visitor's pass to the contractor employee.

1.11.4 Compliance with Rules, Regulations, and Statutes. All contractor employees shall observe and comply with all applicable local, State, and Federal rules, regulations, and statutes including those concerning fire, safety, sanitation, security, vehicle safety, and hazardous material handling.

1.11.5 Firearms. Contractor personnel while performing work under this contract shall carry no firearms.

1.11.6 Entrance Denial by Military Police. Contractor employees may be denied entry to the Installation by Military Police if it is determined that such entry may be contrary to good order, discipline, or the security of the Installation.

1.11.7 Work hours in the construction area shall be restricted to 7:30 a.m. to 4:30 p.m. daily, Monday through Friday, excluding Federal holidays. Work hours other than as specified above shall be coordinated with and approved by the Contracting Officer.

1.12 PERMITS OBTAINED BY GOVERNMENT AND CONTRACTOR RESPONSIBILITIES

It will be the responsibility of the Contractor to obtain all permits/licenses required for this project. See the Contract Clause paragraph entitled PERMITS AND RESPONSIBILITIES.

1.13 PRESERVATION OF HISTORICAL, ARCHEOLOGICAL AND CULTURAL RESOURCES
(1985 JAN OCE):

(a) Known historical, archeological and cultural resources within the Contractor's work area are designated on the contract drawings. The Contractor shall install protection for these resources as shown on the drawings and shall be responsible for their preservation during the contract.

(b) If, during construction activities, the Contractor observes items that might have historical or archeological value, such observations shall be reported immediately to the Contracting Officer so that the appropriate authorities may be notified and a determination can be 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 the destruction of these resources and shall prevent his employees from trespassing on, removing, or otherwise damaging such resources.

1.14 SPECIAL SAFETY REQUIREMENTS:

All construction activities shall be conducted in strict compliance with the Corps of Engineers Safety and Health Requirements Manual EM 385-1-1, and Occupational Safety and Health Administration regulations, as applicable. The manual is available on line at: http://www.usace.army.mil/inet/usace-docs/eng-manuals/em385-1-1/toc.htm

1.14.1 In addition to Safety and Health Requirements Manual EM 385-1-1, and all applicable OSHA standards, the Contractor shall comply with the requirements listed below. Paragraph numbers refer to EM 385-1-1 or are added thereto.

(a) Paragraph 01.A.12: Add new paragraph: Safety Personnel. The Contractor shall designate a person on his staff to manage the Contractor's safety and accident prevention program. This person will provide a point of contact for the Contracting Officer on matters of job safety, and shall be responsible for ensuring the health and safety of on site personnel.

1.14.2 All provisions of Fort Lewis Regulation 420-3 (FL Reg 420-3), “Fire Prevention and Protection,” are applicable to this contract.

1.15 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (ER 415-1-15 31 OCT 89)

This Paragraph specifies the procedure for the 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:

1.15.1 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.

1.15.2 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.

1.15.3 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 (5) DAY WORK WEEK

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
9 Jan	8 Feb	8 Mar	4 Apr	2 May	3 Jun	1 Jul	2 Aug	4 Sep	7 Oct	10 Nov	10 Dec	Ft Lewis, WA
17	11	10	5	2	1	1	1	1	4	10	14	Yakima,WA

1.15.4 Upon acknowledgment of the notice to proceed (NTP) and continuing throughout the contract, the contractor will record on the daily QCQ report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delays must prevent work on critical activities for 50 percent or more of the contractor's scheduled work day.

1.15.5 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 1.15.3, 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)".

1.15.6 If the task order is for non-emergency service order work and the work is to be performed during the months of November through February, an additional 15 calendar days for each month will be added to the Performance Period.

1.16 SALVAGE MATERIALS AND EQUIPMENT FOR THE GOVERNMENT

The Contractor shall maintain adequate property control records for all materials or equipment specified to be salvaged. These records may be in accordance with the Contractor's system of property control, if approved by the property administrator. The Contractor shall be responsible for the adequate storage and protection of all salvaged materials and equipment, and shall replace, at no cost to the Government, all salvage materials and equipment which are broken or damaged during salvage operations as the result of his negligence, or while in his care. Point of contact concerning Government salvaged items is the Contracting Officer.

1.17 COMPLIANCE WITH DAVIS-BACON ACT

1.17.1 Contractor POC

Within 14 days after award of the contract, the Contractor shall designate a point of contact (POC) within their organization who will be responsible for the Davis-Bacon Act Labor Program for the Contractor and all subcontractors under this contract as required by the Contract Clauses and FAR 52.222.

1.17.2 Responsibilities

The designated Contractor POC shall be responsible for Davis-Bacon Act Labor Program activities including, but not limited to:

Documentation and record keeping
Submittal and accuracy of certified payrolls
Submittal of required labor forms including requests for additional classifications and rates, Statements and Acknowledgement, etc.
Posting of the wage determination, approved additional classifications and rates, labor and EEO posters
Coordination with the Contracting Officer's Labor Program POC

Prior to submittal to the Government, payrolls shall be reviewed for compliance to all applicable labor standards, to include, but not be limited to the following items: correct wage rates, correct overtime classification and pay, misclassification of workers for work actually performed, apprentice to journeyman ratios, and registration of apprentice. Corrective actions shall be taken as necessary to ensure Contractor compliance with applicable contract and FAR clauses.

1.17.3 Certification

The Contractor POC shall provide a signed certification stating the following: “I certify that the submitted items being forwarded have been reviewed in detail and are correct and in strict conformance with the Labor Standards of the contract except as otherwise stated.”

PARTS 2 AND 3 NOT USED

END OF SECTION

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SECTION 01010

SUMMARY OF WORK

1. DESCRIPTION OF WORK:

Provide all plant, labor, tools, equipment, and materials (except as indicated otherwise in the specifications) and perform all work in strict accordance with the specifications required for Repair and Maintenance of Roofs, Fort Lewis and Yakima Training Center, Washington.

1.1 Area Description: The work will be performed primarily on facilities at Fort Lewis, Washington.

1.2 The Principal Items to be Accomplished are:

Repair and/or maintenance of the following roofing systems on various deck types, with or without insulation:

1.2.1.1 Single-ply, Energy Star Certified roofs with TPO or PVC membranes.

1.2.1.2 Structural Standing Seam Metal and non-structural Metal roofs.

1.2.1.3 Clay limitation slate and concrete tile roofs.

1.2.1.4 Shingle roofs.

1.2.1.5 Single-ply, non-Energy Star Certified roofs with EPDM or modified bitumen membranes.

1.2.2 Provide new, replacement and repairs to sheet metal, PVC, and membrane flashings, gutters, and downspouts.

1.2.3 Provide journeyman electrical, mechanical, sheet metal, painting, carpentry, masonry, and plumbing services as necessary to support roof work.

1.2.4 Provide protection and cleanup of building interiors, exteriors, and surrounding areas during roofing work.

1.2.5 Repairs to roof decks and support systems.

1.2.6 As part of roof replacement, assure all drains are free flowing and clean all traps.

1.2.7 Respond to Emergency Service Orders. Emergency Service Orders are issued with a priority and required response time based on the urgency and potential damage resulting from non-repair. The Contractor shall respond to Emergency Service Orders within the times given in Section 01703, para 1.2.4. Maximum Contractor effort on Emergency Service Orders shall be no more than 12 hours in labor and $200 in materials. The most typical response in the period 2000 through 2003 required 3 hours of labor and $50 in materials. Historical data on service orders issued at Fort Lewis is provided as Technical Exhibit 2 (TE-2).

1.2.8 Provide Periodic Maintenance to roofs, to include cleaning debris from roof drains, scuppers, gutters, and downspouts, and making spot repairs as required to flashings, membranes, and seams.

1.2.9 Provide a Roof Condition assessment in an electronic format to be provided by the Government after all maintenance of roofs. As part of the effort, provide 3-10 digital photographs on CD as required to identify the facility and document the roof condition.

1.2.10 Assess sources for recycling construction waste debris from roof replacement and repair activities and report findings to the Government (once at beginning of Contract).

1.2.11 Track construction waste management from roof replacement and repair activities and report findings to the Government (once for each completed task order).

1.2.12 Other work necessary to accomplish the above items.

1.2.13 Work Not To Be Included:

Work which can be accomplished solely with an existing requirements-type contract, unless such work is included as a requirement of a bid item for reasons of economy. For example, the installation of additional roof vents on an existing roof would be accomplished under the other contract; however, the installation of the vents in a new roof being renovated under this contract would be accomplished under this contract.
Similar work items accomplished as part of a fixed-price construction, maintenance, or repair contract for work on facility or group of facilities.
Work performed by Government personnel.

2. DRAWINGS:

2.1 The Specifications do not include details or drawings. Details of work to be provided are found in the National Roofing Contractors Association Roofing and Waterproofing Manual (5th Edition) and are included by reference.

3. CONSTRUCTION PHASING:

3.1 Interface with Others

Government use of these facilities is anticipated while the work under this contract is being performed. The work shall be planned and accomplished so that there will be a minimum of interference and inconvenience to occupants in the building and vicinity. Any blockage of building exits or driveways must be coordinated in advance.

3.2 Construction Restrictions

3.2.1 Protection of Property:

Provide protection of occupants' personal property and tenant organization property such as vehicles, lawn furniture, and barbecues at all phases of the work by covering or relocating. Any property moved must be done with the Owner's consent and must be returned at the end of the day. The contractor shall contact the COR five work days prior to commencing of work regarding personal property that may interfere with proper and timely completion of the work and/or cannot be adequately protected. Occupants will be responsible for moving vehicles and items weighing less than 30 lbs. The Contractor shall move items weighing 30 lbs. or more as required to perform the work, and return them in place as soon as work is complete. If the Contractor determines in his pre-construction roof survey that portable equipment is being kept on a roof, he will notify the Contracting Officer to arrange relocation of the equipment or (in the case of antennas) installation of an antenna bracket by others.

3.2.2 Protection of Occupants:

Provide protection of building occupants, particularly children, who should be considered as likely visitors to facilities during working hours. All buildings will remain occupied during all phases of the work. Notification to occupants shall include description of work and a listing of hazards to be anticipated. Provide temporary blocking of openings and doors into decontamination areas during demolition, asbestos and lead removal work to prevent unauthorized access. Special care shall be taken to protect occupants from demolition debris and nails. All nails and sharp objects shall be removed from the project area at completion of demolition and completion of work.

3.3 Contractor Notification Requirements:

The contractor shall provide written notification to the building occupants. The notification letter must be approved by the Contracting Officer (CO) before release to the facility occupants. The notice shall provide a description of work; the date and duration of work; a listing hazards to be anticipated; and a local Government telephone number for occupants to call in case of a need to contact the Contracting Officer.

3.4 Work Hours:

Work hours are outlined in Section 01001, "Supplementary Requirements." Written requests can be made to the Contracting Officer to extend working hours.

3.5 Rate Of Work:

3.5.1 The contractor shall be capable of accomplishing each order at a rate of $2,000.00 per calendar day per order. Completion time shall run concurrently with other orders.

3.5.2 The time allowed for completion of an order shall include the above Rate of Work prorated to the amount on the order, plus:

3.5.2.1 Multiple Orders: In the event of multiple task orders being issued, the periods of working days allowed for each task order will run concurrently with other task orders. In some cases, when urgency arises, the CO may realign priorities of multiple orders.

3.5.2.2 Priority Orders: The contractor shall respond to priority orders for repair 5 (five) work days after receipt of order, verbal or written, whichever occurs first.

3.5.2.3 Material procurement time allowed shall be 45 calendar days for the first order. This time shall include material submittals. Material procurement time for each additional order shall be 30 days, for carpentry and insulation; 60 days. Work items having the longest procurement period shall be used to determine completion time for the order. An additional 90 days will be allowed for Historical items requiring outside agency review.

3.5.2.4 Additional time for weather may be added as described in Section 01001, paragraph 1.15.

3.6 TE-1 Cost Adjustments:

The only adjustment of price for the line items from TE-1 is the contractor's coefficient. All prices in Technical Exhibit 1 (TE-1) are for complete and in-place construction unless explicitly described otherwise. Incidental fasteners (nails, screws, weldments, adhesives or other connectors) and mall tools required for a normal installation are included in the line item bare cost unless the line item description specifically states otherwise. Line item prices include all work required to result in the end finish specified in the line item unless the line item description specifically states otherwise.

3.7 Contractor's Coefficient:

The Contractor's coefficient shall include all contractor costs in addition to the prepriced unit prices in the Work Item Price List at TE-1. The coefficient is a numerical factor that represents contractor costs (indirect and direct costs) and profit. The contractor's coefficients must contain all contractor costs including, but not limited to, profit; sales tax; use tax; overhead (both home office and field overhead); labor burden; bonding costs; insurance; general and administrative expenses; subcontractor mark-up; contingencies (such as changes in wage rates or other costs due to the geographical location of the work); mobilization/ demobilization; compliance with environmental laws; permits; preparation of reports, correspondence, submittals, and documentation required by law or the contract; protection of and/or moving Government property; interface with Government representatives; and coordination with occupants and other contractors. The coefficient shall also include all special clothing for workers, traffic barricades, flagpersons, additional supervision, paperwork fees associated with a particular Task Order (e.g., asbestos or lead abatement plan preparation, estimates, reports, etc.), consultant fees, on- and off-site storage, etc. The prices in TE-1 are the prices the Government has determined it will pay for the listed work items. The Government does not guarantee or warrant that the contractor can perform the work for the listed prices. If it costs the contractor more than the prices in TE-1 to perform the work, the contractor must include such additional costs in its coefficients.

END OF SECTION

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 GENERAL

The contract price for each item shall constitute full compensation for furnishing all plant, labor, materials, appurtenances, and incidentals and performing all operations necessary to construct and complete the items in accordance with these specifications, any applicable drawings, and manufacturers' instructions, including surveying performed by the Contractor. Payment for each item shall be considered as full compensation, notwithstanding that minor features may not be mentioned herein. Work paid for under one item will not be paid for under any other item. No separate payment will be made for the work, services, or operations required by the Contractor, as specified in DIVISION 1, GENERAL REQUIREMENTS, to complete the project in accordance with these specifications; all costs thereof shall be considered as incidental to the work.

1.2 PAYMENT

1.2.1 BASE ITEMS IN TASK ORDERS

Payment for unilateral task orders will be made at the unit price for all TE-1 items used in completing each issued task order, in the quantities determined by the Contractor and agreed to by the Contracting Officer, payment of which shall constitute full compensation for said items, complete. Lump Sum task orders are paid at the awarded amount.

1.3 PROGRESS PAYMENT INVOICE

Requests for payment shall be submitted in accordance with Federal Acquisition Regulations (FAR) Subpart 32.9, entitled "PROMPT PAYMENT", and Paragraphs 52.232-5 and 52.232-27, entitled "Payments Under Fixed-Price Construction Contracts", and "Prompt Payment for Construction Contracts", respectively. In addition each request shall be submitted in the number of copies and to the designated billing office as shown in the Contract.

1.3.1 When submitting payment requests, the Contractor shall complete Blocks 1 through 12 of the "PROGRESS PAYMENT INVOICE" Form as directed by the Contracting Officer. (A sample form is attached at the end of this Technical Specification Section.) The completed form shall then become the cover document to which all other support data shall be attached.

1.3.2 One additional copy of the entire request for payment, to include the "PROGRESS PAYMENT INVOICE" cover document, shall be forwarded to a separate address as designated by the Contracting Officer.

1.3.3 The Contractor shall submit with each pay request, a list of subcontractors that have worked during that pay period. The listing shall be broken down into weeks, identifying each subcontractor that has worked during a particular week, and indicate the total number of employees that have worked on site for each subcontractor for each week. The prime Contractor shall also indicate the total number of employees for its on site staff for each week.

PARTS 2 and 3 NOT USED

END OF SECTION

PROGRESS PAYMENT INVOICE
See Federal Acquisition Regulations (FAR) 32.900, 52.232-5, & 52.232-27

1. PROJECT AND LOCATION	2. DATE
3. CONTRACTOR NAME AND ADDRESS (Must be the same as in the Contract)	4. CONTRACT NO. _____ 5. INVOICE NO.
6. DESCRIPTION OF WORK	7. PERIOD OF PERFORMANCE From: To:
8. DISCOUNT TERMS	
9. OFFICIAL TO WHOM PAYMENT IS TO BE FORWARDED Name: Title: Phone: ( ) -	10. OFFICIAL TO BE NOTIFIED OF DEFECTIVE INVOICE Name: Title: Phone ( ) -

11. CERTIFICATION: I hereby certify, to the best of my knowledge and belief, that
(1) The amounts requested are only for the performance in accordance with the specifications, terms, and conditions of this contract;
(2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of Chapter 39 of Title 31, United States Code; and
(3) This request for progress payment does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.

_____ _____ _____
(Signature) **(Title)** **(Date)**

12. OTHER INFORMATION OR DOCUMENTATION required by Contract. Provide two (2) copies of each (check and attach if applicable): _____ Updated Progress Chart/Schedule _____ Progress Narrative _____ Certified Payrolls (submitted weekly) _____ Safety Exposure Report _____ Updated Submittal \register _____ Progress Photos _____ Subcontractor/Employee Listings	(FOR GOVERNMENT USE ONLY) Retainage: _____% Amt.: $_____ Withholdings: $ _____ Reason: _____ _____ Following items are current: As-Builts _____ Yes _____ No O & M Manuals _____ Yes _____ No 1354 Data _____ Yes _____ No Submittal Register _____Yes _____No

SECTION 01035

MODIFICATION PROCEDURES

PART 1 GENERAL

1.1 PROPOSED PROJECT MODIFICATIONS:

Price proposals for proposed modifications shall be submitted in accordance with the requirements of the Contract Clause MODIFICATION PROPOSALS - PRICE BREAKDOWNS. If change order work impacts or delays other unchanged contract work, the costs of such impacts or delays shall be included in the proposals and separately identified. Additional instructions for submitting price proposals can be found in NPSP-415-1-1, INSTRUCTION AND INFORMATION FOR CONTRACTORS, a copy of which will be furnished to the Contractor at the Preconstruction Conference.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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SECTION 01320

PROJECT SCHEDULE

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Schedules

GA Preliminary project schedule, two (2) copies.

FIO Periodic schedules updates, monthly updates two (2) copies.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

Pursuant to the Contract Clause, SCHEDULE FOR CONSTRUCTION CONTRACTS, a Project Schedule shall be prepared for all task orders with a duration greater than 60 days. The scheduling of construction shall be the responsibility of the Contractor.

3.2 BASIS FOR PAYM ENT

The schedule shall be the basis for measuring Contractor progress. Lack of an approved schedule or schedule updates will result in an inability of the Contracting Officer to evaluate Contractor progress for the purposes of payment. Failure of the Contractor to provide all information, as specified below, shall result in the disapproval of the entire Project Schedule submission and the inability of the Contracting Officer to evaluate Contractor progress for payment purposes.

3.3 PROJECT SCHEDULE

3.3.1 Level of Detail Required

The Contracting Officer will use, but is not limited to, the following conditions to determine the appropriate level of detail to be used in the Project Schedule.

3.3.1.1 Procurement Activities

Tasks related to the procurement of long lead materials or equipment shall be included as separate activities in the project schedule. Long lead materials and equipment are those materials that have a procurement cycle of over 30 days. Examples of procurement process activities include, but are not limited to: submittals, approvals, procurement, fabrication, delivery, installation, start-up, and testing.

3.3.1.2 Government Activities

Government and other agencies activities that could impact progress may be shown. These activities include, but are not limited to: approvals, inspections, utility tie-in, Government Furnished Equipment (GFE) and notice to proceed for phasing requirements.

3.3.1.3 Work Areas

All activities shall be identified in the project schedule by the work area or facility in which the activity occurs. Activities shall not be allowed to cover more than one facility.

3.3.1.4 Feature of Work

All activities shall be identified in the project schedule according to the feature of work to which the activity belongs. Feature of work refers, but is not limited to a work breakdown structure for the project.

3.3.1.5 Critical Activities

The following activities shall be listed as separate line activities on a Contractor's project schedule:

Prefinal inspection
Correction of punchlist from prefinal inspection
Final inspection

3.4 PROJECT SCHEDULE SUBMISSIONS

The Contractor shall provide the submissions as described below.

3.4.1 Project Schedule Submission

For projects with a Performance Period of 60 calendar days or more, the Project Schedule shall be submitted for approval within 10 calendar days after Notice to Proceed is acknowledged. This requirement is in addition to any required schedule submitted in response to an RFP (see Section 00800, SC-3).

3.4.1.1 Periodic Schedule Updates

The Contractor shall submit periodic (monthly) schedule updates. These submissions shall enable the Contracting Officer or to assess Contractor's progress.

3.5 PERIODIC PROGRESS MEETINGS

Progress meetings to discuss payment shall include a monthly on-site meeting or other regular intervals mutually agreed to at the preconstruction conference. During this meeting the Contractor will describe, on an activity by activity basis, all proposed revisions and adjustments to the project schedule required to reflect the current status of the project. The Contracting Officer will approve activity progress, proposed revisions, and adjustments as appropriate.

3.5.1 Progress Meeting Contents

Update information, including Actual Start Dates, Actual Finish Dates, and Remaining Durations, shall be subject to the approval of the Contracting Officer. The following minimum set of items which the Contractor shall address, on an activity by activity basis, during each progress meeting.

3.5.2 Start and Finish Dates

The Actual Start and Actual Finish dates for each activity currently in-progress or completed activities.

3.5.3 Time Completion

The estimated Remaining Duration for each activity in-progress. Time-based progress calculations must be based on Remaining Duration for each activity.

3.5.4 Other Changes

Other changes required due to delays in completion of any activity or group of activities are those delays beyond the Contractors control such as strikes and unusual weather. Also included are delays encountered due to submittals, Government Activities, deliveries or work stoppage which makes re-planning the work necessary, and when the schedule does not represent the actual prosecution and progress of the work.

END OF SECTION

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SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 CONTROL AND SCHEDULING OF SUBMITTALS

1.1.1 Submittal Coordination Meeting

After the preconstruction conference and before any submittals are sent to the Contracting Officer's Representative (COR), the Contractor shall meet with the COR and develop an approved preliminary submittal register, ENG Form 4288. During the submittal coordination meeting, all required items will be identified and grouped into three categories:

Government Approved (G)

Government approval is required for extensions of design, critical materials, variations/deviations, an "or equal" decision, equipment whose compatibility with the entire system must be checked, architectural items such as Color Charts/Patterns/Textures, and other items as designated by the COR. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," these submittals will be acted on as "shop drawings."

For Information Only (FIO)

Submittals not requiring Government approval, but require submission, will be for information only. These are items such as Installation Procedures, Certificates of compliance, Samples, Qualifications, etc.

For Contractor Only (KIO)

Those items that can be visually inspected by the Contractor's Quality Control Representative (CQC) on site or are provided to the Government other than with an ENG Form 4025: The items that fall into this category shall not be included on the register and shall not be submitted to the COR. For these items, the contractor shall not maintain a separate method of tracking.

1.1.2 Final Submittal Register

The final submittal register shall be submitted within 40 days of Notice to Proceed. Where required or when obtaining Government color selection, adequate time (minimum of 30 days) shall be allowed for review and approval, and possible resubmittal.

1.1.3 Submittal Register Updates

The Contractor's quality control representative shall review the listing periodically and take appropriate action to maintain an effective system. Copies of updated or corrected listings shall be submitted to the COR on request, in the quantity specified.

1.2 SUBMITTAL TYPES

Throughout these specifications submittals may be identified with the prefix "SD" (submittal data) followed by a number (category, i.e., data, drawings, reports, etc.). This is for bookkeeping and record sorting in the system:

SD-01 Preconstruction Submittals

Certificates of insurance.
Surety bonds.
List of proposed subcontractors.
List of proposed products.
Submittal register.
Health and safety plan.
Work plan.
Quality control plan.
Waste Management Plan

SD-02 Shop Drawings

Not used.

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials or equipment proposed for installation.

Samples of warranty language when the contract requires extended product warranties.

SD-04 Samples

Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

SD-05 Design Data

Calculations, mix designs, analyses or other data pertaining to a part of work (e.g., design of Structural Standing Seam Metal Roofs.)

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. (Testing must have been within three years of date of contract award for the project.)

Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports

Daily checklists

Final acceptance test and operational test procedure

SD-07 Certificates

Statements signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

SD-08 Manufacturer's Instructions

Preprinted material describing installation of a product, system or material, including special notices and Material Safety Data sheets concerning impedances, hazards and safety precautions.

SD-09 Manufacturer's Field Reports

Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.

Factory test reports.

SD-10 Operation and Maintenance Data

Data that is furnished by the manufacturer, or the system provider, to the equipment operating and maintenance personnel. This data is needed by operating and maintenance personnel for the safe and efficient operation, maintenance and repair of the item.

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

1.3 APPROVED SUBMITTALS

The approval of submittals by the COR, where required, shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist. The Contractor, under the CQC requirements of this contract, is responsible for the dimensions and design of adequate connections, details, and satisfactory construction of all work. After submittals have been approved by the COR, no resubmittal for the purpose of substituting materials or equipment will be given consideration.

1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the COR and promptly furnish a corrected submittal in the format and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, written notice, as required under the Contract Clause entitled "Changes," shall be given to the COR.

1.5 PAYMENT

Separate payment will not be made for submittals, and all costs associated therein shall be included in the applicable unit prices or lump sum prices contained in the schedule. Payment will not be made for any material or equipment which does not comply with contract requirements.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

Prior to submittal, all items shall be checked and approved by the Contractor's CQC and each item of the submittal shall be stamped, signed, and dated. Each respective transmittal form (ENG Form 4025) shall be signed and dated by the CQC certifying that the accompanying submittal complies with the contract requirements. This procedure applies to all submittals. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including, but not limited to, catalog cuts, diagrams; operating charts or curves; test reports; samples; O&M manuals including parts lists; certifications; warranties and other such required items. Units of weights and measures used on all submittals shall be the same as the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Government-approval submittals shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. The COR may request submittals in addition to those listed when deemed necessary to adequately describe the work covered in the respective sections. The Contractor shall maintain a complete and up-to-date file of all submittals/items on site for use by both the Contractor and the Government.

3.2 SUBMITTAL REGISTER (ENG Form 4288)

An electronic copy of the submittal register - ENG Form 4288 – for Divisions 1 through 16 will be provided by the Government and a hard copy shall be further developed by the Contractor prior to the submittal coordination meeting and list each item of equipment and material for which submittals are required in the Technical Specifications. (See paragraph SUBMITTALS at the beginning of each specification section.) The Contractor shall approve all items listed on the submittal register. During the submittal coordination meeting, a preliminary submittal register will be created by annotating this Form 4288. When the final submittal register is submitted for approval, the Contractor shall complete the column entitled “Item No.” and all data under “Contractor Schedule Dates” and return five completed copies to the COR for approval. The Contractor shall review the list to ensure its completeness and may expand general category listings to show individual entries for each item. The numbers in column “Item No.” are to be assigned sequentially starting with "1" for each specification section. DO NOT preassign transmittal numbers when preparing the submittal register. When a conflict exists between the submittal register and a submittal requirement in the technical sections, other than those submittals referenced in Paragraph 3.9: Field Test Reports, the approved submittal register shall govern. The preliminary, and then the final approved submittal register, will become the scheduling documents and will be updated monthly and used to control submittals throughout the life of the contract. Names and titles of individuals authorized by the Contractor to approve shop drawings shall be submitted to COR with the final 4288 form. Supplier or subcontractors certifications are not acceptable as meeting this requirement.

3.3 SCHEDULING

Submittals covering component items forming a system, or items that are interrelated, shall be coordinated and submitted concurrently. Certifications shall be submitted together with other pertinent information and/or drawings. Additional processing time beyond 30 days, or number of copies, may be shown by the COR on the submittal register attached in the “Remarks” column, or may be added by the COR during the coordination meeting. No delays damages or time extensions will be allowed for time lost due to the Contractor not properly scheduling and providing submittals.

3.4 TRANSMITTAL FORM (ENG Form 4025)

Transmittal Form 4025 (sample at end of this section) shall be used for submitting both Government-approval and information-only submittals in accordance with the instructions on the reverse side of the form. Transmittal numbers shall be assigned sequentially. Electronic generated 4025 forms shall be printed on carbonless paper and be a reasonable facsimile of the original 4025. If electronic forms are not used, the original 4025 forms shall be used (do not photo copy) and will be furnished by the COR. These forms shall be filled in completely prior to submittal. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.. Each submittal item shall be listed separately on the form, naming subcontractor, supplier, or manufacturer, applicable specification paragraph number(s), drawing/sheet number, pay item number, and any other information needed to identify the item, define its use, and locate it in the work. One or more 4025 forms may be used per specification section, however, DO NOT include more than one specification section per transmittal.

3.5 CROSS-REFERENCE (ENG FORM 4288/ENG FORM 4025)

To provide a cross-reference between the approved submittal register and transmittal forms, the Contractor shall record the "transmittal numbers" assigned when submitting items in column “Transmittal No.” of the ENG FORM 4288. The item numbers in column “Item No.” of submittal register shall correspond to the item numbers on ENG Form 4025.

3.6 SUBMITTAL PROCEDURE

3.6.1 General

Shop drawings are not required.

3.6.2 Approval of Submittals by the Contractor

Before submittal to the COR, the Contractor shall review materials prepared by subcontractors, suppliers, and itself, for completeness and compliance with specifications. The Contractor shall not use red markings for correcting material to be submitted. Red markings are reserved for COR's use. Approval by the Contractor shall be indicated on each shop drawing by an approval stamp containing information as shown in this section. Submittals not conforming to the requirements of this section will be returned to the Contractor for correction and resubmittal.

3.6.3 Variations

For submittals which include proposed variations requested by the Contractor, column "h" of ENG Form 4025 shall be checked and the submittal shall be classified as G, and submitted accordingly. The Contractor shall set forth in writing the justification for any variations and annotate such variations on the transmittal form in the REMARKS block. Variations are not approved unless there is an advantage to the Government. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted variations.

3.6.4 Drawings

Not used.

3.6.5 Printed Material

Provide manufacturer's standard catalog cuts, illustrations, printed specifications, or other data as required in the specifications. Inapplicable portions shall be marked out and applicable items such as model numbers, sizes, and accessories shall be indicated by arrow or highlighted.

3.7 SAMPLES REQUIRING LABORATORY ANALYSIS

See Section 01451 CONTRACTOR QUALITY CONTROL for procedures and address for samples requiring Government testing.

3.8 SAMPLES REQUIRING VISUAL INSPECTION

Samples requiring only physical inspection for appearance and suitability shall be coordinated with the on-site Government quality assurance representative (QAR).

3.9 FIELD TEST REPORTS

Not used.

3.10 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

3.11 GOVERNMENT APPROVED SUBMITTALS (G)

Color samples, where applicable, may be submitted in accordance with paragraph 3.8 (above).

3.12 INFORMATION ONLY SUBMITTALS

The Contractor shall submit three copies of data and four copies of ENG Form 4025. Information-only submittals will not be returned. Government approval is not required on information-only submittals. These submittals will be used for information purposes. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the Contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications and will not prevent the COR from requiring removal and replacement if nonconforming material is incorporated in the work. This does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or check testing by the Government in those instances where the technical specifications so prescribe.

3.12.1 Processing of Information-Only Submittals

Information-only submittals shall be submitted prior to delivery of the material or equipment to the job site. ENG Form 4025 shall be marked with the words "contractor approved - information copy only" in the REMARKS block of the form. Submittals will be monitored and spot checks made. When such checks indicate noncompliance, the Contractor will be notified by the same method used for Government-approval submittals. Resubmittal of nonconforming information-only submittals shall be reclassified Government-approval and shall be in five copies.

3.13 CONTRACTOR APPROVAL STAMP

The stamp used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR: _____
CONTRACT NUMBER _____

TRANSMITTAL NUMBER _____
ITEM NUMBER _____
SPECIFICATION SECTION _____
PARAGRAPH NUMBER _____
_____ APPROVED AS SUBMITTED
_____ APPROVED WITH CORRECTIONS AS NOTED

SIGNATURE: _____
TITLE: _____ DATE
_____

CONTRACTORS REVIEW STAMP
MAXIMUM SIZE:
3 INCHES BY 3 INCHES

END OF SECTION

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE *(Read instructions on the reverse side prior to initiating this form)*	DATE	TRANSMITTAL NO.

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS *(This section will be initiated by the contractor)*

TO:	FROM:	CONTRACT NO.	CHECK ONE: ☐ THIS IS A NEW TRANSMITTAL ☐ THIS IS A RESUBMITTAL OF TRANSMITT/_____
SPECIFICATION SEC. NO. *(Cover only one section with each transmittal)*	PROJECT TITLE AND LOCATION		CHECK ONE: THIS TRANSMITTAL IS FOR ☐ FID ☐ GOV'T. APPROVAL

ITEM NO. *a.*	DESCRIPTION OF ITEM SUBMITTED *(Type size, model number/etc.)* *b.*	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. *(See instruction no. 8)* *c.*	NO. OF COPIES *d.*	CONTRACT REFERENCE DOCUMENT: SPEC. PARA. NO. *e.*	CONTRACT REFERENCE DOCUMENT: DRAWING SHEET NO. *f.*	FOR CONTRACTOR USE CODE *g.*	VARIATION *(See instruction No. 8)* *h.*	FOR CE USE CODE *i.*

REMARKS

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

_____
NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED *(List by Item No.)*	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE

ENG FORM 4025-R, MAR 95 *(ER 415-1-10)* EDITION OF SEP 90 IS OBSOLETE. SHEET ___ OF ___ (Reverse, CEMP-CD)

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.

2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.

3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.

4. Submittals requiring expeditious handling will be submitted on a separate form.

5. Separate transmittal form will be used for submittals under separate sections of the specifications.

6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".

7. Form is self-transmittal, letter of transmittal is not required.

8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.

9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

A	--	Approved as submitted.	E	--	Disapproved (See attached).
B	--	Approved, except as noted on drawings.	F	--	Receipt acknowledged.
C	--	Approved, except as noted on drawings. Refer to attached sheet resubmission required.	FX	--	Receipt acknowledged, does not comply as noted with contract requirements.
D	--	Will be returned by separate correspondence.	G	--	Other *(Specify)*

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

(Reverse of ENG Form 4025-R)

SECTION 01410

ENVIRONMENTAL PROTECTION

PART 1 GENERAL REQUIREMENTS

1.1 The contractor shall perform the work minimizing environmental pollution and damage as the result of construction operations under this contract. For the purpose of this specification, environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the utility of the environment for aesthetic, cultural, and/or historical purposes. The control of environmental pollution and damage requires consideration of air, water, and land, and includes management of visual esthetics, noise, solid waste, and erosion from stormwater, as well as pollutants.

1.2 Abbreviations and Acronyms:

BACT	Best Available Control Technology
BMP	Best Management Practice
CFR	Code of Federal Regulations
CO	Contracting Officer
COR	Contracting Officer's Representative
DOT	Department of Transportation
ECMD	Engineering & Contract Management Division
ECO	Environmental Compliance Officer
ENRD	Environmental and Natural Resources Division
EPA	Environmental Protection Agency
HM	Hazardous Material
HMTA	Hazardous Materials Transportation Act
HW	Hazardous Waste
HWT	Hazardous Waste Technician
HWMS	Hazardous Waste Management Section
ISCP	Installation Spill Contingency Plan
MSDS	Material Safety Data Sheets
NFPA	National Fire Protection Association

NPDES	National Pollutant Discharge Elimination System
NOI	Notice of Intent
OSHA	Occupational Safety and Health Act
PCB	Polychlorinated Biphenyls
PCS	Petroleum Contaminated Soil
PPE	Personnel Protective Equipment
PW	Public Works
PSAPCA	Puget Sound Air Pollution Control Agency
RUL	Restricted Use List
SPCCP	Spill Prevention, Control and Countermeasures Plan
TPCHD	Tacoma Pierce County Health Department
WAC	Washington Administrative Code
WHPA	Well Head Protection Area
WISHA	Washington Industrial Safety and Health Act
YTC	Yakima Training Center

Protection of Environmental Resources

The environmental resources within the project boundaries and those affected outside the limits of work under this contract shall be protected during the entire period of this contract. The Contractor shall confine his activities to areas defined by the drawings and specifications.

1.4 Subcontractors

The contractor shall ensure compliance with this section by all subcontractors.

1.5 Laws and Regulations

The Contractor shall comply with all applicable Federal, State, and Local environmental, natural and cultural resources, and historic preservation laws and regulations. Specific attention is directed to Fort Lewis Regulation No. 200-1 "Environmental Protection and Enhancement". These specifications supplement these laws and regulations.

1.6 Coordination

The Environmental and Natural Resources Division (ENRD) of PW coordinates most environmental concerns at Fort Lewis and its sub-installations. The Contractor shall make contact with them through PW, Engineering & Contract Management Division.

1.7 Submittals

Government approval is required for all submittals with a “GA” designation; submittals having an “FIO” designation are for information only. The following shall be submitted in accordance with section 01330 SUBMITTAL PROCEDURES.

The following is a summary of required submittals. Complete details and schedules are described in the rest of the section.

Hazardous Materials and Hazardous Wastes, FIO

Hazardous Materials Inventory Form (Initial and ongoing)
Material Safety Data Sheets (MSDS)
Hazardous Waste Profile Sheets
Hazardous Waste Accumulation Log
Hazardous Waste Manifest
PCB Transformer Certification and Information

Asbestos

Permits and any amendments, FIO
Management Plan, GA
Removal Summary, FIO
Bulk Sample Results, FIO
Air Monitoring Sample Results (Pre-abatement, area, clearance, and personnel), FIO
Jobsite Entry Logs, FIO
Waste Shipment Record, FIO
Summary of Asbestos Removed and Remaining, FIO
90 Day Waste Storage Facility Permits
(if applicable), FIO

Lead-based Paint, FIO

Test results
Summary of Paint Removed and Remaining

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 WORK AREA LIMITS

The Contractor shall confine all activities to areas defined by the design drawings and specifications. Prior to any construction, the Contractor shall mark the areas that will not be disturbed under this contract. Isolated areas within the general work area, which are to be saved and protected, shall also be marked or fenced. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, the markers shall be visible. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects.

3.1.1 Contractor Facilities and Work Areas

The Contractor's field offices, staging areas, stockpile storage, and temporary buildings shall be placed in areas designated on the drawings or as directed by the Contracting Officer or their representative. Temporary movement or relocation of Contractor facilities shall be made only when approved by the Contracting Officer or their representative.

3.2 MANAGEMENT OF HAZARDOUS MATERIALS AND HAZARDOUS WASTE

3.2.1 GENERAL

3.2.1.1 Definitions

a. Hazardous material (HM): A useful product that requires special management because it has hazardous characteristics (ignitability, corrosivity, reactivity, or toxicity) that could pose dangers to human health or the environment. An HM becomes a Hazardous Waste when it can no longer be used for its intended purpose.

b. Hazardous waste (HW): A discarded material with properties that could pose dangers to human health or the environment. An HW either exhibits a hazardous characteristic (ignitability, corrosivity, reactivity, or toxicity) or is specifically listed as a HW by the EPA or by the State.

c. Material Safety Data Sheet (MSDS): A document containing information that manufacturers are required by law to provide on all products they manufacture and sell. The MSDS is useful in evaluating the product to determine if it has hazardous constituents and the type of medical treatment in case of an accident.

Hazardous Waste Management Section (HWMS)

The Contractor shall contact the HWMS at (253) 967-4786 on Fort Lewis and at (509) 577-3545 at the Yakima Training Center with any questions pertaining to the storage, use, and disposal of Hazardous Materials and/or Hazardous Waste during the execution of this contract.

Restricted Use Materials

Certain chemicals are restricted from use on Fort Lewis. These chemicals are listed on the Restricted Use List (RUL). The RUL is maintained by the PW Environmental and Natural Resources Division (ENRD) and is updated semi-annually. A print out and/or an electronic copy of the entire RUL is available from ENRD, Building 1210. The Contractor shall receive authorization from the Contracting Officer or their representative prior to using any product that contains chemicals listed on the RUL. Only materials necessary for and associated with the execution of this Contract will be allowed on Government property.

3.2.1.4 Contingency Planning and Spill Response

The Contractor shall comply with the provisions of the Fort Lewis Spill Prevention, Control and Countermeasures Plan (SPCCP) and the Installation Spill Contingency Plan (ISCP). The PW ENRD maintains these plans. The Contractor shall also maintain on site a written contingency plan for HW accumulation and HM storage areas if the work associated with this contract generates HW or require storage of HM.

Transportation of HM and HW

The Contractor shall comply with all Department of Transportation (DOT) requirements associated with HM/HW, including proper container marking/labeling and vehicle placarding when transporting HM/HW on or off the installation. The Contractor shall obtain Government approval prior to removal of any HW from the installation.

Removal shall only be done by an authorized HW transporter having an EPA Identification Number and with the HW recorded on a Uniform Hazardous Waste Manifest (EPA Form 8700-22).

HM/HW Personnel and Training Requirements

The Contractor shall appoint an Environmental Compliance Officer (ECO) and a Hazardous Waste Technician (HWT) in writing, if the work associated with this contract causes the Contractor to generate, store, or handle HM/HW. The ECO/HWT shall be responsible for insuring the requirements of this specification are met.

The Contractor shall insure that all personnel are trained in accordance with Washington Department of Ecology regulations before being assigned to any position handling HW/HM. This training shall include, but not be limited to:

Hazardous Materials Use, Storage and Disposal Training Course for ECOs/HWTs. The 8 hour course is available weekly from the Fort Lewis ENRD Hazardous Waste Management Section (HWMS) and shall be taken prior to the Contractor generating, storing, or handling HM or HW on the installation. The Contractor shall contact the HWMS to schedule attendance.

First Responder Awareness Level as specified in the ISCP.

Quarterly contingency plan review and rehearsal.

Hazard Communication training as stated in paragraph 3.2.2.5.

The Contractor shall maintain a record of all required training, and the date conducted, for each individual requiring training and shall make this record available to the Government at all times during the execution of this contract.

3.2.2 HAZARDOUS MATERIALS

Notification

The Contractor shall provide an initial inventory and MSDS copies for all HM to be used during the execution of this contract, to the PW, Engineering & Contract Management Division. The inventory shall include the type of HM, proposed storage location and quantity to be stored and shall be provided before bringing any HM on to the installation. The Contractor shall use the Hazardous Material Inventory form (HFL Form 953-Enclosure No. 1) or a contractor-generated form providing the same information. An electronic version of the Hazardous Material Inventory form is available from the PW ENRD in Building 1210 on Fort Lewis, or from the Yakima DPW Hazmat office.

Storage Facilities

Facilities shall meet all fire code requirements and provide adequate ventilation, containment, and protection from the elements. Provide warning signs, limit access to the facility, and lock it when it is unattended. Only HM shall be stored in the facility. Contractor vehicles are not considered a proper storage facility. No HM shall be stored in vehicles overnight or for any length of time.

Storage and Use

The Contractor shall store HM according to product labels and MSDS requirements. Non-compatible materials shall not be stored together. All containers shall be properly labeled as to contents and kept in good condition with tight fitting lids. Unopened containers shall be segregated from opened containers. Personal protective equipment (PPE) required by the MSDS or product label shall be available and worn by all personnel who handle the product.

3.2.2.4 Inspections, Record Keeping and Reporting

The Contractor shall perform weekly inspections of their HM storage facilities utilizing the HM Inspection Checklist (HFL Form 951-Enclosure No. 2). A current inventory of the HM storage facility shall be maintained on site and a copy forwarded to PW, Engineering & Contract Management Division quarterly using the Hazardous Material Inventory form. Additionally, a current MSDS for each product used or stored shall be present and on file at the site where the product is used or stored.

Hazard Communication Program

The Contractor shall have a written Hazard Communication program, which explains how personnel are informed and trained concerning HM in the workplace as required by Federal, state and Fort Lewis regulations. The written program shall be located at a hazard communication station that is accessible to all Contractor personnel and shall contain the following sections:

a. A current inventory of HM, who is responsible for classifying a product as an HM, and how the inventory is updated.

b. Labels and other forms of warning: This section shall describe the procedure for insuring that each HM container is clearly labeled and has the appropriate warnings. The section also states who is responsible for labeling requirements and how label information is updated.

c. MSDS file: The location of the MSDS file, who maintains the file, and how personnel may access the file, shall be described. This section shall also describe what is done when a product is received without the MSDS and how the MSDS file is updated.

d. Personnel training and information: This section shall describe initial and refresher training provided to personnel concerning the hazards of the HM in the workplace, the training provided, and who conducts the training.

e. Information to non-Contractor personnel: This section shall describe how non-Contractor personnel are informed about possible hazards, where MSDS copies can be obtained, and what PPE is required in the workplace.

3.2.3 HAZARDOUS WASTE

3.2.3.1 Identification

The Contractor shall identify all HW generated during the execution of this contract. The Contractor shall completely characterize the waste stream to identify the waste constituents. Each waste stream identity shall be recorded on a Hazardous Waste Profile Sheet (HWPS) and submitted to PW, Engineering & Contract Management Division for approval prior to waste generation. Profile sheets are available from the HWMS, or Contractor generated equivalent sheets may be used. The Contractor is responsible for any costs associated with laboratory analysis to verify the waste stream identity if it is not obviously evident.

3.2.3.2 Accumulation

HW, if identified and generated during construction, shall be accumulated in waste-compatible, sturdy, leak-proof, closed containers that are Department of Transportation (DOT) approved.

Each HW container shall be clearly labeled with the words HAZARDOUS WASTE, a description of the waste, and the hazard associated description or label. Any container issued by the HWMS at Fort Lewis or the Directorate of Environment & Natural Resources at YTC shall have a Bar-coded label that contains all necessary labeling information. This label can be obtained by contacting the HWMS.

3.2.3.3 Container Management

HW shall be handled in a manner that prevents leaks, spills, fires, and explosions. Container tops and/or bungs shall be serviceable and tightly installed (wrench tight) at all times except when adding material to the container (material should not spill if the container tips over). Containers shall be properly grounded when transferring flammable materials. Containers holding flammable liquids (flash point less than 140 degrees F) shall be grounded. Reactive and ignitable waste containers shall be stored in a manner compatible with NFPA Fire Code requirements. Incompatible wastes shall not be accumulated in the same container or in the same area.

The container accumulation area shall be 50 feet from any other occupied building, shall have overhead cover, and shall be capable of being secured. Access to the area shall be restricted to trained personnel who need to be in and use the area. The site shall be locked when not in use. The container accumulation area shall have a secondary containment system capable of collecting and holding spills and leaks. It shall be sized to hold 110% of the volume of the largest container. A minimum of thirty inches of aisle space shall be maintained between container rows. Container markings and labels shall be clearly visible.

3.2.3.4 Inspection, Record Keeping and Reporting

If HW is accumulated on site, the Contractor shall inspect each accumulation point weekly, utilizing the attached Hazardous Waste Accumulation Areas checklist, (HFL Form 950-Enclosure No. 3) to verify compliance with the above requirements. The checklist shall be available on site for inspection.

Transportation and Disposal

The Contractor shall be responsible for the transportation and disposal off site of all HW generated from the execution of this contract, unless stated otherwise in this specification.

The Contractor or his representative, who provides services that generate, prepare for shipment or transports hazardous waste or provides hazardous waste clean-up/disposal services, shall be responsible for preparing EPA Form 8700-22, Uniform Hazardous Waste Manifest, for the state to which the material is being transported. The Contractor shall comply with all manifest and record keeping and reporting requirements. Specific manifesting procedures include:

a. The Uniform Hazardous Waste Manifest will <u>only</u> be signed by personnel in the HWMS at Building 1210 on Fort Lewis, or at the Yakima Hazmat Office.

b. The Contractor shall provide a copy of the Uniform Hazardous Waste Manifest and supporting documentation (i.e., waste profile and land ban as appropriate) no less than 72 hours in advance of the proposed transporter pick up date.

c. The Contractor shall coordinate and schedule transportation pick up dates and times by contacting the HWMS at (253) 967-4786 or at Yakima at (509) 577-3545. This will ensure qualified individuals are available for the certification/signature of the manifest and other related documentation. A waste profile (land ban when required) must accompany the manifest to verify description of material being transported.

The Contractor shall be responsible for verifying that the shipment is properly identified (profiled), packaged, marked, labeled, and not leaking. The Contractor shall apply appropriate placards to his vehicle while transporting hazardous materials/waste.

The Contractor shall insure that the transporter and disposal facility have a valid Environmental Protection Agency identification number for the applicable hazardous waste services, i.e., transportation, treatment, storage, or disposal.

The Contractor shall ensure that the transporter drivers have current DOT combination licenses. The Contractor shall ensure that the carrier has instructed and trained personnel concerning the applicable Hazardous Materials Transportation Act (HMTA) regulations relevant to their job functions.

The Contractor or his representatives shall take appropriate action (including cleanup) in the event of a release/spill. If a release/spill occurs, the Contractor shall immediately notify the Fire Department (Dial 911). Secondary notification shall be made to (253) 967-4786 on Fort Lewis, and to (509) 577-3545 on Yakima Training Center.

The Contractor shall ensure the transporter and disposal facility has liability insurance in effect for claims arising out of death or bodily injury and property damage from hazardous material/waste transport, treatment, storage, and disposal, including vehicle liability and legal defense costs in the amount of $1,000,000.00, as evidenced by a certificate of insurance for General, Automobile, and Environmental Liability Coverage.

3.2.3.6 Hazardous Waste Turn-In

The Contractor shall coordinate turn-in of small quantities of Hazardous Waste. Only HW generated on site as a result of the Contractor's execution of this contract will be accepted. At Fort Lewis, coordination for turn-in shall be made with the HWMS, phone (253) 967-4786. At Yakima, coordinate with HazMat Office at (509) 577-3545.

Containers shall be turned in no later than 90 days after the accumulation start date (earlier if full). All HW that is turned in must be properly identified and characterized, contained, marked/labeled, and (if turned in from a site outside Fort Lewis) manifested. The HWMS will provide assistance to the Contractor at Fort Lewis. This assistance does not free the Contractor from the responsibility of insuring that the waste is identified and managed in accordance with all of the above requirements so that it is acceptable for turn-in. The following procedures shall be followed:

a. Identify the HW. The HW should be one of the waste streams that the activity is permitted to generate and for which an HWPS has been submitted. HM that has become HW shall require the name of the product, the MSDS, the stock number if known, and manufacturer if known, or a completed waste profile analysis.

b. List the type, size, and number of containers, or items (e.g., PCB transformers).

c. Prepare the HW container(s) for turn-in as directed by the HWMS representative. If the container is closed, the HWMS representative may require the Contractor to open the container(s) to verify proper identification of the HW (not applicable to original, factory-sealed containers).

d. Provide certification as to HW identity and container compliance with appropriate regulations. The Contractor's ECO shall sign the certificate.

3.3 POLYCHLORINATED BIPHENYLS (PCB)

Not used.

3.4 LEAD PAINT

3.4.1 General

The Contractor shall follow all applicable laws and regulations when performing the removal or disturbance of lead-based paint. This includes the applicable guidance contained in “Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing”, published by the U.S. Department of Housing and Urban Development, unless or until it is superceded by other approved guidance.

Disposal

Prior to the disposal of any lead paint removed, the Contractor shall obtain laboratory analysis results for either total lead or TCLP (Toxic Characteristic Leaching Procedure), per project or individual building, and provide them to PW, Engineering & Contract Management Division. At the completion of the project, the amount of lead containing paint disposed of by the Contractor shall be provided to the Government. Lead paint shall be disposed of as specified above for Hazardous Waste.

Post Construction Requirements

The location of lead paint removed, and the suspected locations and approximate amounts of lead paint remaining in the project area, shall be shown on the floor plan/as-built of each building and provided to PW, Engineering & Contract Management Division upon completion of the project.

ASBESTOS

General

The Contractor shall follow all applicable laws and regulations when performing the removal or disturbance of asbestos containing materials and shall be responsible for obtaining all necessary asbestos removal permits. Historically, asbestos abatement has not been practiced or required during repair/renovation of roofs from Fort Lewis structures because asbestos-bearing roofing system components have been removed in a non-friable condition. No required abatement is anticipated, but no guarantee can be given that abatement may not be required in the future. These provisions detail the procedure that would apply if abatement becomes necessary.
All documentation submitted must have the building number and asbestos permit number indicated for the associated project. The following shall be submitted to PW, Engineering & Contract Management Division prior to the contractor beginning work on the project:

a. Copies of all approved permits for asbestos removal, including any amendments. All asbestos permit applications must indicate the building number and street name of the project site. If a permit application has multiple buildings included on it, all the building numbers and street names must be included. The Contractor shall indicate the following address on the permit application under property owner: PUBLIC WORKS, ATTN: AFZH-PWE, MS 17E, BOX 339500, FORT LEWIS, WA, 98433-9500.

b. A detailed asbestos plan (management plan) for the removal procedures to be followed. This shall also include information on the Contractor's qualifications to perform asbestos work (i.e., experience and a list of the asbestos workers/supervisors who will work on the project and their certification numbers and expiration dates).

c. Upon completion, a floor plan and summary showing the exact locations where asbestos has been removed or encapsulated and approximate amounts of asbestos removed and remaining as per the survey provided and any additional bulk samples taken.

d. Copies of laboratory analysis results for clearance sampling and air monitoring including pre-abatement, area, and personal air samples.

e. All job site entry logs or other documentation indicating who worked at or entered the regulated work site.

3.5.2 Additional Sampling

The Contractor shall provide the results of any additional asbestos bulk samples taken during the execution of this contract to PW, Engineering & Contract Management Division.

3.5.3 Disposal

Asbestos removed shall be disposed of at an off site permitted landfill. A Waste Shipment Record (HFL Form 954-Enclosure No. 4) shall be provided to PW, Engineering & Contract Management Division signed by the Contractor prior to disposal at the landfill with a second copy provided after disposal signed by any and all transporters and the landfill operator. The two copies shall be provided within 10 days of each other. If the two copies are not provided within 10 days of each other, Fort Lewis will be obligated to report the incident to the Puget Sound Air Pollution Control Agency (PSAPCA) in accordance with PSAPCA Regulation III, Section 4.07, or report to any other regulatory agency with jurisdiction. If the landfill operator finds a discrepancy in the waste shipment record, the Contractor shall report the discrepancy to the Contracting Officer or their representative. NOTE: The HFL Form 954 is the only form the Contractor shall use as the Waste Shipment Record.

Transportation

Transportation of all asbestos shall be in accordance with DOT regulations for transporting hazardous materials.

3.5.5 Asbestos Use

No asbestos-containing material shall be installed/used on any structure.

Radiation Safety

Not used.

3.7 UNDERGROUND STORAGE TANKS (USTs) AND PETROLEUM CONTAMINATED SOIL (PCS)

Not used.

3.8 DISPOSAL OF SOLID WASTE.

The Contractor shall be responsible for the disposal, reuse, or recycling off site of all refuse generated in the course of performance of this contract, to include containers, transport, handling, and dumping fees. All solid wastes shall be placed in containers that are emptied on a regular schedule. The Contractor will not be permitted to deposit refuse in existing garbage cans or refuse dumpsters. No burning of refuse is allowed. All vehicle loads of waste being transported shall be adequately secured to prevent spillage. Contractor shall follow provisions of Section 01572, “Construction Waste Management.”

3.9 PROTECTION OF LAND RESOURCES

Prior to the beginning of any construction, the Contractor shall identify the land resources to be preserved within the work area. The Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without special permission from the Contracting Officer or their representative. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. Plant material damaged or destroyed by Contractor activity shall be replaced or repaired as directed by the Contracting Officer or their representative.

3.10 PROTECTION OF WATER RESOURCES

3.10.1 General

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters. Toxic or hazardous chemicals shall not be applied when such application may cause contamination of the fresh water reserve.

3.11 PROTECTION OF AIR RESOURCES

3.11.1 General

Dust particles, aerosols, and gaseous byproducts from construction activities, processing, and preparation of materials shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. Hydrocarbons and carbon monoxide emissions from equipment shall be controlled to Federal and state allowable limits at all times. The Contractor shall not conceal or mask the emission of an air pollutant which violates air pollution regulations or causes a detriment to the health, safety, or welfare of any person.

An air pollution source shall not emit air pollutants in such quantities and of such characteristics and duration which are likely to be injurious to human health, plant or animal life, property, or which unreasonably interfere with enjoyment of life and property.

Fugitive Dust

Fugitive dust created as a result of construction activities shall be controlled with the BACT such as spraying with water. Contractor vehicles shall not enter public roadways with deposits of mud, dirt, or other debris or unsecured loads. Fugitive dust shall not be emitted from air pollution generating equipment such as boilers and incinerators.

Painting Operations

Spray painting shall not be conducted except inside a paint booth, which utilizes a dry filter system and is approved by ENRD for use. This requirement does not apply to the use of hand-held aerosol cans, coating of buildings and similar type structures, and painting of other items which ENRD deems can not be sprayed in a paint booth.

Burning Natural Vegetation

All cantonment areas, housing areas and all of North Fort are designated as no burn areas. A burning permit is required for burning natural vegetation in all other areas on Fort Lewis. Burning permits may be obtained from the PW Forestry Section. A copy of the permit shall be submitted to PW, Engineering & Contract Management Division.

3.11.5 Notice of Construction Permits

Not used.

3.11.6 Best Available Control Technology (BACT)

The Contractor shall utilize the BACT as determined by the regulatory authority on all air pollution sources. The Contracting Officer or their representative shall be notified for resolution if this requires a change in the design.

3.12 PRESERVATION OF HISTORICAL, CULTURAL, AND ARCHEOLOGICAL RESOURCES

If, during construction activities, the Contractor observes items that might have historical or archeological significance, the Contractor shall immediately contact the Contracting Officer or their representative and shall cease all activities that may result in the destruction of these resources and shall prevent its employees from trespassing on, removing, or otherwise damaging such resources.

3.13 PROTECTION OF FISH AND WILDLIFE

The Contractor shall conduct their operations in a manner that will minimize impacts on surrounding fish and wildlife. If, during construction activities, the Contractor observes any Federal or State protected species, the Contractor shall immediately contact the Contracting Officer or their representative and cease all activities at the site. An example of wildlife that could be impacted by this contract would be cliff swallows nesting under the eaves of a building designated for roof replacement. Cliff swallows are protected under the Migratory Bird Treaty Act.

END OF SECTION

UNIT/ACTIVITY: _____ **BUILDING NUMBER:** _____ **DATE:** _____

HAZARDOUS WASTE ACCUMULATION AREA CHECKLIST

	GO	NO GO	COMMENTS
1. Are all HW containers within a Fort Lewis approved HW accumulation facility or meet facility requirements listed in Appendix G, FL Reg 200-1?	____	____	_____
2. Are only Fort Lewis or subinstallation issued HW containers used?	____	____	_____
3. Do containers have the Fort Lewis or subinstallation issued bar code label, or meet HW labeling requirements?	____	____	_____
4. Are containers positioned so labels can be easily read?	____	____	_____
5. Are containers free from leaks, excessive rust, damage, or excessive spillage/residue on the outside of the container? Are leaks into secondary containment cleaned up?	____	____	_____
6. Has any HW container exceeded its turn-in date?	____	____	_____
7. Are container lids (bungs) properly installed and (wrench) tight to prevent leakage if the container is overturned?	____	____	_____
8. When stored together, do incompatibles, flammables, corrosives, or oxidizers have physical barriers to prevent mixing?	____	____	_____
9. Are drums containing flammables properly grounded?	____	____	_____
10. Is there a minimum thirty-inch separation between aisles of containers, and are rows of drums no more than two wide?	____	____	_____
11. Is the HW segregated from new material?	____	____	_____
12. Is there a functioning emergency alarm at the facility?	____	____	_____
13. Have HM storage areas been inspected to verify there are no spills, damaged or leaking containers, expired shelf life items, or unsafe storage?	____	____	_____

INSPECTOR: _____ **SIGNATURE:** _____

UNIT/ACTIVITY: _____ BUILDING NUMBER: _____ DATE: _____

HAZARDOUS MATERIAL INSPECTION CHECKLIST

This checklist will be used for inspecting facilities where hazardous materials (HM) are stored. These locations include supply rooms, motor pools, paint lockers, field sanitation boxes, NBC rooms, communication sections, warehouses, laboratories, shops, or any other sites where HM are stored.

	GO	NO GO	COMMENTS
1. Are HM stored in a Fort Lewis approved facility or meet facility requirements in Appendix F, FL Reg 200-1?	____	____	_____
2. Are incompatible materials segregated, e.g., corrosives and oxidizers segregated from flammable products and stored on ground level? (See storage incompatibility charts in Appendix F, FL Reg 200-1)	____	____	_____
3. Are flammables stored away from sources of heat, ignition, flames, or sparks?	____	____	_____
4. Are inventories of HM recorded and updated as required by AR 710-2?	____	____	_____
5. Are MSDSs available on-site for all HM stored?	____	____	_____
6. Is a spill plan posted, and is a fully stocked spill kit readily available?	____	____	_____
7. Are product containers serviceable? (Not leaking, no dents or excessive rust, and lid(s) tightly closed)	____	____	_____
8. Are container labels legible and clearly identify the name of the material in the container?	____	____	_____
9. Are containers within shelf life expiration dates?	____	____	_____
10. Are new products segregated from “in-use” containers, and are stocks rotated on a “first opened, first used” basis?	____	____	_____
11. Is the paint locker stored inside a heated building?	____	____	_____
12. Are containers stored in an orderly manner, and is the HM storage area free of clutter and debris?	____	____	_____
13. Are gas cylinders properly identified, leak-tight, secured or racked, and stored away from sources of heat, flames, or sparks?	____	____	_____
14. Do opened, “in-use” containers have secondary containment?	____	____	_____

INSPECTOR: _____SIGNATURE: _____

HAZARDOUS MATERIAL INVENTORY

AFZH-PWE
Procedure for Hazardous Material Inventory

ECO/HMT: _____ OFC SYMBOL: _____ BLDG #: _____ FM #: _____
ACCT SECT: _____ PHONE: _____ FAX: _____ BLDG DESC: _____
UNIT/ORG: _____ EMAIL: _____ ENRD #: _____
UIC: DODAAC: CY QTR 1 Jan-Mar 2 Apr-Jun 3 Jul-Sep 4 Oct-Dec DATE:

Due NLT the 15th following the last day of each quarter. To Public Works-ENRD, Pollution Prevention-HM Section // PH: 967-4786 // FAX: 967-9937 // EMAIL: hminventory@lewis.army.mil

#	MSDS	ITEM NAME	NSN	MANUFACTURER	Unit of Measure (16 OZ CN)			Auth Qty	Begin Balance	Received (+)	Used (-)	Turn-In (-)	End Balance
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													

Comments:

HFL FORM 953, 7 JUL 00 *Previous editions are obsolete* _____ Signature

WASTE SHIPMENT RECORD

RQ ASBESTOS, 9, NA 2212, PG III

WSR # _____

GENERATOR

1
Work Site Name (Installation/Facility): _____
Location (Bldg. # & Street Name): _____
Mailing Address: _____ County: _____
Owner's Name: _____ Owner's Phone: _____

2
Operator's Name: _____ Contractor I.D. Number: _____
Mailing Address: _____
Contact Person: _____ Operator's Phone: _____

3
Waste Disposal Site (WDS) Name: _____
WDS Mailing Address: _____ WDS Phone: _____
WDS Physical Site Location: _____

4
Name, and Address of Responsible Agency (Agency where notification was sent):

	5. Description of Waste Material	6. Containers		7. Total Quantity (cubic yards)
		Number	Type	
5				
6				
7				

8
Special handling instructions and additional information (include emergency response phone number):

9
OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked, and labeled/placarded and are in all respects in proper condition for transport according to applicable national governmental regulations.

Printed/Typed Name _____ Title _____ Signature _____ Date _____

TRANSPORTER

10
TRANSPORTER 1 (Acknowledgement of receipt of waste material)
Name: _____ Phone: _____
Address: _____
Printed/Typed Name _____ Title _____ Signature _____ Date _____

11
TRANSPORTER 2 (Acknowledgement of receipt of waste material)
Name: _____ Phone: _____
Address: _____
Printed/Typed Name _____ Title _____ Signature _____ Date _____

WASTE DISPOSAL SITE

12
Discrepancy indication space: _____

Optional Disposal Location Index:

X	Y	Depth

13
WASTE DISPOSAL SITE CERTIFICATION: I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true, accurate, and complete except as noted in item 12.

Printed/Typed Name _____ Title _____ Signature _____ Date _____

SECTION 01451

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 REFERENCES

Not used.

1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated therewith shall be included in the applicable unit prices or lump-sum prices contained in the Bidding Schedule.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL Requirements

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause titled "Inspection of Construction." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence. The site project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with quality requirements specified in the contract. The site project superintendent in this context shall be the highest level manager responsible for overall construction activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times, except as otherwise acceptable to the Contracting Officer, and shall be responsible for all construction and construction related activities at the site.

3.2 QUALITY CONTROL PLAN

3.2.1 General

The Contractor shall furnish for review by the Government, not later than 10 days after receipt of notice to proceed on the first delivery order, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause titled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, test, records, and forms to be used. The Government will consider an interim plan for the first 60 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

3.2.2 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, including work by subcontractors, fabricators, suppliers, and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project manager. If the project manager and project superintendent is the same person, the CQC System Manager shall report to someone higher in the Contractor's organization than the project manager.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.

e. Not used.

f. Procedures for tracking preparatory, initial, and follow-up control.

g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.

h. Reporting procedures, including proposed reporting formats.

i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction of the first delivery order. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After Award and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 5 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure safety and contract compliance. The Safety and Health manager shall receive direction and authority from the CQC System manager and shall serve as a member of the CQC staff. Personnel identified in technical provisions as requiring specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. The Contractor shall provide a CQC organization which shall be at the site at all times during progress of the work and with complete authority to take any action necessary to ensure compliance with the contract. All CQC staff members shall be subject to acceptance by the Contracting Officer. The Contractor shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Complete records of all letters, material submittals, shop drawings submittals, schedules and all other project documentation shall be promptly furnished to the CQC organization by the Contractor. The CQC organization shall be responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a graduate engineer, graduate architect, or a graduate of construction management, with a minimum of 5 years construction experience on construction similar to this contract or a construction person with a minimum of 10 years in related work. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager shall be assigned as System Manager but may have duties as project superintendent in addition to quality control. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

3.4.3 CQC Personnel

In addition to CQC personnel specified elsewhere in the contract, the Contractor shall provide as part of the CQC organization specialized personnel to assist the CQC System Manager. These individuals may be employees of the prime or subcontractor; be responsible to the CQC System Manager; be physically present at the construction site during work on their areas of responsibility; have the necessary education and/or experience in accordance with the experience matrix listed herein. These individuals may perform other duties but must be allowed sufficient time to perform their assigned quality control duties as described in the Quality Control Plan.

3.4.4 Additional Requirement

The CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors". This course is periodically offered at AGC offices throughout the state of Washington and Oregon.

3.4.5 Organizational Changes

The Contractor shall maintain the CQC staff at full strength when working on delivery orders for Fort Lewis. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS and deliverables

Submittals, if needed, shall be made as specified in Section 01330 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals are in compliance with the contract requirements.

3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of work as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.

b. A review of the contract drawings.

c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.

d. Review of provisions that have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.

f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. A review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. Discussion of the initial control phase.

k. The Government shall be notified at least 48 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.

b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government shall be notified at least 24 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if the quality of on-going work is unacceptable, if there are changes in the applicable CQC staff, onsite production supervision or work crew, if work on a definable feature is resumed after a substantial period of inactivity, or if other problems develop.

3.7 TESTS

Not used.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Near the completion of all work or any increment thereof established by a completion time stated in the Special Clause entitled "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the CQC System Manager shall conduct an inspection of the work and develop a punch list of items which do not conform to the approved drawings and specifications. Such a list of deficiencies shall be included in the CQC documentation, as required by paragraph DOCUMENTATION below, and shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

The Government will perform this inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment thereof if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance at this inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

a. Contractor/subcontractor and their area of responsibility.

b. Operating plant/equipment with hours worked, idle, or down for repair.

c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.

d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase should be identified (Preparatory, Initial, Follow-up). List deficiencies noted along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Submittals reviewed, with contract reference, by whom, and action taken.

g. Off-site surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and/or specifications.

j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 SAMPLE FORMS

Sample forms are attached at the end of this specification section.

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

END OF SECTION

(sample of typical Contractor's Daily Report)

DAILY CONSTRUCTION QUALITY CONTROL REPORT

Contract Number: _____ Date: _____ Rpt. No._____

Contract Title: _____ Location: _____

Weather: Clear __ P. Cloudy __ Cloudy __ Rainfall __ (__% of workday)

Temperature during workday: High ____ degrees F. Low ___ degrees F.

1. WORK PERFORMED BY CONTRACTOR/SUBCONTRACTOR(S):

Contractor Name	No. of Workers	Crafts/Hours	Work performed

2. EQUIPMENT DATA:

Type, Size, Etc.	Owned/Rented	Hours Used	Hours Standby

3. QUALITY CONTROL INSPECTIONS AND RESULTS: (Include a description of preparatory, initial, and/or follow up inspections or meetings; check of subcontractors work and materials delivered to the site compared to submittals and/or specifications; comments on the proper storage of materials; include comments on corrective actions to be taken):

_____

_____

_____

_____

4. QUALITY CONTROL TESTING AND RESULTS (comment on tests and attach test reports):

_____

_____

_____

5. DAILY SAFETY INSPECTIONS (Include comments on new hazards to be added to the Hazard Analysis and corrective action of any safety issues):

_____

_____

6. REMARKS (Include conversations with or instructions from the Government representatives; delays of any kind that are impacting the job; conflicts in the contract documents; comments on change orders; environmental considerations; etc.):

_____

_____

_____

_____

_____

CONTRACTOR'S VERIFICATION: The above report is complete and correct. All material, equipment used, and work performed during this reporting period are in compliance with the contract documents except as noted above.

_____
CONTRACTOR QC REPRESENTATIVE

(Sample of Typical Contractor's Test Report)

TEST REPORT

STRUCTURE OR BUILDING _____

CONTRACT NO. _____

DESCRIPTION OF ITEM, SYSTEM, OR PART OF SYSTEM TESTED:
_____

_____

DESCRIPTION OF TEST: _____

_____

_____
NAME AND TITLE OF PERSON IN CHARGE OF PERFORMING TESTS FOR THE CONTRACTOR:

NAME_____

TITLE_____

SIGNATURE_____

I HEREBY CERTIFY THAT THE ABOVE DESCRIBED ITEM, SYSTEM, OR PART OF SYSTEM HAS BEEN TESTED AS INDICATED ABOVE AND FOUND TO BE ENTIRELY SATISFACTORY AS REQUIRED IN THE CONTRACT SPECIFICATIONS.

SIGNATURE OF CONTRACTOR
QUALITY CONTROL INSPECTOR_____

DATE_____

REMARKS _____

_____

_____

SECTION 01501

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.1 AVAILABILITY OF UTILITY SERVICES

1.1.1 Water

The Government will make available to Contractor, from existing outlets and supplies, reasonable amounts of potable water without charge. Contractor shall reasonably conserve potable water furnished. Contractor, at its own expense, shall install and maintain necessary temporary connections and distribution lines and shall remove the connections and lines prior to final acceptance of construction. Where the Contracting Officer determines that potable water is not readily available or expedient for the Government to supply, the Contractor shall supply his own water.

1.1.2 Electricity

Electric power (U.S. Standard 120 volts, 60 Herz) will be made available by the Government, without charge, to the Contractor for performing work at the work area. The Contractor shall carefully conserve electricity furnished. The Contractor, at its own expense and in a workmanlike manner satisfactory to the Contracting Officer, shall extend the existing electrical distribution system (overhead and underground) for temporary electrical service to the worksite, shall install and maintain necessary temporary connections, and shall remove the same prior to final acceptance of the construction. These connections shall be coordinated with the Army Exterior Electrical Shop, Through the Contracting Officer. Where the Contracting Officer determines that electricity is not readily available or expedient for the Government to supply, the Contractor shall supply his own electricity.

1.2 SANITARY PROVISIONS

Contractor shall provide sanitary accommodations for the use of employees as may be necessary and shall maintain accommodations approved by the Contracting Officer and shall comply with the requirements and regulations of the State Health Department, County Sanitarian, or other authorities having jurisdiction.

1.3 TEMPORARY ELECTRIC WIRING

1.3.1 Temporary Power and Lighting

The Contractor shall provide construction power facilities in accordance with the safety requirements of the National Electric Code NFPA No. 70 and the SAFETY AND HEALTH REQUIREMENTS MANUAL EM 385-1-1. The Contractor, or its delegated subcontractor, shall enforce the safety requirements of electrical extensions for the work of subcontractors. Work shall be accomplished by journeyman electricians.

1.3.2 Construction Equipment

In addition to the requirements of SAFETY AND HEALTH REQUIREMENTS MANUAL,
EM 385-1-1, temporary wiring conductors installed for operation of construction tools and equipment shall be either Type TW or THW contained in metal raceways, or shall be hard usage or extra hard usage multiconductor cord. Temporary wiring shall be secured above the ground or floor in a workmanlike manner and shall not present an obstacle to persons or equipment. Open wiring may only be used outside of buildings, and then only in accordance with the provisions of the National Electric Code.

1.3.3 Submittals

Not used.

1.4 FIRE PROTECTION

During the construction period, the Contractor shall provide fire extinguishers in accordance with the safety requirements of the SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385-1-1. The Contractor shall remove the fire extinguishers at the completion of construction.

1.5 UTILITY LOCATOR/IDENTIFICATION TAPE

Not used.

1.6 STAGING AREA

On each task order, the Contractor will be provided adequate open staging area as directed by the Contracting Officer. Area is unsecured, and Contractor shall make provisions for its own security.

Contractor shall be responsible for keeping staging area, and office area clean and free of weeds and uncontrolled vegetation growth. Weeds shall be removed by pulling or cutting to within 1-inch of ground level. Lawn areas shall be mown to keep growth to less than 2-inches. All loose debris and material subject to being moved by prevailing winds in the area shall be picked up or secured at all times. If the area is not maintained in a safe and clean condition as defined above the Contracting Officer may have the area cleaned by others with the costs being deducted from the Contractor's payment.

1.7 HOUSEKEEPING AND CLEANUP

Pursuant to the requirements of Clause CLEANING UP and Clause ACCIDENT PREVENTION, of the CONTRACT CLAUSES, the Contractor shall assign sufficient personnel to ensure compliance. The Contractor shall take consideration of the implementation of this requirement as part of the preconstruction safety plan and will provide for keeping the total construction site, structures, and accessways free of debris and obstructions at all times. Work will not be allowed in those areas that, in the opinion of the Contracting Officer, have unsatisfactory cleanup and housekeeping at the end of the preceding day's normal work shift. At least once each day all areas shall be checked by the Quality Control person of the Contractor and the findings recorded on the Quality Control Daily Report. In addition, the Quality Control person shall take immediate action to ensure compliance with this requirement. Housekeeping and cleanup shall be assigned by the Contractor to specific personnel. The name(s) of the personnel shall be available at the project site.

1.8 DIGGING PERMIT

Before performing any onsite excavation, Contractor shall obtain a digging permit. The digging permit can be obtained at Directorate of Public Works, Building 2012, room 110, telephone 253-967-5237, on weekdays between 8 a.m. and 3:30 p.m. Typically it will take a Contractor 3-5 working days to collect all signatures necessary for clearances prior to the permit being issued.

1.9 CONSTRUCTION NEAR COMMUNICATIONS CABLES

1.9.1 Excavation Near Communication Cables

Digging within .9144 meters (3 feet) of communication cables (including fiber optic cables) shall be performed by hand digging until the cable is exposed. The Contracting Officer shall be notified a minimum 3 days prior to digging within a .9144 meter (3-foot) area near cable. The cable route will be marked by the Government prior to excavation in the area. A digging permit shall be obtained by the Contractor before performing any excavation. The Contractor shall be held responsible for any damage to the cable by excavation procedures. Once the cable is exposed, mechanical excavation may be used if there is no chance of damage occurring to the cable.

1.9.2 Reburial of Exposed Utilities

When existing utility lines are reburied a locator/identification tape, detectable by pipe detector systems, shall be installed above the uncovered length of the utility. See paragraph UTILITY LOCATOR/IDENTIFICATION TAPE above for detailed tape and installation requirements.

1.9.3 Access to Communications Manhole or Handhole

No communications manhole or handhole shall be entered without first obtaining a fiber optic cable briefing. Coordinate through the Contracting Officer with DOIM (Directorate of Information Management), Fort Lewis, Information Services Center, Bldg. 2003.

1.9.4 Cable Cuts or Damage

If a communications cable is cut or damaged the Contractor shall immediately notify the Contracting Officer (CO) and begin gathering personnel and equipment necessary to repair the cut, or damage. Contractor shall begin repairs within one hour of the cut or damage, unless notified otherwise, and continue repairs without interruption until full service is restored.

1.10 PROJECT SIGN

Not used.

1.11 CONCEALED WORK

All items of work to be concealed shall be Government inspected prior to concealment.

1.12 REPAIR OF ROAD CUTS

No road cuts will be made under this Contract.

1.13 ELEVATED WORK AREAS

Workers in elevated work areas in excess of 2 meters (6 feet) above an adjoining surface require special safety attention. The Contractor will observe the provisions of SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385-1-1. The following safety measures or comparable measures should be given consideration in the Contractor's safety plan, which is to be submitted to the Contracting Officer: Prior to commencement of work in elevated work areas, the Contractor shall develop all provisions of his positive fall protection system including, but not limited to, all details of guardrails. Positive protection for workmen engaged in the installation of structural steel and steel joist shall be provided by safety nets, tie-offs, hydraulic man lifts, scaffolds, or other required means. Decking crews must be tied-off or work over nets or platforms not over 2 meters (6 feet) below the work area. Walking on beams and/or girders and the climbing of columns is prohibited without positive protection. Perimeter guardrails shall be installed at floor, roof, or wall openings more than 2 meters (6 feet) above an adjoining surface and on roof perimeters. Rails shall be designed to protect all phases of elevated work including, but not limited to, roofing operations and installation of gutters and flashing. Rails around roofs may not be removed until all work on the roof is complete and all traffic on or across the roof ceases. Rails shall be designed by a licensed engineer to provide adequate stability under any anticipated impact loading. As a minimum, the rails shall consist of a top rail at a height of 1067 mm (42 inches), a mid-rail, and a toe board. Use of tie-offs, hydraulic man lifts, scaffolds, or other means of roof edge protection methods may be utilized on small structures such as family housing, prefabricated metal buildings, etc. If safety belts and harnesses are used, the positive fall protection plan will address fall restraint versus fall arrest. Body belts will ONLY be used for fall restraint; they will not be used for fall arrest.

1.14 CONSTRUCTION PLANNING MEETINGS

Not used.

1.15 TRAFFIC CONTROL

Where applicable, the Contractor shall provide for movement of traffic through and around the construction zone in a manner that is conducive to the safety of motorists, pedestrians, and workers. This shall include placement and maintenance of traffic control devices in accordance with the U.S. Department of Transportation, Federal Highway Administration publication, Manual on Uniform Traffic Control Devices. Streets or lanes (except dead end) may be closed to traffic temporarily by approved written request to the Contracting Officer at least 10 working days prior to street closure. Street closures shall at all times allow street access to a building from one direction. Excavations shall not remain open for more than 1 working day without approval.

1.16 UTILITIES NOT SHOWN

Not used.

1.17 GOVERNMENT WITNESSING AND SCHEDULING OF TESTING

Not used.

1.18 HARD HAT SIGNS

The Contractor shall provide 24 by 24 inch square Hard Hat Area signs at each entry to the project or work area as directed by the Contracting Officer. A minimum of two signs will be required. Signs shall be a standard printed construction sign bearing a prominent warning or cautionary message in block letters.

PART 2 PRODUCTS – (NOT APPLICABLE)

PART 3 EXECUTION – (NOT APPLICABLE)

END OF SECTION

SECTION 01572

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

PART 1 GENERAL

1.1 GOVERNMENT POLICY

Government policy is to apply sound environmental principles in the design, construction and use of facilities at Fort Lewis. As part of the implementation of that policy the Contractor shall: (1) practice efficient waste management when sizing, cutting, and installing products and materials and (2) use all reasonable means to divert construction and demolition waste from landfills and incinerators and to facilitate their recycling or reuse.

1.2 MANAGEMENT

The Contractor shall take a pro-active, responsible role in the management of construction and demolition waste and require all subcontractors, vendors, and suppliers to participate in the effort. Construction and demolition waste includes products of demolition or removal, excess or unusable construction materials, packaging materials for construction products, and other materials generated during the construction process but not incorporated into the work. In the management of waste, consideration shall be given to the availability of viable markets, the condition of the material, the ability to provide the material in suitable condition and in a quantity acceptable to available markets, and time constraints imposed by internal project completion mandates. The Contractor shall be responsible for implementation of any special programs involving rebates or similar incentives related to recycling of waste. Revenues or other savings obtained for salvage, or recycling shall accrue to the Contractor. Firms and facilities used for recycling, reuse, and disposal shall be appropriately permitted for the intended use to the extent required by federal, state, and local regulations.

1.3 WASTE MANAGEMENT PLAN

A Waste Management Plan shall be submitted within 15 days after contract award and prior to initiating any site preparation work. The Contractor may contact the Fort Lewis Environmental Division at (253) 966-6439 or (253) 966-6452 for additional information or assistance in identifying sources. The plan shall include the following:

a. Name of individuals on the Contractor's staff responsible for waste prevention and management.

b. Actions that will be taken to reduce solid waste generation.

c. Description of the specific approaches to be used in recycling/reuse of the various materials generated, including the areas and equipment to be used for processing, sorting, and temporary storage of wastes.

d. Characterization, including estimated types and quantities, of the waste to be generated. Because quantities under this IDIQ contract are indefinite, this characterization should be done for waste generated from the replacement of several typical roof systems, eg., built-up roof, single ply membrane (EPDM) roof, and standing seam metal roof (assume roof area of 10,000 SF, zero-slope BUR and single ply, 4:1 slope metal).

e. Name of landfill and/or incinerator to be used and the estimated costs for use, assuming that there would be no salvage or recycling on the project.

f. Identification of local and regional reuse programs, including non-profit organizations such as schools, local housing agencies, and organizations that accept used materials such as materials exchange networks and Habitat for Humanity.

g. List of specific waste materials (eg. asphaltic shingles, EPDM membrane, metal panels, wood, insulation, vapor barrier, etc.) that will be salvaged for resale, salvaged and reused, or recycled. Recycling facilities that will be used shall be identified.

h. Identification of materials that cannot be recycled/reused with an explanation or justification.

i. Anticipated net cost savings resulting from diverting waste from the waste stream (landfill). This savings is determined by subtracting Contractor program management costs and the cost of disposal from the revenue generated by sale of the materials and the incineration and/or landfill cost avoidance. Because quantities are indefinite on this IDIQ contract, this calculation should be performed for the three types of roof tear-offs cited in paragraph 1.3 (d), using the same assumptions.

1.4 RECORDS

Fort Lewis requires the Contractor to document and report the total quantity of waste generated; the portion of the total waste diverted from the waste stream through sale, reuse, or recycling; and the portion of the total waste disposed of by landfill or incineration. The Contractor shall report these quantities in the form of a spreadsheet (or "Waste Management Report") in Microsoft Excel format, using a template provided by the Government. This Waste Management Report shall be transmitted electronically to the Contracting Officer within 10 days of the completion of each task order performed under the Contract.

1.5 COLLECTION

The necessary containers, bins and storage areas to facilitate effective waste management shall be provided by the Contractor and shall be clearly and appropriately identified. Recyclable materials shall be handled to prevent contamination of materials from incompatible products and materials and separated by one of the following methods:

1.5.1 Source Separated Method.

Waste products and materials that are recyclable shall be separated from trash and sorted into appropriately marked separate containers and then transported to the respective recycling facility for further processing.

1.5.2 Co-Mingled Method.

Waste products and recyclable materials shall be placed into a single container and then transported to a recycling facility where the recyclable materials are sorted and processed.

1.5.3 Other Methods.

Other methods proposed by the Contractor may be used when approved by the Contracting Officer.

1.6 DISPOSAL

Except as otherwise specified in other sections of the specifications, disposal shall be in accordance with the following:

1.6.1 Reuse.

First consideration shall be given to salvage for reuse since little or no re-processing is necessary for this method, and less pollution is created when items are reused in their original form. Sale or donation of waste suitable for reuse shall be considered. Salvaged materials, other than those specified in other sections to be salvaged and reinstalled, shall not be used in this contract.

1.6.2 Recycle.

Waste materials not suitable for reuse, but having value as being recyclable, shall be made available for recycling whenever economically feasible.

1.6.3 Waste.

Materials with no practical use or economic benefit shall be disposed at a landfill or incinerator.

END OF SECTION

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SECTION 01670

RECYCLED / RECOVERED MATERIALS

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.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 247 The Environmental Protection Agency (EPA) Comprehensive Procurement Guideline (CPG) for Products Containing Recovered Materials

1.2 OBJECTIVES

In accordance with Fort Lewis Policy Statement PW-005, "Sustainable Facility, Construction, and Operations Policy," dated 05 August 2003, and Federal policy, the following provisions are adopted. Government procurement policy is to acquire items containing the highest percentage of recycled and recovered materials practicable consistent with availability, technical performance, and reasonable cost effectiveness. The Environmental Protection Agency (EPA) has designated certain items which must contain a specified percent range of recovered or recycled materials. The Contractor shall make all reasonable efforts to use recycled and recovered materials in providing the EPA designated products and in otherwise utilizing recycled and recovered materials in the execution of the work.

1.3 EPA DESIGNATED ITEMS INCORPORATED IN THE WORK

Since 2/20/90, all insulation materials installed by agencies using federal funds are required to have a minimum content of recycled materials, according to a ruling by the Environmental Protection Agency (Federal Register, 40 CFR Part 248 pages 7328-7369). Various sections of the specifications contain requirements for materials that have been designated by EPA as being products which are or can be made with recovered or recycled materials. These items, and the required percentage of recycled content, are given in Section 07220, "Roof And Deck Insulation." These items, when incorporated into the work under this contract, shall contain at least the specified percentage of recycled or recovered materials unless adequate justification for non-use is provided. Contractor certification of ability and intent to use sustainable and recycled-content materials, and conditions for justification of non-use, is covered in Section 06100, "Rough Carpentry."

1.4 EPA PROPOSED ITEMS INCORPORATED IN THE WORK

Products other than those designated by EPA are still being researched and are being considered for future Comprehensive Procurement Guideline (CPG) designation. It is recommended that these items, when incorporated in the work under this contract, contain the highest practicable percentage of recycled or recovered materials, provided specified requirements are also met.

1.5 EPA LISTED ITEMS USED IN CONDUCT OF THE WORK BUT NOT INCORPORATED IN THE WORK

There are many products listed in 40 CFR 247 which have been designated or proposed by EPA to include recycled or recovered materials that may be used by the Contractor in performing the work but will not be incorporated into the work. These products include office products, temporary traffic control products, and pallets. It is recommended that these non-construction products, when used in the conduct of the work, contain the highest practicable percentage of recycled or recovered materials and that these products be recycled when no longer needed.

END OF SECTION

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SECTION 01701 – NOT USED

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SECTION 01702

AS BUILT RECORDS AND DRAWINGS

PART 1 GENERAL

1.1 SUBMITTALS

Data listed in PART 3 of this section shall be submitted in accordance with section 01330 SUBMITTAL PROCEDURES. Due dates shall be as indicated in applicable paragraphs and all submittals shall be completed before final payment will be made.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 AS-BUILT FIELD DATA

3.1.1 General
The Contractor shall keep at the construction site a complete set of drawings of the contract drawings/sketches as provided with the specific Task Order, reproduced at Contractor expense. During construction prints shall be marked to show all deviations in actual construction from the contract drawings. The color red shall be used to indicate all additions and green to indicate all deletions. The drawings shall show the following information but not be limited thereto:

a. All changes or modifications from the original design and from the final inspection.
b. Where contract drawings or specifications allow options, only the option actually used in the construction shall be shown on the as-built drawings. The option not used shall be deleted. These deviations shall be shown in the same general detail utilized in the contract drawings. Marking of the prints shall be pursued continuously during construction to keep them up to date. In addition, the Contractor shall maintain full size marked-up drawings, survey notes, sketches, nameplate data, pricing information, description, and serial numbers of all installed equipment. This information shall be maintained in a current condition at all times until the completion of the work. The resulting field-marked prints and data shall be referred to and marked as “As-Built Field Data,” and shall be used for no other purpose. They shall be made available for inspection by the Contracting Officer’s representative whenever requested during construction and shall be jointly inspected for accuracy and completeness by the Contracting Officer’s representative and a responsible representative of the Contractor prior to submission of monthly pay estimates. Failure to keep the As-Built Field Data (including Equipment-in-Place lists) current shall be sufficient justification to withhold a retained percentage from the monthly pay estimate.

3.1.2 Submittal of the As-Built Field Data

The As-Built Field Data shall be submitted to the Contracting Officer for review and approval a minimum of 5 working days prior to the date of final inspection. If review of the preliminary as-built drawings reveals errors and/or omissions, the drawings will be returned

to the Contractor for corrections. The Contractor shall make all corrections and return the drawings for backcheck to the Contracting Officer within 10 calendar days of receipt. When submitted drawings are accepted, one set of marked drawings will be returned to the Contractor for the completion of the as-built drawings.

3.2 AS-BUILT FILE DRAWINGS

3.2.1 General

These drawings shall be provided at the same standard and quality as the drawings provided with the associated task order and shall incorporate all As-Built Field Data. For example: If the task order drawings are sketches the as-built drawings shall be sketches. If the task order drawings are half-size blue lines, the as-built drawings shall be half-size blue lines. Similarly for all other quality of task order drawings.

3.2.2 As-Built Contract Original Record Tracings (hand drafted):

Approved preliminary as-built drawings will be returned to the Contractor along with one set of the contract drawing original record tracings. These drawings are part of the permanent records of this project and the Contractor will be held responsible for their protection and safety until they are returned to the Contracting Officer. Any drawings damaged or lost by the Contractor shall be satisfactorily replaced in like medium, quality, and size as the originals at the Contractor's expense. When providing As-Builts on original record tracing mylars or vellums the work shall be performed by Certified Engineering Technicians and/or individuals with a minimum of 5 years drafting experience. Drafting of the data onto the contract drawing original record tracings shall be done in a quality equal to that of the originals. Linework, line weights, lettering, and use of symbols shall be the same as the original linework, line weights, lettering, and symbols. Plastic drafting leads or ink shall be used. Graphite leads shall only be used where used on the original drawings. If additional drawings are required, they shall be prepared on the same medium and of equal size and quality as the original record tracings. Sufficient blank sheets for this purpose will be furnished by the Government at no cost to the Contractor upon request. When final revisions have been completed, each drawing shall be lettered or stamped with the words "AS-BUILT" in block letters at least 3/8-inch high placed above the title block if space permits, or if not, below the title block between the border and the trim line. The date of completion and the words "REVISED AS-BUILT" shall be placed in the revision block above the latest revision notation. Markings on the reverse side of the drawings will not be permitted.

3.2.3 As-Built Contract Original Record Drawings (CADD Format):

The Government will make available for the Contractor one set of Autocad electronic file format contract drawings to be used for preparation of as-built drawings. The electronic file drawings will be available on either 3-1/2 inch 1.44 MB floppy disks or ISO-9660 CD-ROM, as appropriate for the file size. The Contractor will verify the usability of the electronic files and bring any discrepancies to the attention of the Contracting Officer. Any discrepancies will be corrected and files returned to the Contractor. The Contractor shall incorporate all deviations from the original contract drawings as recorded in the approved ‘As-built Field Data’ (see paragraph 3.1.2). The Contractor shall also incorporate all the written modifications to the contract drawings which were issued by amendment or contract

modification. All revisions and changes shall be incorporated, i.e. items marked “deleted” shall be deleted, clouds around new items shall be removed, etc. The drafting work shall be performed by Certified Engineering Technicians and/or individuals with a minimum of 5 years drafting experience.

3.2.3.1 No later than 30 days after final acceptance a complete set of as-built drawings shall be submitted in Autocad electronic file format. The electronic file format, layering standards and submittal requirements are specified in paragraphs below. The as-built drawings shall be done in a quality equal to that of the originals. Line work, line weights, lettering, and use of symbols shall be the same as the original line work, line weights, and lettering, and symbols. If additional drawings are required they shall be prepared in electronic file format under the same guidance. When final revisions have been completed, each drawings shall be identified with the words “AS-BUILT” in block letters at least 3/8-inch high placed above the title block if space permits, or if not, below the title block between the border and the trim line. The date of completion and the words “REVISED AS-BUILT” shall be placed in the revision block above the latest revision notation.

Electronic File Submittal Requirements

3.2.3.2 The electronic file(s) deliverable shall be in Autocad version 2000 format. All support files required to display or plot the file(s) in the same manner as they were developed shall be delivered along with the files.

3.2.3.3 Layering shall conform to the guidelines defined by the American Institute of Architects (AIA) standard document, “CAD Layer Guidelines” , Copyright 1990. An explanatory list of which layer is used at which drawing and an explanatory list of all layers which do not conform to the standard AIA CAD Layer Guidelines including any user definable fields permitted by the guidelines shall be provided with each submittal.

3.2.3.4 Electronic File Deliverable Media: All electronic files shall be submitted on MS-DOS FAT or extended FAT format 3 ½ inch 1.44 MB floppy disks or ISO 9660 format CD-ROM, as appropriate for file size. A complete set of electronic files shall be submitted along with one complete set of full size mylars taken from the disk. See paragraph 3.2.4 below. Each floppy disk shall be clearly marked with typewritten self-adhesive disk labels which shall contain the following information: Contractor’s firm name, project name and location, submittal type (AS-BUILT), the name of each file contained within the disk or archive file, the format and version/release number of each file, a disk number indicating the numeric sequence of the disk in the submittal along with the total number of disks in the submittal, and date the disk was made. If submittal is made on CD-ROM, only the Contractor’s firm name, project name and location, submittal type (ASBUILT) and date will be required. Each submittal shall be accompanied by a hard copy transmittal sheet that contains the above information along with tabulated information about each file, as shown below:

Electronic File	Name Plate	Number Drawing Title

Electronic version of the table shall be included with each submittal set of disks.

3.2.4 Submittal of the Final As-Built Drawings

The final as-built record drawings shall be completed and returned together with the approved preliminary as-built drawings to the Contracting Officer, within 30 calendar days of final acceptance. All drawings from the original contract drawings set shall be included, including the drawings where no changes were made. The Government will review all final as-built record drawings for accuracy and conformance to the drafting standards and other requirements contained in DIVISION 1 GENERAL REQUIREMENTS. The drawings will be returned to the Contractor if corrections are necessary. The Contractor shall make all corrections and shall return the drawings to the same office within 7 calendar days of receipt.

END OF SECTION

SECTION 01703

WARRANTY OF CONSTRUCTION

PART 1 GENERAL

1.1 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:

Warranty Management Plan;

Two sets of the warranty management plan containing information relevant to the warranty of materials and equipment incorporated into the construction project, including the starting date of warranty of construction. The Contractor shall furnish with each warranty the name, address, e-mail address and telephone number of each of the guarantor's representatives nearest to the project location.

1.2 WARRANTY MANAGEMENT

1.2.1 Warranty Management Plan

The Contractor shall develop a warranty management plan. At least 30 days before the planned pre-warranty conference, the Contractor shall submit the warranty management plan for Government approval. The warranty management plan shall include all required actions and documents to assure that the Government receives all warranties to which it is entitled. The contract number and task order number should be on the plan.

1.2.2 Performance Bond

The Contractor's Performance Bond shall remain effective throughout the construction period.

a. In the event the Contractor fails to commence and diligently pursue any construction warranty work required, the Contracting Officer will have the work performed by others, and after completion of the work, will charge the expenses incurred by the Government while performing the work, including, but not limited to administrative expenses.

b. In the event sufficient funds are not available to cover the construction warranty work performed by the Government at the Contractor's expense, the Contracting Officer will have the right to recoup expenses from the bonding company.

c. Following oral or written notification by the Contracting Officer or his representative of required construction warranty repair work, the Contractor shall respond in a timely manner. Written verification will follow oral instructions. Failure of the Contractor to respond will be cause for the Contracting Officer to proceed against the Contractor.

1.2.3 Pre-Warranty Conference

Prior to contract completion, and at a time designated by the Contracting Officer, the Contractor shall meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of this section. Communication procedures for Contractor notification of construction warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the Contracting Officer for the execution of the construction warranty shall be established/reviewed at this meeting. In connection with these requirements and at the time of the Contractor's quality control completion inspection, the

Contractor shall furnish the name, telephone number, e-mail address and address of a licensed and bonded company which is authorized to initiate and pursue construction warranty work action on behalf of the Contractor. This point of contact shall be located within the local service area of the warranted construction, shall be continuously available, and shall be responsive to Government inquiry on warranty work action and status. This requirement does not relieve the Contractor of any of its responsibilities in connection with other portions of this contract.

NOTE: Local service area is defined as the area in which the Contractor or his representative can meet the response times as described in paragraph 1.2.4 below and in any event shall not exceed 200 miles radius of the construction site.

1.2.4 Contractor's Response to Construction Warranty Service Requirements

Following oral or written notification by the Government, the Contractor shall respond to construction warranty service requirements in accordance with the "Construction Warranty Service Priority List" and the three categories of priorities listed below. The Contractor shall submit a report on any warranty item that has been repaired during the warranty period within two working days of repair completion. The report shall include the cause of the problem, date reported, corrective action taken, and when the repair was completed. Interim status reports shall be submitted weekly on repairs that have not yet been completed. If the Contractor does not perform the construction warranty work within the timeframes specified, the Government will perform the work and backcharge the Contractor.

a. First Priority Code 1 - Safety/Life & Health/Emergency: Perform onsite inspection to evaluate situation and determine course of action within 4 hours, initiate work within 6 hours and work continuously to completion or relief.

b. Second Priority Code 2 – Property Damage/Severe Inconvenience/Urgent: Perform onsite inspection to evaluate situation and determine course of action within 8 hours, initiate work within 24 hours and work continuously to completion or relief.

c. Third Priority Code 3. All other work to be initiated within 3 work days and work continuously to completion or relief.

d. The "Construction Warranty Service Priority List" is as follows (the applicable priority will be determined by the Government in its sole discretion):

Code 1-Roof Leaks
Temporary repairs shall be made where major damage to property is occurring.

Code 2-Roof Leaks
Where major damage to property is not occurring, check for location of leak during rain and complete repairs on a Code 2 basis.

Code 3-All other work not listed above.

END OF SECTION

SECTION 01705 – NOT USED

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SECTION 06100

ROUGH CARPENTRY

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.

AMERICAN FOREST & PAPER ASSOCIATION (AF&PA)

AF&PA T101 (1991; Supple 1993; Addenda Apr 1997; Supple T02) National Design Specification for Wood Construction

AF&PA T10 (2001) Wood Frame Construction Manual for One- and Two-Family Dwellings

AMERICAN HARDBOARD ASSOCIATION (AHA)

AHA A135.4 (1995) Basic Hardboard

AHA A194.1 (1985) Cellulosic Fiber Board

AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC)

AITC 109 (1990) Standard for Preservative Treatment of Structural Glued Laminated Timber

AITC 111 (1979) Recommended Practice for Protection of Structural Glued Laminated Timber During Transit, Storage and Erection

AITC A190.1 (1992) Wood Products - Structural Glued Laminated Timber

AITC OT-01 (1994) Timber Construction Manual

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A 208.1 (1999) Particleboard Mat Formed Woods

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 307 (2000) Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength

ASTM C 1136 (1995) Flexible, Low Permeance Vapor Retarders for Thermal Insulation

ASTM C 1177/C 1177M (1999) Glass Mat Gypsum Substrate for Use as Sheathing

ASTM C 1289 (1998) Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board

ASTM C 208 (1995) Cellulosic Fiber Insulating Board

ASTM C 516 (1980; R 1996el) Vermiculite Loose Fill Thermal Insulation

ASTM C 518 (1998) Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

ASTM C 549 (1981; R 1995el) Perlite Loose Fill Insulation

ASTM C 552 (2000) Cellular Glass Thermal Insulation

ASTM C 553 (1999) Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications

ASTM C 578 (1995) Rigid, Cellular Polystyrene Thermal Insulation

ASTM C 591 (1994) Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation

ASTM C 612 (2000) Mineral Fiber Block and Board Thermal Insulation

ASTM C 665 (1998) Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing

ASTM C 726 (2000) Mineral Fiber Roof Insulation Board

ASTM C 739 (2000) Cellulosic Fiber (Wood-Base) Loose-Fill Thermal Insulation

ASTM C 764 (1999) Mineral Fiber Loose-Fill Thermal Insulation

ASTM C 79/C 79M (2000) Treated Core and Nontreated Core Gypsum Sheathing Board

ASTM D 2898 (1994; R 1999) Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing

ASTM D 3498 (1999) Standard Specification for Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems

ASTM E 154 (1988; R 1999) Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover

ASTM E 84 (2000a) Surface Burning Characteristics of Building Materials

ASTM E 96 (2000) Water Vapor Transmission of Materials

ASTM F 547 (1977; R 1995) Definitions of Terms Relating to Nails for Use with Wood and Wood-Based Materials

AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWPA)

AWPA C2 (2000) Lumber, Timber, Bridge Ties and Mine Ties - Preservative Treatment by Pressure Processes

AWPA C20 (1999) Structural Lumber Fire-Retardant Pressure Treatment

AWPA C27 (1999) Plywood - Fire-Retardant Pressure Treatment

AWPA C9 (1997) Plywood - Preservative Treatment by Pressure Processes

AWPA M4 (1999) Standard for the Care of Preservative-Treated Wood Products

AWPA P5 (2000) Standards for Waterborne Preservatives

APA - THE ENGINEERED WOOD ASSOCIATION (APA)

APA EWS R540C (1996) Builder Tips Proper Storage and Handling of Glulam Beams

APA EWS T300E (2002) Technical Note: Glulam Connection Details

APA E445S (2001; R 2002) Performance Standards and Policies for Structural-Use Panels (APA PRP-108)

FACTORY MUTUAL ENGINEERING AND RESEARCH (FM)

FM DS 1-49 (2000) Perimeter Flashing

NATIONAL HARDWOOD LUMBER ASSOCIATION (NHLA)

NHLA Rules (1994) Rules for the Measurement & Inspection of Hardwood & Cypress

NORTHEASTERN LUMBER MANUFACTURERS ASSOCIATION (NELMA)

NELMA Grading Rules (1997) Standard Grading Rules for Northeastern Lumber

REDWOOD INSPECTION SERVICE (RIS)

RIS Grade Use (1997) Grades of California Redwood Lumber

SOUTHERN CYPRESS MANUFACTURERS ASSOCIATION (SCMA)

SCMA Spec (1986; Supple No. 1, Aug 1993) Standard Specifications for Grades of Southern Cypress

SOUTHERN PINE INSPECTION BUREAU (SPIB)

SPIB 1003 (1994; Supple 8 thru 11) Standard Grading Rules for Southern Pine Lumber

TRUSS PLATE INSTITUTE (TPI)

TPI 1 (1995; Errata) National Design Standard for Metal Plate-Connected Wood Truss Construction and Commentary; and Appendix 1

TPI HIB (1991) Handling, Installing and Bracing of Metal Plate Connected Wood Trusses

U.S. DEPARTMENT OF COMMERCE (DOC)

PS1 (1995) Construction and Industrial Plywood

PS2 (1993) Wood-Base Structural-Use Panels

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

16 CFR 1209 Interim Safety Standard for Cellulose Insulation

WEST COAST LUMBER INSPECTION BUREAU (WCLIB)

WCLIB 17 (1996; Supp. VII & VIII) Standard Grading and Dressing Rules for Douglas Fir, Western Hemlock, Western Red Cedar, White Fir, Sitka Spruce Lumber

WESTERN WOOD PRODUCTS ASSOCIATION (WWPA)

WWPA G-5 (1999) Western Lumber Grading Rules 95

1.2 SUBMITTALS

Not used.

SD-02 Shop Drawings

Not used.

SD-03 Product Data

Not used.

SD-07 Certificates

In accordance with Fort Lewis Policy Statement PW-005, "Sustainable Facility, Construction, and Operations Policy," dated 05 August 2003, the following provisions are adopted. The Contractor shall state in writing to the Contracting Officer, within 30 days after Contract Award, that he has completed a source search and intends to comply with the following requirements: (Justification for non-compliance is allowed, with notification to the Contracting Officer, if products are not available, do not meet requirements of these specifications, or are not priced within 10 percent of non-certified products. In such a case, a new search will be conducted, and the Contracting Officer notified in writing of the result, each time the Contract is renewed.)

Forest Stewardship Council (FSC) Certification;

A minimum of 50% of wood-based materials furnished for work under this contract must be certified in accordance with the Forest Stewardship Council (FSC) guidelines for wood building components.

Insulation;

Insulation, which may include including cellulose, perlite, glass and mineral fiber, glass mat gypsum roof board, polyurethane, or polyisocyanurate insulation, shall include recycled content in accordance with the requirements of Section 01670, "Recycled/ Recovered Materials," and Section 07220, "Roof and Deck Insulation." The Contractor's certification shall include an estimated percent of such recovered material in products proposed for installation on Fort Lewis.

1.3 DELIVERY AND STORAGE

Materials shall be delivered to the site in undamaged condition, stored off ground in fully covered, well ventilated areas, and protected from extreme changes in temperature and humidity. Laminated timber shall be handled and stored in accordance with AITC 111 or APA EWS R540C.

PART 2 PRODUCTS

2.1 LUMBER AND SHEATHING

2.1.1 Grading and Marking

2.1.1.1 Lumber Products

Solid sawn and finger-jointed lumber shall bear an authorized gradestamp or grademark recognized by ALSC, or an ALSC recognized certification stamp, mark, or hammerbrand. Surfaces that are to be exposed to view shall not bear grademarks, stamps, or any type of identifying mark. Hammer marking will be permitted on timbers when all surfaces will be exposed to view.

2.1.1.2 Fabricated Structural Members

Wood trusses shall be fabricated in accordance with TPI 1. Laminated timbers shall be marked with a quality mark indicating conformance to AITC A190.1. Engineered wood joists and rafters shall be fabricated using an approved quality control system to meet specified requirements.

2.1.1.3 Plywood and Other Sheathing Products

Materials shall bear the grademark or other identifying marks indicating grades of material and rules or standards under which produced, including requirements for qualifications and authority of the inspection organization. Except for plywood and wood structural panels, bundle marking will be permitted in lieu of marking each individual piece. Surfaces that are to be exposed to view shall not bear grademarks or other types of identifying marks.

2.1.2 Sizes

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

2.1.3 Treatment

Exposed areas of treated wood that are cut or drilled after treatment shall receive a field treatment in accordance with AWPA M4. Items of all-heart material of cedar, cypress, or redwood will not require preservative treatment, except when in direct contact with soil. Except as specified for all-heart material of the previously mentioned species, the following items shall be treated:

a. Wood members in contact with or within 455 mm (18 inches) of soil.

b. Wood members in contact with water.

c. Wood members exposed to the weather and those used in roofing systems or as nailing strips or nailers over fiberboard or gypsum-board wall sheathing as a base for wood siding.

d. Wood members set into concrete regardless of location, including flush-with-deck wood nailers for roofs.

e. Wood members in contact with concrete that is in contact with soil or water or that is exposed to weather.

2.1.3.1 Lumber and Timbers

Lumber and timbers shall be treated in accordance with AWPA C2 with waterborne preservatives listed in AWPA P5 to a retention level as follows:

a. 4 kg per cubic meter (0.25 pcf) intended for above ground use.

b. 6.4 kg per cubic meter (0.40 pcf) intended for ground contact and fresh water use.

2.1.3.2 Plywood

Plywood shall be treated in accordance with AWPA C9 with waterborne preservatives listed in AWPA P5 to a retention level as follows:

a. 4 kg per cubic meter (0.25 pcf) intended for above ground use.

b. 6.4 kg per cubic meter (0.40 pcf) intended for ground contact and fresh water use.

2.1.4 Moisture Content

At the time lumber and other materials are delivered and when installed in the work their moisture content shall be as follows:

a. Treated and Untreated Lumber Except Roof Planking: 100 mm (4 inches) or less, nominal thickness, 19 percent maximum. 125 mm (5 inches) or more, nominal thickness, 23 percent maximum in a 75 mm (3 inch) perimeter of the timber cross-section.

b. Roof Planking: 15 percent maximu m.

c. Materials Other Than Lumber: In accordance with standard under which product is produced.

2.1.5 Fire-Retardant Treatment

Fire-retardant treated wood shall be pressure treated in accordance with AWPA C20 for lumber and AWPA C27 for plywood. Treatment and performance inspection shall be by an independent and qualified testing agency that establishes performance ratings. Each piece or bundle of treated material shall bear identification of the testing agency to indicate performance in accordance with such rating. Treated materials to be exposed to rain wetting shall be subjected to an accelerated weathering technique in accordance with ASTM D 2898 prior to being tested for compliance with AWPA C20 or AWPA C27.

2.1.6 Structural Wood Members

Species and grades shall be as listed in AF&PA T101. Structural lumber shall not be replaced without direction from the Contracting Officer. Design of members and fastenings shall conform to AITC OT-01. Other stress graded or dimensioned items such as blocking, carriages, and studs shall be standard or No. 2 grade except that studs may be Stud grade.

2.1.6.1 Trussed Rafters

As an option to standard rafters, trussed rafters may be provided. Connections shall be made with light-metal plate-connectors. Light-metal-plate-connected wood trusses shall be designed and fabricated in conformance with TPI 1. When new plate configuration is proposed, load testing of trusses is required and shall conform to Appendix D of TPI 1.

2.1.6.2 Structural Glued Laminated Members

Members shall conform to AITC A190.1. Structural members shall not be replaced without direction from the Contracting Officer. Adhesives used in fabrication shall meet the requirements of dry use service. Members shall be industrial appearance grade, sealed with a penetrating sealer or treated with preservative, and individually wrapped. Preservative treatment shall be in accordance with AITC 109. Members shall be complete with hardware for joining laminated members and for their connection to other construction.

2.1.6.3 Engineered Wood Joists and Rafters

As an option to standard rafters, engineered wood joists and rafters may be provided. Engineered wood rafters shall be wood I-joists manufactured in accordance with a nationally recognized code and installed in accordance with the manufacturer's recommendations.

2.1.7 Sheathing

Sheathing shall be fiberboard, gypsum board, plywood, wood structural panels, or wood for wall sheathing; and plywood, wood structural panels, or wood for roof sheathing.

2.1.7.1 Fiberboard

Fiberboard shall conform to ASTM C 208, Type IV, Grade 2, Structural Grade, or AHA A194.1, Type IV, Grade 2 asphalt impregnated or asphalt coated to be water-resistant but vapor permeable.

2.1.7.2 Gypsum Sheathing Board

Glass mat gypsum sheathing shall conform to ASTM C 79/C 79M and ASTM C 1177/C 1177M. Gypsum board shall conform to ASTM C 79/C 79M, 13 mm thick (1/2 inch thick), 1200 mm (4 feet) wide with straight edges for supports 400 mm (16 inches) on center without corner bracing of framing or for supports 600 mm (24 inches) on center with corner bracing of framing; 600 mm wide (2 feet wide) with V-tongue and groove edges for supports 400 or 600 mm (16 or 24 inches) on center with corner bracing of framing.

2.1.7.3 Plywood

Plywood shall conform to PS1, APA E445S or PS2, Grade C-D or sheathing grade with exterior glue. Sheathing for roof and walls without corner bracing of framing shall have a span rating of 16/0 or greater for supports 400 mm (16 inches) on center and a span rating of 24/0 or greater for supports 600 mm (24 inches) on center.

2.1.7.4 Wood Structural Panels

Panels shall meet the qualification requirements of APA E445S or PS2 for rated sheathing, Exposure 1 or Structural I rated sheathing, Exposure 1. Sheathing for roofs or walls without corner bracing of framing shall have a span rating of 16/0 or greater for supports 400 mm (16 inches) on center and shall have a span rating of 24/0 or greater for supports 600 mm (24 inches) on center.

2.1.7.5 Wood

Species and grade shall be in accordance with TABLE I at the end of this section. Wall sheathing shall be 25 mm (1 inch) thick for supports 400 or 600 mm (16 or 24 inches) on center without corner bracing of framing provided sheathing is applied diagonally. Roof sheathing shall be 25 mm (1 inch) thick for supports 400 or 600 mm (16 or 24 inches) on center.

2.1.8 Subflooring

Not used.

2.1.8.3 Wood

Species and grade shall be in accordance with TABLE I at the end of this section, 25 mm (1 inch) thick, center-matched, shiplapped, or square edge.

2.1.9 Underlayment

Underlayment shall conform to one of the following:

2.1.9.1 Hardboard

AHA A135.4 service class, sanded one side, 6 mm (1/4 inch) thick, 1200 mm (4 feet) wide.

2.1.9.2 Particleboard

ANSI A208.1, Grade 1-M-1, 6 mm (1/4 inch) thick, 1200 x 1200 mm. (4 x 4 feet.)

2.1.9.3 Plywood

Plywood shall conform to PS1, underlayment grade with exterior glue, or C-C (Plugged) exterior grade 9 mm (11/32 inch) thick, 1200 mm (4 feet) wide.

2.1.10 Shear Wall Panels

Not used.

2.1.11 Roof Decking

Roof decking shall be commercial grade with minimum design value of [0.9] [7.6] MPa (130 psi) in bending. Decking shall be 50 mm (2 inches) thick with single tongue and groove100 mm; V-jointed, matched and dressed. As an option, fabricated laminated lumber decking with interlocking tongue and groove joints may be provided.

2.1.12 Miscellaneous Wood Members

2.1.12.1 Nonstress Graded Members

Members shall include bridging, corner bracing, furring, grounds, and nailing strips. Members shall be in accordance with TABLE I for the species used. Sizes shall be as follows unless otherwise shown:

Member	Size mm (inch)
Bridging	25 x 75 (1 x 3) or 25 x 100 (1 x 4) for use between members 50 x 300 (2 x 12) and smaller; 50 x 100 (2 x 4) for use between members larger than 50 x 300 (2 x 12).
Corner bracing	25 x 100 (1 x 4).
Furring	25 (1) x [50 (2)] [75 (3)]
Grounds	Plaster thickness by 38.
Nailing strips	25 x 75 (1 x 3) or 25 x 100 (1 x 4) when used as shingle base or interior finish, otherwise 50 mm (2 inch) stock.

2.1.12.2 Wood Bumpers

Not used.

2.1.12.3 Sill Plates

Sill plates shall be standard or number 2 grade.

2.1.12.4 Blocking

Blocking shall be standard or number 2 grade.

2.1.12.5 Rough Bucks and Frames

Rough bucks and frames shall be straight standard or number 2 grade.

2.2 ACCESSORIES AND NAILS

Markings shall identify both the strength grade and the manufacturer. Accessories and nails shall conform to the following:

2.2.1 Anchor Bolts

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

2.2.2 Bolts: Lag, Toggle, and Miscellaneous Bolts and Screws

Type, size, and finish best suited for intended use. Finish options include zinc compounds, cadmium, and aluminum paint impregnated finishes.

2.2.3 Clip Angles

Steel, 5 mm (3/16 inch) thick, size best suited for intended use; or zinc-coated steel or iron commercial clips designed for connecting wood members.

2.2.4 Expansion Shields

Type and size best suited for intended use.

2.2.5 Joist Hangers

Steel or iron, zinc-coated, size to fit members where used, sufficient strength to develop the full strength of supported member, complete with any special nails required.

2.2.6 Metal Bridging

Optional to wood bridging; zinc-coated steel, size and design to provide rigidity equivalent to specified wood bridging.

2.2.7 Nails and Staples

ASTM F 547, size and type best suited for purpose; staples shall be as recommended by the manufacturer of the materials to be joined. For sheathing and subflooring, length of nails shall be sufficient to extend 25 mm (1 inch) into supports. In general, 8-penny or larger nails shall be used for nailing through 25 mm (1 inch) thick lumber and for toe nailing 50 mm (2 inch) thick lumber; 16-penny or larger nails shall be used for nailing through 50 mm (2 inch) thick lumber. Nails used with treated lumber and sheathing shall be galvanized. Nailing shall be in accordance with the recommended nailing schedule contained in AF&PA T10. Where detailed nailing requirements are not specified, nail size and spacing shall be sufficient to develop an adequate strength for the connection. The connection's strength shall be verified against the nail capacity tables in AF&PA T101. Reasonable judgement backed by experience shall ensure that the designed connection will not cause the wood to split. If a load situation exceeds a reasonable limit for nails, a specialized connector shall be used.

2.2.8 Timber Connectors

Unless otherwise specified, timber connectors shall be in accordance with TPI 1, APA EWS T300E or AITC OT-01.

2.3 INSULATION

Thermal resistance of insulation shall be not less than the R-values shown. R-values shall be determined at 24 degrees C (75 degrees F) in accordance with ASTM C 518. Contractor shall comply with EPA requirements in conformance with Section 01670, "Recycled / Recovered Materials." Insulation shall be the standard product of a manufacturer and factory marked or identified with manufacturer's name or trademark and R-value. Identification shall be on individual pieces or individual packages. Materials containing more than one percent asbestos will not be allowed.

2.3.1 Batt or Blanket

2.3.1.1 Glass Fiber Batts and Rolls

Glass fiber batts and rolls shall conform to ASTM C 665, Type III foil faced insulation, Class A, having a UL rating of 25. Insulation shall have a 0.25 mm (10 mil) thick, white, puncture resistant woven-glass cloth with vinyl facing on one side. Width and length shall suit construction conditions. Glass fiber batts and rolls shall contain a total recovered materials content of 20-25 percent recovered glass cullet. Glass cullet shall conform to ASTM D 5359.

2.3.1.2 Mineral Fiber Batt

Mineral fiber batt shall conform to ASTM C 665, Type III foil faced insulation Class C. Mineral fiber shall contain a total recovered materials content by weight of core material as given in Section 07220, "Roof And Deck Insulation," para 2.1.3.

2.3.1.3 Mineral Fiber Blanket

Mineral fiber blanket shall conform to ASTM C 553, Type I, Class 6. Blankets shall be sized to suit construction conditions, resilient type for use below and above ambient temperature to 195 degrees C. (350 degrees F.) Blankets shall have a factory applied vapor-barrier facing on one side with 50 mm (2 inch) nailing tabs on both edges and shall contain a total recovered materials content by weight of core material as given in Section 07220, "Roof And Deck Insulation," para 2.1.3. Vapor barriers shall be fire retardant, high vapor transmission, and aluminum foil laminated to crepe paper type conforming to ASTM C 1136, Type II. Nominal density shall be 12 kg per cubic meter. (0.75 pcf.)

2.3.2 Loose Fill or Granular Fill

Not used.

2.3.2.4 Cellulosic or Wood Fiber

Cellulosic or wood fiber shall conform to ASTM C 739 or 16 CFR 1209 with minimum recovered material content by weight of wood-based cellulosic fibers as given in Section 07220, "Roof And Deck Insulation," para 2.1.3.

2.3.3 Sill Sealer

Mineral wool, 25 mm (1 inch) thick and compressible to 0.8 mm, (1/32 inch,) width of sill, designed to perform as an air, dirt, and insect seal in conformance with ASTM C 665, Type I.

2.3.4 Rigid Insulation

2.3.4.1 Polystyrene Board

Polystyrene board shall be extruded and conform to ASTM C 578, Type IV and shall contain minimum recovered material content by weight of core material as given in Section 07220, "Roof And Deck Insulation," para 2.1.3.

2.3.4.2 Polyurethane or Polyisocyanurate Board

Polyurethane or polyisocyanurate board shall have a minimum recovered material content by weight of core material as given in Section 07220, "Roof And Deck Insulation," para 2.1.3 in the polyurethane or polyisocyanurate portion. Unfaced preformed polyurethane shall conform to ASTM C 591. Faced polyisocyanurate shall conform to ASTM C 1289.

2.3.4.3 Glass Fiber or Insulation Board

Glass mat gypsum roof board shall conform to ASTM C 1177/C 1177M, flame spread 0, smoke developed 0, psi 500, water resistant. Glass fiber or insulation board shall conform to ASTM C 612, Type 1A with a minimum recovered material content by weight of glass fiber core material as given in Section 07220, "Roof And Deck Insulation," para 2.1.3.

2.3.4.4 Mineral Fiber Block and Board

Mineral fiber block and board shall conform to ASTM C 612 or ASTM C 726 with a minimum recovered material content by weight of core material as given in Section 07220, "Roof And Deck Insulation," para 2.1.3.

2.3.4.5 Cellular Glass

Cellular glass shall conform to ASTM C 552.

2.4 VAPOR RETARDER

Vapor retarder shall be polyethylene sheeting conforming to ASTM E 154 or other equivalent material. Vapor retarder shall have a maximum vapor permeance rating of 29 ng per Pa per second per square meter (0.5 perms) as determined in accordance with ASTM E 96, unless otherwise specified.

2.5 AIR INFILTRATION BARRIER

Air infiltration barrier shall be building paper meeting the requirements of ASTM C 1136, Type IV, style optional or a tear and puncture resistant olefin building wrap (polyethylene or polypropylene) with a moisture vapor transmission rate of 125 g per square meter per 24 hours (125 g per square meter per 24 hours) in accordance with ASTM E 96, Desiccant Method at 23 degrees C or with a moisture vapor transmission rate of 670 g per square meter per 24 hours (670 g per square meter per 24 hours) in accordance with ASTM E 96, Water Method at 23 degrees C.

PART 3 EXECUTION

3.1 INSTALLATION OF FRAMING

3.1.1 General

General framing shall be in accordance with AF&PA T10. Members shall be closely fitted, accurately set to required lines and levels, and rigidly secured in place. Members shall be framed for passage of ducts. Members shall be cut, notched, or bored in accordance with applicable requirements of AF&PA T101 for the passage of pipes, wires, or conduits. Rafters, purlins, and joists shall be set with crown edge up. Framing shall be kept at least 50 mm (2 inches) away from chimneys and 100 mm (4 inches) away from fireplace backwalls. When joists, beams, and girders are placed on masonry or concrete, a wood base plate shall be positioned and leveled with grout. The joist, beam, or girder shall then be placed on the plate. When joists, beams, and girders are set into masonry or concrete, a pocket shall be formed into the wall. The joist, beam, or girder shall then be placed into the pocket and leveled with a steel shim.

3.1.2 Structural Members

Members shall be adequately braced before erection. Members shall be aligned and all connections completed before removal of bracing. Individually wrapped members shall be unwrapped only after adequate protection by a roof or other cover has been provided. Scratches and abrasions of factory-applied sealer shall be treated with two brush coats of the same sealer used at the factory.

3.1.3 Partition and Wall Framing

Unless otherwise shown, studs shall be spaced 400 mm (16 inches) on centers. Studs shall be doubled at openings. Unless otherwise indicated, headers for openings shall be made of two pieces of stud material set on edge or solid lumber of equivalent size, and corners shall be constructed of not less than three full members. End studs of partitions abutting concrete or masonry shall be anchored thereto with expansion bolts, one near each end of each stud and at intermediate intervals of not more than 1200 mm. (4 feet.) Plates of partitions resting on concrete floors shall be anchored in place with expansion bolts, one near each end of each piece and at intermediate intervals of not more than 1800 mm (6 feet) between bolts. In lieu of expansion bolts, anchoring into concrete may be accomplished with powder-driven threaded studs of suitable type and size and spaced at 900 mm (3 feet) on center. Walls and

load bearing partitions shall be provided with double top plates with members lapped at least 600 mm (2 feet) and well spiked together.

3.1.4 Floor (Ceiling) Framing

Except where otherwise indicated joists shall have bearings not less than 100 mm (4 inches) on concrete or masonry and 40 mm (1-1/2 inches) on wood or metal. Joists, trimmers, headers, and beams framing into carrying members at the same relative levels shall be carried on joist hangers. Joists shall be lapped and spiked together at bearings or butted end-to-end with scab ties at joint and spiked to plates. Openings in floors shall be framed with headers and trimmers. Headers carrying more than two tail joists and trimmers supporting headers carrying more than one tail joist shall be doubled, unless otherwise indicated. Joists shall be doubled under partitions parallel with floor joists. Joists built into masonry shall be provided with a beveled fire cut so that the top of the joist does not enter the wall more than 25 mm (1 inch) or standard steel wall bearing boxes. Engineered wood joists shall be installed in accordance with distributor's instructions.

3.1.5 Roof Framing or Rafters

Tops of supports or rafters shall form a true plane. Valley, ridge, and hip members shall be of depth equal to cut on rafters where practicable, but in no case less than depth of rafters. Valleys, hips, and ridges shall be straight and true intersections of roof planes. Necessary crickets and watersheds shall be formed. Rafters, except hip and valley rafters, shall be spiked to wall plate and to ceiling joists with no less than three 8-penny nails or bolted by angles. Rafters shall be toe-nailed to ridge, valley, or hip members with at least three 8-penny nails. Rafters shall be braced to prevent movement until permanent bracing, decking or sheathing is installed. Hip and valley rafters shall be secured to wall plates by clip angles. Openings in roof shall be framed with headers and trimmers. Unless otherwise indicated, headers carrying more than two rafters and trimmers supporting headers carrying more than one rafter shall be double. Hip rafters longer than the available lumber shall be butt jointed and scabbed. Valley rafters longer than the available lumber shall be double, with pieces lapped not less than 1200 mm (4 feet) and well spiked together. Trussed rafters shall be installed in accordance with TPI HIB. Engineered wood joists shall be installed in accordance with distributor's instructions.

3.2 INSTALLATION OF SHEATHING

3.2.1 Fiberboard

Sheathing shall be applied with edges 3 mm (1/8 inch) apart at joints, fitted snugly at abutting frames of openings, and nailed or stapled in accordance with the manufacturer's approved instructions. Sheets shall be applied vertically, extended over top and bottom plates, and with all vertical and horizontal joints over supports.

3.2.2 Gypsum Board

Sheathing shall be applied with edges in light contact at joints and nailed in accordance with the manufacturer's approved instructions. Sheets 600 mm (2 feet) wide shall be applied horizontally with tongued edge up, with vertical joints over supports, and with vertical joints staggered. Sheets 1200 mm (4 feet) wide shall be applied vertically, extended over top and bottom plates, and with all vertical and horizontal joints over supports.

3.2.3 Plywood and Wood Structural Panels

Sheathing shall be applied with edges 3 mm (1/8 inch) apart at side and end joints, and nailed at supported edges at 150 mm (6 inches) on center and at intermediate supports 300 mm (12 inches) on center unless otherwise shown. Nailing of edges shall be 10 mm (3/8 inch) from the edges. Wall sheathing shall extend over top and bottom plates, and if applied horizontally the vertical joints shall be made over supports and staggered. Wall sheathing over which wood shingles are to be applied shall be applied horizontally. Roof sheathing shall be applied with long dimension at right angles to supports, end joints made over supports, and end joints staggered.

3.2.4 Wood

Sheathing end joints shall be made over framing members and so alternated that there will be at least two boards between joints on the same support. Each board shall bear on at least three supports. Boards shall be nailed at each support using two nails for boards 150 mm (6 inches) and less in width and three nails for boards more than 150 mm (6 inches) in width. Roof sheathing shall not be installed where roof decking is installed.

3.3 INSTALLATION OF SUBFLOORING

Not used.

3.4 INSTALLATION OF UNDERLAYMENT

3.4.1 Hardboard

Underlayment shall be applied with edges 0.8 mm (1/32 inch) apart at joints and nailed at edges 150 mm (6 inches) on center and at 150 mm (6 inches) on center throughout remainder of panel. Nailing at edges shall be 10 mm (3/8 inch) from edges. A clearance of 6 mm(1/4 inch) shall be provided at walls. Joints of underlayment shall not be located directly over parallel joints of subflooring. Power-driven wire staples of lengths recommended by the underlayment manufacturer may be used in lieu of nails. Any surface roughness at nail heads or joints shall be lightly sanded to blend with the undisturbed surface.

3.4.2 Part icleboard

Underlayment shall be applied with edges 0.8 mm (1/32 inch) apart at joints and nailed at edges 150 mm (6 inches) on center and at 250 mm (10 inches) on center throughout remainder of panel. Nailing at edges shall be 10 mm (3/8 inch) from edges. A clearance of 6 mm (1/4 inch) shall be provided at walls. Joints of underlayment shall not be located directly over parallel joints of subflooring. Power-driven wire staples of lengths recommended by the underlayment manufacturer may be used in lieu of nails. Any surface roughness at nail heads or joints shall be lightly sanded to blend with the undisturbed surface.

3.4.3 Plywood

Underlayment shall be applied with edges 0.8 mm (1/32 inch) apart at joints and nailed at edges 150 mm (6 inches) on center and at 200 mm (8 inches) on center throughout remainder of panel for panels 9 mm (11/32 inch) and thicker. Thinner panels shall be nailed at edges 75 mm (3 inches) on center and at 150 mm (6 inches) on center throughout remainder of panel. Nailing at edges shall be 10 mm (3/8 inch) from edges. A clearance of 6 mm (1/4 inch) shall be provided at walls. Joints of underlayment shall not be located directly over parallel joints of subflooring. Power-driven wire staples of lengths recommended by the underlayment manufacturer may be used in lieu of nails. When plywood combination subfloor-underlayment is used in lieu of separate layers, it shall be installed as specified for plywood subfloor, except all joints shall be made over supports with edge and joints spaced 3 mm (1/8 inch) apart. When plywood combination subfloor-underlayment is tongued and grooved, only end joints shall require support. Tongued and grooved combination subfloor-underlayment shall be applied with joints spaced 3 mm (1/8 inch) apart. Any surface roughness at nail heads or joints shall be lightly sanded to blend with the undisturbed surface..

3.5 INSTALLATION OF SHEAR WALLS

Not used.

3.6 INSTALLATION OF MISCELLANEOUS WOOD MEMBERS

3.6.1 Bridging

Wood bridging shall have ends accurately bevel-cut to afford firm contact and shall be nailed at each end with two nails. Metal bridging shall be installed as recommended by the manufacturer. The lower ends of bridging shall be driven up tight and secured after subflooring or roof sheathing has been laid and partition framing installed.

3.6.2 Corner Bracing

Corner bracing shall be installed when required by type of sheathing used or when siding, other than panel siding, is applied directly to studs. Corner bracing shall be let into the exterior surfaces of the studs at an angle of approximately 45 degrees, shall extend completely over wall plates, and shall be secured at each bearing with two nails.

3.6.3 Blocking

Blocking shall be provided as necessary for application of siding, sheathing, subflooring, wallboard, and other materials or building items, and to provide firestopping. Blocking for firestopping shall ensure a maximum dimension of 2400 mm (8 feet) for any concealed space. Blocking shall be cut to fit between framing members and rigidly nailed thereto.

3.6.4 Nailers and Nailing Strips

Nailers and nailing strips shall be provided as necessary for the attachment of finish materials. Nailers used in conjunction with roof deck installation shall be installed flush with the roof deck system. Stacked nailers shall be assembled with spikes or nails spaced not more than 450 mm (18 inches) on center and staggered. Beginning and ending nails shall not be more than 150 mm (6 inches) for nailer end. Ends of stacked nailers shall be offset approximately 300 mm (12 inches) in long runs and alternated at corners. Anchors shall extend through the entire thickness of the nailer. Strips shall be run in lengths as long as practicable, butt jointed, cut into wood framing members when necessary, and rigidly secured in place. Nailers and nailer installation for Factory Mutual wind uplift rated roof systems specified in other Sections of these specifications shall conform to the recommendations contained in FM DS 1-49.

3.6.5 Wood Grounds

Wood grounds shall be provided as necessary for attachment of trim, finish, and other work to plaster. Grounds shall be run in lengths as long as practicable, butt jointed, and rigidly secured in place.

3.6.6 Furring Strips

Furring strips shall be provided at the locations shown. Furring strips shall be installed at 400 mm (16 inches) on center unless otherwise shown, run in lengths as long as practicable, butt jointed and rigidly secured in place.

3.6.7 Rough Bucks and Frames

Rough bucks shall be set straight, true, and plumb, and secured with anchors near top and bottom of each wood member and at intermediate intervals of not more than 900 mm. (3 feet.) Anchors for concrete shall be expansion bolts, and anchors for masonry shall be 5 x 32 mm (3/16 x 1-1/4 inch) steel straps extending not less than 200 mm (8 inches) into the masonry and turned down 50 mm (2 inches) into the masonry.

3.6.8 Wood Bumpers

Wood bumpers shall be bored, countersunk and securely bolted in place.

3.6.9 Sill Plates

Sill plates shall be set level and square and anchor bolted at not more than 1800 mm (6 feet) on centers and not more than 300 mm (12 inches) from end of each piece. A minimum of two anchors shall be used for each piece.

3.7 INSTALLATION OF TIMBER CONNECTORS

Installation of timber connectors shall conform to applicable requirements of AF&PA T101.

3.8 INSTALLATION OF INSULATION

Insulation shall be installed after construction has advanced to a point that the installed insulation will not be damaged by remaining work. For thermal insulation the actual installed thickness shall provide the thermal resistance (R-values) shown. For acoustical insulation the installed thickness shall be as shown. Insulation shall be installed on the weather side of such items as electrical boxes and water lines. Unless otherwise specified, installation shall be in accordance with the manufacturer's recommendation.

3.9 INSTALLATION OF VAPOR RETARDER

Vapor retarder shall be applied to provide a continuous barrier at window and door frames, and at all penetrations such as electrical outlets and switches, plumbing connections, and utility service penetrations. Joints in the vapor retarder shall be lapped and sealed according to the manufacturer's recommendations.

3.10 SPECIAL INSPECTION AND TESTING FOR SEISMIC-RESISTING SYSTEMS

Not used.

3.11 INSTALLATION OF AIR INFILTRATION BARRIER

Air infiltration barrier shall be installed in accordance with the manufacturer's recommendations.

3.12 TABLES

TABLE I. SPECIES AND GRADE

Subflooring, Roof Sheathing, Wall Sheathing, Furring

Grading Rules	Species	Const Standard	No. 2 Comm	No. 2 Board Comm	No. 3 Comm
NHLA Rules					
	Cypress			2BC	
NELMA Grading Rules					
	Northern White Cedar				3C
	Eastern White Pine	CS			
	Northern Pine	CS			
	Balsam Fir				3C
	Eastern Hemlock-Tamarack				3C
RIS Grade Use					
	Redwood		2C		
SCMA Spec					
	Cypress			2BC	
SPIB 1003					
	Southern Pine		2C		
WCLIB 17					
	Douglas Fir-Larch	CS			
	Hemlock-Fir	CS			
	Sitka Spruce	CS			
	Mountain Hemlock	CS			
	Western Cedar	CS			
WWPA G-5					
	Douglas Fir-Larch	CS			
	Hemlock-Fir	CS			
	Idaho White Pine	CS			
	Lodgepole Pine			2BC	
	Ponderosa Pine			2BC	
	Sugar Pine			2BC	
	Englemann Spruce			2BC	
	Douglas Fir South			2BC	
	Mountain Hemlock			2BC	
	Subalpine Fir			2BC	
	Western Cedar			2BC	

TABLE II. SPECIES AND GRADE

Wood Bumpers

Grading Rules	Species	No. 1	No. 2
NHLA Rules			
	Red Oak	1	
NELMA Grading Rules			
	Northern Pine		2
	Eastern Hemlock-Tamarack		2
SPIB 1003			
	Southern Pine	1	
WCLIB 17			
	Douglas Fir-Larch		2
	Hemlock-Fir		2
WWPA G-5			
	Douglas Fir-Larch		2
	Hemlock-Fir		2
	Douglas Fir-South		2

END OF SECTION

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SECTION 07220

ROOF AND DECK INSULATION

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 the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 208 (1995); (R 2001) Cellulosic Fiber Insulating Board

ASTM C 552 (2000) Cellular Glass Thermal Insulation

ASTM C 578 (2001) Rigid, Cellular Polystyrene Thermal Insulation

ASTM C 726 (2000, Rev A) Mineral Fiber Roof Insulation Board

ASTM C 728 (1997) Perlite Thermal Insulation Board

ASTM C 984 (1994) Perlite Board and Rigid Cellular Polisocyanurate Composite Roof Insulation

ASTM C 1050 (1991) Rigid Cellular Polystyrene- Cellulosic Fiber Composite Roof Insulation

ASTM C 1177/C 1177M (2001) Glass Mat Gypsum Substrate for Use as Sheathing

ASTM C 1289 (2000) Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board

ASTM D 41 (1994) Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing

ASTM D 226 (1997, Rev A) Asphalt-Saturated Organic Felt Used in Roofing and Insulation

ASTM D 312 (2000; Rev. A) Asphalt Used in Roofing

ASTM D 2178 (1997; Rev. A) Asphalt Glass Felt Used in Roofing and Waterproofing

ASTM D 4586 (2000) Asphalt Roof Cement, Asbestos Free

ASTM D 4601 (1998) Asphalt-Coated Glass Fiber Base Sheet Used in Roofing

ASTM D 4897 (1998) Asphalt-Coated Glass-Fiber Venting Base Sheet Used in Roofing

ASTM E 84 (2001) Surface Burning Characteristics of Building Materials

FACTORY MUTUAL ENGINEERING AND RESEARCH (FM)

FM AS 4470 (1986; R 1992) Class I Roof Covers

FM P7825 (2001) Approval Guide

FM P7825c (2001) Approval Guide Building Materials

FM P9513 (1996) Loss Prevention Data for Roofing Contractors.

NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)

NRCA Roofing Manual (2001) NRCA Roofing And Waterproofing Manual, Fifth Edition except where Fourth Edition (1996) is cited.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 247 The Environmental Protection Agency (EPA) Comprehensive Procurement Guideline (CPG) for Products Containing Recovered Materials
UNDERWRITERS LABORATORIES (UL)

UL Bld Mat Dir (2001) Building Materials Directory

1.2 SUBMITTALS

Submittals are for Government information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Not used.

SD-03 Product Data

Manufacturer's standard information on products, thickness, grade, rated R-value, and installation methods. Provide information on recycled content where applicable.

1.3 MANUFACTURER'S CERTIFICATE

Not used.

1.4 QUALITY ASSURANCE

1.4.1 Insulation on Roof Decks

Roof insulation shall have a flame spread rating not greater than 75 and a smoke developed rating not greater than 150, exclusive of covering, when tested in accordance with ASTM E 84. Insulation bearing the UL label and listed in the UL Bld Mat Dir as meeting the flame spread and smoke developed ratings will be accepted in lieu of copies of test reports. Compliance with flame spread and smoke developed ratings will not be required when insulation has been tested as part of a roof construction assembly of the type used for this project and the construction is listed as fire-classified in the UL Bld Mat Dir or listed as Class I roof deck construction in the FM P7825. Insulation tested as part of a roof construction assembly shall bear UL or FM labels attesting to the ratings specified herein.

1.4.2 Foam Board on Roof Decks

Separate polyurethane or polystyrene insulation from a combustible or steel deck with a thermal barrier of glass mat gypsum roof board or roof insulation in accordance with the requirements of the UL Bld Mat Dir or the FM P7825.

1.5 DELIVERY, STORAGE, AND HANDLING

1.5.1 Delivery

Deliver materials to site in manufacturer's unopened and undamaged standard commercial containers bearing the following legible information:

a. Name of manufacturer;

b. Brand designation;

c. Specification number, type, and class, as applicable, where materials are covered by a referenced specification.

Deliver materials in sufficient quantity to allow continuity of the work.

1.5.2 Storage and Handling

Store and handle materials in a manner to protect from damage, exposure to open flame or other ignition sources, and from wetting, condensation or moisture absorption. Store in an enclosed building or trailer that provides a dry, adequately ventilated environment. Store felt rolls on ends. For the 24 hours immediately before application of felts, store felts in an area maintained at a temperature no lower than 10 degrees C (50 degrees F) above grade and having ventilation around all sides. Replace damaged material with new material.

1.6 ENVIRONMENTAL CONDITIONS

Do not install roof insulation during inclement weather or when air temperature is below 4 degrees C (40 degrees F) and interior humidity is 45 percent or greater, or when there is visible ice, frost, or moisture on the roof deck.

1.7 PROTECTION OF PROPERTY

1.7.1 Flame-Heated Equipment

The Fort Lewis Fire Department must be notified before any flame-heated equipment is used at Fort Lewis. Locate and use flame-heated equipment so as not to endanger the structure or other materials on the site or adjacent property. Do not place flame-heated equipment on the roof. Provide and maintain a fire extinguisher near each item of flame-heated equipment.

1.7.2 Protective Coverings

Install protective coverings at paving and building walls adjacent to hoist and kettles prior to starting the work. Lap protective coverings at least 150 mm (6 inches), secure them against wind, and vent them to prevent collection of moisture on the covered surfaces. Keep protective coverings in place for the duration of the work with asphalt products.

1.7.3 Special Protection

Provide special protection approved by the insulation manufacturer, or avoid heavy traffic on completed work when ambient temperature is above 27 degrees C (80 degrees F).

1.7.4 Drippage of Bitumen

Seal joints in and at edges of deck as necessary to prevent drippage of asphalt into building or down exterior walls.

PART 2 PRODUCTS

2.1 INSULATION

2.1.1 Insulation Types

Roof insulation shall be one or an assembly of a maximum of three of the following materials and compatible with attachment methods for the specified insulation and roof membrane:

a. Expanded Perlite Board: ASTM C 728. Minimum 19 mm (3/4 inch) thick when both top and bottom surfaces will be in contact with asphalt.

b. Polyisocyanurate Board: ASTM C 1289 Type I -- foil faced both sides Class 2 158 kPa(and shall be a hydrochlorofluorocarbon (HCFC) free product equal to Atlas Corp. "ACUltra Technology" polyiso. No HCFC-content polyiso insulation shall be installed at Fort Lewis. For impermeable faced polyiso (Ex: aluminum foil) the maximum design R-value per 1 inch of insulation used shall be 7.2).
In addition to provisions of ASTM C1289-95, polyisocyanurate insulation used on Fort Lewis shall be manufactured to the following criteria per National Roofing Contractor Association recommendations:
Dimensional stability: 2 percent maximum linear change when conditioned at 158 F (70 C) and 97 percent relative humidity for seven days.
Curing time: 24 hours minimum, plus an additional 24 hours minimum per inch (25 mm) of thickness, at a minimum of 60 F (16 C) before shipment from the manufacturer.

Board thickness: 2 inches (51 mm) maximum.
Also, as indicated in The NRCA Roofing and Waterproofing Manual, Fourth Edition, the following criteria apply:
Board size: 4-foot by 8-foot (1.2-m by 2.4-m) maximum board size for loose-laid and mechanically attached insulation boards, 4-foot by 4-foot (1.2-m by 1.2-m) maximum board size for insulation boards adhered to a substrate.
Board thickness: 2 inches (51 mm) maximum; when thicker total thicknesses are necessary, specify insulation boards in multiple layers to achieve the desired total thickness. When multiple insulation layers are used, the insulation board's joints in the top layer should be staggered vertically and offset from the joints in the underlaying layer(s).

c. Composite Boards: ASTM C 1289, Type III, perlite insulation board faced one side, fibrous felt or glass fiber mat membrane on other side. Type V, oriented strand board or waferboard on one side and fibrous felt or glass fiber mat membrane or aluminum foil on the other.; ASTM C 984 (Polyisocyanurate-perlite); or ASTM C 1050 (Polystyrene-wood fiberboard), Type III, Grade 1, Class A.

d. Cellular Glass Boards: ASTM C 552, Type IV.

e. Polystyrene Board: Shall be in accordance with ASTM C 578, Type II, IV, or X.

2.1.2 Mineral-Fiber Insulation Board

ASTM C 726.

2.1.3 Recovered Materials

Provide thermal insulation materials containing recycled materials to the extent practical. Per 40 CFR 247, The EPA-required minimum recycled material content for the listed materials are:

Perlite Composition Board:	23 percent postconsumer paper
Polyisocyanurate/polyurethane:	9 percent recovered material
Polystyrene	9 percent recovered material
Phenolic Rigid Foam:	5 percent recovered material
Glass Fiber Batts/Rolls:	20-25 percent recovered glass cullet
Mineral-Fiber:	75 percent recovered slag

For materials not listed, provide insulation whenever possible which has a minimum of 4 percent post consumer waste or 20 percent recycled material by weight of installed products as defined by (NIBS) September 1999.

2.1.4 Insulation Thickness

As necessary to provide a thermal resistance (R value) of R-30 or more for average thickness of tapered system. Thickness shall be based on the "R" value for aged insulation. Insulation over steel decks shall satisfy both specified R value and minimum thickness for width of rib opening recommended in insulation manufacturer's published literature.

2.1.5 Tapered Roof Insulation

One layer of the tapered roof insulation assembly shall be factory tapered to a slope of not less than one in 24 (1/2 inch per foot). Provide starter and filler blocks as required to provide the total thickness of insulation necessary to meet the specified slope and thermal conductance. Mitered joints shall be factory fabricated and shall consist of two diagonally cut boards or one board shaped to provide the required slopes. Identify each piece of tapered insulation board by color or other identity coding system, allowing the identification of different sizes of tapered insulation board required to complete the roof insulation system.

2.1.6 Cants and Tapered Edge Strips

Provide preformed cants and tapered edge strips of the same material as the roof insulation; or, when roof insulation material is unavailable, provide pressure-preservative treated wood, wood fiberboard, or rigid perlite board cants and edge strips as recommended by the roofing manufacturer. Face of cant strips shall have incline of 45 degrees and vertical height of 100 mm (4 inches). Taper edge strips at a rate of 85 to 125 mm per meter(one to 1 1/2 inch per foot) down to approximately 3 mm (1/8 inch) thick.

2.2 PROTECTION BOARD

For use as a thermal barrier (underlayment), fire barrier (overlayment), or protection board for hot-mopped, torched-down, or adhesively-applied roofing membrane over roof insulation.

2.2.1 Glass Mat Gypsum Roof Board

ASTM C 1177/C 1177M, 0 Flame Spread and 0 Smoke Developed when tested in accordance with ASTM E 84, 3450 kPa (500 psi), Class A, non-combustible, 1/4 to 5/8 inch thick, 4 by 8 feet board size.

2.3 BITUMENS

2.3.1 Asphalt Primer

ASTM D 41.

2.3.2 Asphalt

ASTM D 312, Type III or IV. Asphalt flash point, finished blowing temperature, and equiviscous temperature (EVT) for mop and for mechanical spreader application shall be indicated on bills of lading or on individual containers.

2.3.3 Asphalt Roof Cement

ASTM D 4586, Type I for horizontal surfaces and for surfaces sloped from 0 to 3 inches per foot, Type II for vertical and surfaces sloped more than 3 inches per foot.

2.4 SHEATHING PAPER FOR WOOD DECKS

Rosin-sized building paper or unsaturated felt weighing not less than 2.5 kilograms per 10 square meters(5 pounds per 100 square feet).

2.5 MOISTURE CONTROL

2.5.1 Vapor Retarder

2.5.1.1 Asphalt-Saturated Felt Base Sheet for Single Layer Application

ASTM D 4601, weighing not less than 17.5 kilograms per 10 square meters(35 pounds per 100 square feet).

2.5.1.2 Asphalt-Coated Glass Felt

ASTM D 2178, Type IV or VI.

2.5.2 Ventilating Felt for Concrete Decks

ASTM D 4897, Type II, non-perforated, with spot mopping holes where specified.

2.5.3 Organic Roofing

ASTM D 226, Type I.

2.6 FASTENERS

Flush-driven through flat round or hexagonal steel or plastic plates. Steel plates shall be zinc-coated, flat round not less than 35 mm (1 3/8 inch) diameter or hexagonal not less than 0.4 mm (28 gage). Plastic plates shall be high-density, molded thermoplastic with smooth top surface, reinforcing ribs and not less than 75 mm (3 inches) in diameter. Fastener head shall recess fully into the plastic plate after it is driven. Plates shall be formed to prevent dishing. Do not use bell-or cup-shaped plates. Fasteners shall conform to insulation manufacturer's recommendations except that holding power, when driven, shall be not less than 178 N (40 pounds) each in steel deck. Fasteners for steel or concrete decks shall conform to FM P7825c for Class I roof deck construction, and shall be spaced to withstand an uplift pressure of 2.87 kPa (60 pounds per square foot) or as recommended by the roofing system manufacturer.

2.6.1 Roofing Nails for Wood Decks

Barbed 3 mm (11 gage), zinc-coated nails with 11 to 16 mm (7/16 to 5/8 inch) diameter heads or annular ring shank, square head, one-piece composite nails. Nails shall be long enough to penetrate wood deck at least 16 mm (5/8 inch) but shall not protrude through underside of decking.

2.6.2 Fasteners for Plywood Decks

Annular ring shank, square head, one-piece composite nails long enough to penetrate into plywood decks approximately 13 mm (1/2 inch) but not protrude through underside of decking.

2.6.3 Fasteners for Steel Decks

Approved hardened penetrating fasteners or screws conforming to FM AS 4470 and listed in FM P7825c for Class I roof deck construction. Quantity and placement to withstand a minimum uplift pressure of 2.87 (60 psf) conforming to FM P7825 or as recommended by the roof system manufacturer.

2.6.4 Fasteners for Poured Concrete Decks

Approved hardened fasteners or screws to penetrate deck at least 25 mm (one inch) but not more than 38 mm (1 1/2 inches), conforming to FM AS 4470, and listed in FM P7825 for Class I roof deck construction. Quantity and placement to withstand an uplift pressure of 2.87 kPa (60 psf) conforming to FM P7825 or as recommended by the roof system manufacturer.

2.7 WOOD NAILERS

Pressure-preservative-treated as specified in Section 06100, "Rough Carpentry."

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

3.1.1 Surface Inspection

Surfaces shall be clean, smooth, and dry. Surfaces receiving vapor retarder shall be free of projections which might puncture the vapor retarder. Check roof deck surfaces, including surfaces sloped to roof drains and outlets, for defects before starting work. The Contractor shall inspect and approve the surfaces immediately before starting installation. Prior to installing vapor retarder, ventilating felt, and/or insulation, perform the following:

a. Examine wood decks to ascertain that deck boards have been properly nailed and that exposed nail heads have been set.

b. Examine steel decks to ensure that panels are properly secured to structural members and to each other and that surfaces of top flanges are flat or slightly convex.

c. Examine precast concrete decks to ensure that joints between precast units are properly grouted and leveled to provide suitable surfaces for installation of ventilating felt, vapor retarder, and/or insulation.

3.1.2 Surface Preparation

Correct defects and inaccuracies in roof deck surface to eliminate poor drainage and hollow or low spots and perform the following:

a. Install wood nailers the same thickness as insulation at eaves, edges, curbs, walls, and roof openings for securing cant strips, gravel stops, gutters, and flashing flanges. On decks with slopes of one in 12(one inch per foot) or more, install wood nailers perpendicular to slope for securing insulation and for backnailing of roofing felts. Space nailers in accordance with NRCA Roofing Manual.

b. Fill or cover cracks or knot holes larger than 13 mm (1/2 inch) in diameter in wood decks as necessary to form an unyielding surface.

c. Cover wood decks with a layer of rosin-sized building paper or unsaturated felt. Lap sides and ends not less than 75 mm (3 inches). Nail sufficiently to prevent tearing or buckling during installation.

d. Cover steel decks with a layer of insulation board of sufficient thickness to span the width of a deck rib opening, and conforming to fire safety requirements. Secure with piercing or self-drilling, self-tapping fasteners of quantity and placement conforming to FM P7825. Insulation joints parallel to ribs of deck shall occur on solid bearing surfaces only, not over open ribs.

e. Solidly apply asphalt primer to concrete decks at the rate of 4 liters per 10 square meters(one gallon per 100 square feet) of roof surface, stopping approximately 100 mm (4 inches) from joints between precast concrete units. Allow primer to dry thoroughly. Place felt strips, 100 mm (4 inches) or more in width, over joints, 50 mm (2 inches) on each side, between precast concrete units in a heavy coating of cold-applied asphalt roof cement.

3.2 INSTALLATION OF VAPOR RETARDER

Install vapor retarder in direct contact with venting felt or insulation. Vapor retarder shall consist of either two plies of No. 15 asphalt-saturated felt, two plies of asphalt-coated glass felt, or one layer of asphalt-saturated felt base sheet. Lay vapor retarder at right angles to direction of slope. Install first ply of felt or base sheet as specified herein for the specific deck. Apply second ply of 2-ply vapor retarder system using asphalt at rate of 10 to 18 kgs per 10 square meters(20 to 35 lbs per 100 square feet), applied within plus or minus 15 degrees C(25 degrees F) of EVT. Do not heat asphalt above asphalt's FBT or 275 degrees C (525 degrees F), whichever is less. Use

thermometers to check temperatures during heating and application. Side and end laps shall be completely sealed. Asphalt shall be visible beyond all edges of each ply as it is being installed. Plies shall be laid free of wrinkles, buckles, creases or fishmouths. Workers shall not walk on mopped surfaces when the asphalt is sticky. Press out air bubbles to obtain complete adhesion between surfaces. At walls, eaves and rakes, and other vertical surfaces, the vapor retarder organic felts shall be extended 225 mm, (9 inches,)or separate organic felt plies shall be extended 225 mm, (9 inches,)with not less than 225 mm (9 inches) on the substrate, and the extended portion turned back and mopped in over the top of the insulation. At roof penetrations other than walls, eaves and rakes, and vertical surfaces, the vapor retarder or separate plies shall be extended 225 mm (9 inches) to form a lap which shall later be folded back over the edge of the insulation. Asphalt roof cement shall be used under the vapor retarder for at least 225 mm (9 inches) from walls, eaves, rakes and other penetrations.

3.2.1 Vapor Retarder on Concrete Decks

Solidly mop primed substrate with asphalt at rate of 10 to 18 kgs per 10 square meters(20 to 35 lbs per 100 square feet) before installing vapor retarder. Lay first ply of 2 ply system with each sheet lapping 480 mm (19 inches) over the preceding sheet. Lap ends not less than 100 mm (4 inches). Stagger laps a minimum of 300 mm (12 inches). For a vapor retarder consisting of one layer of asphalt base sheet, provide side and end laps not less than 100 mm (4 inches). Stagger laps a minimum of 300 mm (12 inches). Cement base sheets together with a solid mopping of asphalt.

3.2.2 Not used.

3.2.3 Vapor Retarder on Wood Decks

Lay first ply of 2 ply system dry with each sheet lapping 50 mm (2 inches) over the preceding sheet. Lap ends not less than 100 mm (4 inches). Stagger laps a minimum of 300 mm (12 inches). Nail felt at 150 mm (6 inch) intervals along side laps and install two rows of nails approximately 275 mm (11 inches) apart down longitudinal center of each sheet, with nails staggered at 450 mm (18 inches) O.C. For vapor retarder consisting of one layer of asphalt base sheet, lap each sheet 100 mm (4 inches) over the preceding sheet. Provide end laps not less than 100 mm (4 inches) and stagger laps a minimum of 300 mm (12 inches). Cement side and end laps together with solid mopping of asphalt or heavy coat of asphalt roof cement. Nail side laps at 150 mm (6 inch) intervals. Apply asphalt mopping at rate of 10 to 18 kgs per 10 square meters(20 to 35 lbs per 100 square feet). Install two rows of nails approximately 275 mm (11 inches) apart down longitudinal center of each sheet, with nails staggered at 450 mm (18 inches) O.C.

3.2.4 Vapor Retarder on Steel Decks

Solidly mop the mechanically secured insulation surface with asphalt before installing vapor retarder. For a 2 ply vapor retarder, install each sheet lapping 480 mm (19 inches) over the preceding sheet. Lap ends not less than 100 mm (4 inches). Stagger the laps a minimum of 300 mm (12 inches). Cement felts together with solid mopping of asphalt. Apply asphalt moppings at rate of 10 to 18 kgs per 10 square meters(20 to 35 lbs per 100 square feet). For a vapor retarder consisting of one layer of asphalt base sheet, lap each sheet 100 mm (4 inches)over preceding sheet. Lap ends not less than 100 mm (4 inches), and stagger laps a minimum of 300 mm (12 inches). Cement base sheets together with solid mopping of asphalt.

3.2.5 Over Gypsum Insulating Concrete or Lightweight Insulating Concrete

One ply of venting inorganic base sheet shall be laid, without mopping, at right angle to the slope with 100 mm (4 inch) side laps and 150 mm (6 inch) end laps. Laps shall be bonded with hot asphalt. End laps shall be staggered. Base sheet shall be 220 mm 270 mm 450 mm attached to the concrete as determined by uplift requirements. The 2-ply vapor retarder shall then be applied over the base sheet as specified above.

3.2.6 Over Concrete Decks and First Layer of Insulation on Steel Decks

The 2-ply vapor retarder shall be applied as specified above except that venting inorganic base sheet shall be deleted.

3.2.7 Over Structural Concrete on Non-Venting Support

One ply of venting inorganic base sheet with mopping holes shall be laid dry at right angle to the slope with 100 mm (4 inch) side laps and 150 mm (6 inch) end laps. The vapor retarder shall then be applied as specified.

3.3 INSTALLATION OF VENTILATING FELT

Apply ventilating felt in accordance with manufacturer's printed instructions. Extend over roof cants, up vertical surfaces and terminate under cap flashing; at roof edges terminate under outside edge of perimeter edge nailers or under gravel stop fascia.

3.4 INSULATION INSTALLATION

Apply insulation in two layers with staggered joints when total required thickness of insulation exceeds 13 mm (1/2 inch). Lay insulation so that continuous longitudinal joints are perpendicular to direction of roofing, and end joints of each course are staggered with those of adjoining courses. When using multiple layers of insulation, joints of each succeeding layer shall be parallel and offset in both directions with respect to layer below. Keep insulation 13 mm (1/2 inch) clear of vertical surfaces penetrating and projecting from roof surface.

3.4.1 Installation Using Asphalt

Firmly embed each layer in solid asphalt mopping; mop only sufficient area to provide complete embedment of one board at a time. Provide 10 to 18 kgs(20 to 35 lbs) of asphalt per 10 square meters(100 square feet) of roof deck for each layer of insulation. Apply asphalt when temperature is within plus or minus 15 degrees C (25 degrees F) of EVT. Do not heat asphalt above asphalt's FBT or 275 degrees C (525 degrees F), whichever is less, for longer than 4 consecutive hours. Use thermometers to check temperatures during heating and application.

3.4.2 Installation Using Asphalt on Steel Decks

Secure first layer of insulation and thermal barrier to deck with piercing or self-drilling, self-tapping fasteners. Engage fasteners by driving them through insulation into top flange of steel deck. Use driving method prescribed by fastener manufacturer. Insulation joints parallel to ribs of deck shall occur on solid bearing surfaces only, not over open ribs. Secure succeeding layers with solid asphalt moppings. Where insulation is applied over steel deck, long edge joints shall continuously bear on surfaces of the steel deck. Insulation which can be readily lifted after installation is not considered to be adequately secured. Insulation shall be applied so that all roof insulation applied each day is waterproofed the same day. Phased construction will not be permitted. Application of impermeable faced insulation shall be performed without damage to the facing.

3.4.3 Installation Using Only Mechanical Fasteners

Secure total thickness of insulation with penetrating type fasteners.

3.4.4 Special Precautions for Installation of Foam Insulation

3.4.4.1 Polyisocyanurate Insulation

Where polyisocyanurate foam board insulation is provided, install 13 mm (1/2 inch) thick wood fiberboard, glass mat gypsum roof board, or 19 mm (3/4 inch) thick expanded perlite board insulation over top surface of foam board insulation. Stagger joints of insulation with respect to foam board insulation below.

3.4.4.2 Polystyrene Insulation

a. Over top surface of non-composite polystyrene board, install 13 mm (1/2 inch) thick high density wood fiberboard, 19 mm (3/4 inch) thick expanded perlite board, glass mat gypsum roof board, or other overlayment approved by roofing sheet manufacturer. Tightly butt and stagger joints of field applied overlayment board at least 150 mm (6 inches) with respect to the polystyrene board below. Apply 150 mm (6 inch) wide glass fiber roofing tape centered over joints and edges of overlayment board.

b. Where composite boards consisting of polystyrene insulation are provided, apply 150 mm (6 inch) wide glass-fiber roofing tape centered over joints and edges of composite board. Apply joint strips as recommended by roofing sheet manufacturer.

3.4.5 Cant Strips

Where cant strips are called for by roof system manufacturer, provide cant strips at intersections of roof with walls, parapets, and curbs extending above roof. Wood cant strips shall bear on and be anchored to wood blocking. Fit cant strips flush against vertical surfaces. Where possible, nail cant strips to adjoining surfaces. Where cant strips are installed against non-nailable materials, install in heavy mopping of asphalt or set in a heavy coating of asphalt roof cement or a compatible adhesive. Contractor shall ensure that no projections, such as vent pipes and braces, will be constructed through or within 250 mm (10 inches) of cant strips.

3.4.6 Tapered Edge Strips

Where indicated, provide edge strips in the right angle formed by junction of roof and wood nailing strips that extend above level of roof. Install edge strips flush against vertical surfaces of wood nailing strips. Where possible, nail edge strips to adjoining surfaces. Where installed against non-nailable materials, install in heavy mopping of asphalt or set in heavy coating of asphalt roof cement or an approved adhesive.

3.5 PROTECTION

3.5.1 Protection of Applied Insulation

Completely cover each day's installation of insulation with the finished roofing system on same day. Do not phase construction. Protect open spaces between insulation and parapets or other walls and spaces at curbs, scuttles, and expansion joints, until permanent roofing and flashing are applied. Do not permit storing, walking, wheeling, or trucking directly on insulation or on roofed surfaces. Provide smooth, clean board or plank walkways, runways, and platforms near supports, as necessary, to distribute weight to conform to a kg/sq. m30(psf) live load limit. Exposed edges of the insulation shall be protected by cutoffs at the end of each work day or whenever precipitation is imminent. Cutoffs shall be 2 layers of bituminous-saturated felt set in plastic bituminous cement or single ply or EPDM membrane set in roof cement. Fill all profile voids in cut-offs to prevent entrapping of moisture into the area below the membrane. Cutoffs shall be removed when work is resumed.

3.5.2 Damaged Work and Materials

Restore work and materials that become damaged during construction to original condition or replace with new materials.

3.6 INSPECTION

The Contractor shall establish and maintain an inspection procedure to assure compliance of the installed roof insulation with the contract requirements. Any work found not to be in compliance with the contract shall be promptly removed and replaced or corrected in an approved manner. Quality control shall include, but not be limited to, the following:

a. Observation of environmental conditions; number and skill level of insulation workers; start and end time of work.

b. Verification of certification, listing or label compliance with FM P9513.

c. Verification of proper storage and handling of insulation and vapor retarder materials before, during, and after installation.

d. Inspection of vapor retarder application, including edge envelopes and mechanical fastening.

e. Inspection of mechanical fasteners; type, number, length, and spacing.

f. Coordination with other materials, cants, sleepers, and nailing strips.

g. Inspection of insulation joint orientation and laps between layers, joint width and bearing of edges of insulation on deck.

h. Installation of cutoffs and proper joining of work on subsequent days.

i. Continuation of complete roofing system installation to cover insulation installed same day.

END OF SECTION

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SECTION 07311

ASPHALT SHINGLES

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 the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 41 (1994) Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing

ASTM C 1153 (1997) Location of Wet Insulation in Roofing Systems Using Infrared Imaging

ASTM D 1970 (2001) Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection

ASTM D 3018 (2000) Class A Asphalt Shingles Surfaced with Mineral Granules

ASTM D 3462 (2001) Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules

ASTM D 4586 (2000) Asphalt Roof Cement, Asbestos Free

ASTM D 4869 (1988; R 1993) Asphalt-Saturated Organic Felt Shingle Underlayment Used in Roofing

NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)

NRCA Shingle Manual 1996 Asphalt Shingle Roofing Manual

UNDERWRITERS LABORATORIES (UL)

UL 790 (1997) Fire Resistance of Roof Covering Materials

UL 997 (1995) Wind Resistance of Prepared Roof Covering Materials

1.2 DEFINITIONS

1.2.1 Top Lap

That portion of shingle overlapping shingle in course below.

1.2.2 Head Lap

The triple coverage portion of top lap which is the shortest distance from the butt edge of an overlapping shingle to the upper edge of a shingle in the second course below.

1.2.3 Exposure

That portion of a shingle exposed to the weather after installation.

1.3 SUBMITTALS

Submittals are for Government information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Shingles

Submit data including type, weight, class, UL labels, and special types of underlayment and eave flashing.

SD-04 Samples

If Contractor is matching existing color, no submittal is required. If existing color is not commercially available, provide full shingle sample and manufacturer's standard size samples of materials and products requiring color or finish selection for selection by the Contracting Officer.

1.4 DELIVERY AND STORAGE

Deliver materials in the manufacturer's unopened bundles and containers bearing the manufacturer's brand name. Keep materials dry, completely covered, and protected from the weather. Store according to manufacturer's written instructions. Roll goods shall be stored on end in an upright position or in accordance with manufacturer's recommendations. Immediately before laying, roofing felt shall be stored for 24 hours in an area maintained at a temperature not lower than 10 degrees C. (50 degrees F.)

1.5 WARRANTIES

Warranties shall begin on the date of Government acceptance of the work.

1.5.1 Manufacturer's Warranty

Furnish the asphalt shingle manufacturer's standard 30-year warranty for the asphalt shingles. The warranty shall run directly to the Government.

1.5.2 Contractor's Warranty

The Contractor shall warrant for 5 years that the asphalt shingle roofing system, as installed, is free from defects in workmanship. When repairs due to defective workmanship are required during the Contractor's warranty period, the Contractor shall make such repairs in accordance with provisions of Section 01703. When repairs are not performed within the specified time, emergency repairs performed by others will not void the warranty.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Shingles

Mineral granule-surfaced asphalt shingles, self-sealing, square tab, strip, fungus-resistant. ASTM D 3018, Type I, and ASTM D 3462, weighing not less than (234 pounds per 100 square feet). Shingles shall meet the fire resistance requirements of UL 790 for Class A and the wind resistance requirements of UL 997. Color shall match existing or shall be as selected by Contracting Officer from the manufacturer's standard color charts (See para 1.3, "Submittals," SD-04). Shingles shall be fungus-resistant.

2.1.2 Mineral-Surfaced Asphalt Roll Roofing

ASTM D 249.

2.1.3 Smooth-Surfaced Asphalt Roll Roofing

ASTM D 224, Type II.

2.1.4 Underlayment

Asphalt-saturated felt conforming to ASTM D 4869 or ASTM D 226, without perforations or other material specified by the shingle manufacturer for use as underlayment.

2.1.4.1 Leak Barrier Underlayment

Self-adhering leak barrier or ice dam underlayment shall comply with ASTM D 1970 for sealability around nails.

2.1.5 Self-Adhering Membrane

Self-adhering rubberized asphaltic membrane, a minimum of one mm (40 mils) thick, and recommended by the shingle manufacturer for use as eaves flashing.

2.1.6 Nails for Applying Shingles and Asphalt-Saturated Felt

Aluminum or hot-dipped galvanized steel or equivalent corrosion resistant with sharp points and flat heads 10 to 11 mm (3/8 to 7/16 inch) in diameter. Shank diameter of nails shall be a minimum of 2.67 mm (0.105 inch) and a maximum of 3.43 mm (0.135 inch) with garb or otherwise deformed for added pull-out resistance. Nails shall be long enough to penetrate completely through or extend a minimum of 20 mm (3/4 inch) into roof deck, whichever is less, when driven through materials to be fastened.

2.1.7 Asphalt Roof Cement

ASTM D 4586, Type II.

2.1.8 Asphalt Primer

ASTM D 41.

2.1.9 Ventilators

2.1.9.1 Nailable Plastic Shingle Over Type Ridge Vents

Ridge vents shall be constructed of UV stabilized nailable rigid polypropylene material, approximately 0.30 m (1 foot) wide and 25 mm (1 inch) thick, and shall be in 1.2 m (4 foot) long interlocking sections with self-aligning ends or corrugated polyethylene rigid roll or rigid strip ridge vent with aluminum wind deflectors on each side. Vents shall be designed to prevent infiltration of insects, rain, and snow.

2.1.9.2 Nailable Mesh Shingle Over Type Ridge Vents

Ridge vents shall be constructed of UV stabilized nailable polyester mesh material, approximately 0.30 m (one foot) wide. Vents shall be designed to prevent infiltration of insects, rain, and snow.

PART 3 EXECUTION

3.1 VERIFICATION OF CONDITIONS

Ensure that roof deck is smooth, clean, dry, and without loose knots. Roof surfaces shall be firm and free from loose boards, large cracks,and projecting ends that might damage the roofing. Vents and other projections through roofs shall be properly flashed and secured in position, and projecting nails shall be driven flush with the deck.

3.2 SURFACE PREPARATION

Cover knotholes and cracks with sheet metal nailed securely to sheathing. Flash and secure vents and other roof projections, and drive projecting nails firmly home.

3.3 APPLICATION

Apply roofing materials as specified herein, as recommended by the shingle manufacturer's written instructions, or in accordance with the NRCA Asphalt Shingle Manual.

3.3.1 Underlayment

The installation of asphalt strip shingles at maximum exposure is not recommended on roofs having a slope of less than 1:4.

In locations where the January mean temperature is minus one degree C (30 degrees F) or less, a leak barrier underlayment membrane should be used. The leak barrier underlayment membrane may consist of: two plies of No. 15 asphalt saturated felt, one nailed to the deck and the second set in Type III or Type IV hot asphalt or asphalt lap cement; a heavyweight coated base sheet nailed to the deck and another felt ply or plysheet set in hot asphalt or asphalt lap cement; or a self adhering modified bitumen membrane.

Apply two layers to the roof deck. Provide a 480 mm (19 inch) wide strip as starter sheet to maintain specified number of layers throughout roof. Lay parallel to eaves, starting at eaves. Provide minimum 480 mm (19 inch) head laps, 150 mm (6 inch) laps from both sides over hips and ridges, and 300 mm (12 inch) end laps in the field of the roof. Nail sufficiently to hold until shingles are applied. Turn up vertical surfaces a minimum of 100 mm (4 inches).

3.3.2 Drip Edges

Provide metal drip edges as specified in Section 07600, "Flashing and Sheet Metal," applied directly on the wood deck at eaves and over the underlayment at rakes. Extend back from edge of deck a minimum of(3 inches), and secure with nails spaced a maximum of(10 inches) o.c. along inner edge.

3.3.5 Starter Strip

Apply starter strip at eaves, using a (9-inch) wide strip of mineral-surfaced roll roofing of a color to match shingles. Optionally, use a row of shingles with tabs removed and trimmed to ensure that joints are not exposed at shingle cutouts. Apply starter strip along eaves, overhanging the metal drip edge at eaves and rake edges(1/4 inch to 3/8 inch); fasten in a line parallel to and(3 to 4 inches) above eave edge. Place nails so top of nail is not exposed in cutouts of first course of shingles. Fasten with 6 nails per strip of shingles or space nails at 150 mm (6 inches) o.c. for roll roofing. Seal tabs of first course of shingles with asphalt roof cement as specified below.

3.3.6 Shingle Courses

Start first course with full shingle, and apply succeeding courses with joints staggered at thirds or halves. Butt-end joints of shingles shall not align vertically more often than every fourth course. Apply shingle courses as follows:

a. Fastening: Do not drive fasteners into or above the factory-applied adhesive unless adhesive is located(5/8 inch) or closer to top of cutouts. Place fasteners so they are concealed by shingle top lap and penetrate the head lap.

b. Not used.

c. Nailing: Apply shingles with nominal 125 mm (5 inch) exposure. Apply each shingle with minimum of six nails. Place one nail 25 mm(one inch) from each end and one nail on each side of each cutout, on a horizontal line 16 mm (5/8 inch) above cutouts.

d. Sealing: Seal each tab with continuous, 225 mm (9 inch)long, 6 mm (1/4 inch) diameter bead of asphalt roof cement, applied to the surface of course below. Place bead on horizontal line 16 mm (5/8 inch) above cutouts so bead will be 25 mm (one inch) from bottom edge of tab to be sealed and so bead will not show through cutouts. After nailing each shingle, press tabs down to ensure spreading and bonding of asphalt roof cement.

3.3.7 Hips and Ridges

Form with 225 by 300 mm (9 by 12 inch) individual shingles or with 300 by 300 mm (12 by 12 inch) shingles cut from 300 by 900 mm (12 by 36 inch) strip shingles. Bend shingles lengthwise down center with equal exposure on each side of hip or ridge. Lap shingles to provide a maximu m 125 mm (5 inch) exposure, and nail each side in unexposed area 140 mm (5 1/2 inches) from butt and 25 mm (one inch) in from edge.

3.3.8 Valleys

3.3.8.1 Woven Valleys

Provide valley lining as specified for closed cut valley. Lay valley shingles over lining by either of the following methods:

a. Method I: Apply regular shingles on both roofs simultaneously. Weave each course in turn over the valley. Lay the first regular course of shingles along eaves of roof up to and over valley. Extend course along adjoining roof deck at least 300 mm (12 inches). Carry first regular course of shingles of adjoining roof over valley on top of previously applied shingles. Lay succeeding courses alternately, weaving valley shingles over each other for full length of valley.

b. Method II: Apply regular shingles on each roof surface separately to a line about 900 mm (3 feet) from center of valley, and weave valley shingles in place later, as specified for Method I.

In following either method, press shingles tightly into valley, and fasten in normal manner; except apply nails not closer than 150 mm (6 inches) to valley centerline, and apply additional nail in top corner of terminal shingle on both sides of valley.

3.3.9 Flashing

3.3.9.1 Eave Flashing

Provide for roof slopes one in 3 ((4 inches per foot)) and greater. Provide eave flashing strips consisting of smooth-surfaced roll roofing. Flashing strips shall overhang metal drip edge 6 to 10 mm (1/4 inch to 3/8 inch) and extend up the slope far enough to cover a point 300 mm (12 inches) inside interior face of exterior wall. Where overhangs require flashings wider than 900 mm (36 inches), locate laps outside exterior wall face. Laps shall be at least 50 mm (2 inches) wide and cemented with asphalt roof cement over entire length of lap. Lap end 300 mm (12 inches) and cement.

Provide for roof slopes between one in 6 and one in 3 ((2 inches per foot and 4 inches per foot)). Provide either of the following types of eave flashing:

a. From the eaves to a point 600 mm (24 inches) inside interior wall line, apply solid coating of asphalt roof cement between overlapping layers of underlayment. Spread cement to a uniform thickness at rate of 7.5 liters per 10 square meters (2 gallons per 100 square feet) of cemented roof area.

b. From the eaves to a point 600 mm (24 inches) inside interior wall line, apply one layer of self-adhering membrane. Follow membrane manufacturer's printed installation instructions.

3.3.9.2 Stepped Flashing

For sloping roofs which abut vertical surfaces, provide stepped metal flashing as specified in Section 07600, "Flashing and Sheet Metal."

3.3.9.3 Vent and Stack Flashing

Apply shingles up to point where vent or stack pipe projects through roof, and cut nearest shingle to fit around pipe. Before applying shingles beyond pipe, prepare flange of metal pipe vent flashing as specified in Section 07600, "Flashing and Sheet Metal," by applying a 3 mm (1/8 inch) thick coating of asphalt roof cement on bottom side of flashing flange. Slip flashing collar and flange over pipe, and set coated flange in 2 mm (1/16 inch) coating of asphalt roof cement. After applying flashing flange, continue shingling up roof. Lap lower part of flange over shingles. Overlap flange with side and upper shingles. Fit shingles around pipe, and embed in 2 mm (1/16 inch) thick coating of asphalt roof cement where shingles overlay flange.

3.3.9.4 Chimney Flashing

Provide treated wood crickets as specified in Section 06100, "Rough Carpentry." Provide metal base and counterflashing as specified in Section 07600, "Flashing and Sheet Metal." Uniformly coat masonry surfaces which are to receive flashing with asphalt primer applied at rate of 4 liters per 10 square meters (one gallon per 100 square feet). Apply shingles over underlayment up to front face of chimney. Apply metal front base flashing with lower section extending at least 100 mm (4 inches) over shingles. Set base flashing in a 2 mm (1/16 inch) coating of asphalt roof cement on shingles and chimney face. Apply metal step flashing at sides in a coating of asphalt roof cement. Embed end shingles in each course that overlaps step flashing with asphalt roof cement. Apply metal rear base flashing over cricket and back of chimney in coating of asphalt roof cement. Apply end shingles in each course up to cricket, and cement in place. Lap base flashing minimum of 75 mm (3 inches) with metal counterflashing.

END OF SECTION

SECTION 07320

CLAY TILE ROOFING

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.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM B 370 (1998) Copper Sheet and Strip for Building Construction

ASTM C 1167 (1996) Clay Roof Tiles

ASTM C 1153 (1997) Location of Wet Insulation in Roofing Systems Using Infrared Imaging

ASTM C 1184 (2000ae1) Structural Silicone Sealants

ASTM D 146 (1997) Sampling and Testing Bitumen-Saturated Felts and Woven Fabrics for Roofing and Waterproofing

ASTM D 226 (1997a) Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing

ASTM D 412 (1998a) Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers - Tension

ASTM D 2822 (1991; R 1997el) Asphalt Roof Cement

MANUAL FOR MAINTENANCE AND REPAIR OF HISTORIC STRUCTURES (US Army Corps of Engineers)

NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)

NRCA 0405 (2001, 5th Ed) Roofing and Waterproofing Manual (2 Vol)

SHEET METAL & AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)

SMACNA Arch. Manual (1993; Errata; Addenda Oct 1997; 4th Printing 1999) Architectural Sheet Metal Manual

1.2 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

Not used.

SD-03 Product Data

Because of Fort Lewis historical preservation requirements, Clay Tile Roofing Systems on existing buildings must be removed and the same tiles replaced, or government-provided clay tiles must be used, or clay tiles of the same shape, dimensions, and color must be provided.

No product data is required if the Contractor uses government-provided clay tiles. If Contractor is furnishing tile, provide product data from manufacturer demonstrating that the tile is visually identical with existing.

SD-04 Samples

Not used.

SD-07 Certificates

Not used.

1.3 QUALIFICATIONS

The Contractor shall provide qualified workers, trained and experienced in installing clay tile roofing systems of this configuration. The Contractor shall be familiar with and shall perform work in accordance with NRCA 0405.

1.4 DELIVERY, STORAGE AND HANDLING

Materials shall be delivered in manufacturer's unopened bundles and containers with the manufacturer's brand and name marked clearly thereon. Tiles shall be stored in accordance with manufacturer's printed instructions. Roll goods shall be stored on end in an upright position. Immediately before laying, roofing felt shall be stored for 24 hours in an area maintained at a temperature not lower than 10 degrees C. (50 degrees F.)

1.5 PROJECT/SITE CONDITIONS

1.5.1 Environmental Requirements

Clay tile roofing work shall proceed when existing and forecasted weather conditions permit work to be performed in accordance with manufacturer's recommendations and warranty requirements.

1.5.2 Material Storage

Materials shall not be stored on roof decks in such a manner as to overstress and/or damage the deck and supporting structure. Placing of loads at midspans of framing shall be avoided. Superimposed loads shall be well distributed.

1.5.3 Units of Work

Units of work shall be established, including removal of existing materials, preparation of existing surfaces and application of underlayment and nailers, and related temporary and/or permanent flashing so that it can be completed prior to the end of each working day.

1.5.4 Temporary Protection Materials

Materials shall be provided and maintained on the site at all times for temporary roofing, flashing, and other protection when delays and/or changed weather conditions do not permit completion of each unit of work prior to the end of each working day. Materials which have been used for temporary roofing, flashing and other protection shall be removed and discarded.

1.6 WARRANTY

A material and labor warranty shall be furnished against defects in material and workmanship that affect the appearance, leak resistance, and attachment of clay tile roof assembly, including related metal flashing, for a period of 10 years from date of final acceptance of the work. Warranty shall also cover the blow-off at wind gusts up to, and including, 60 mph.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Existing Clay Tile

Intact and serviceable existing clay tiles shall be salvaged and reused whenever possible. New clay tiles being incorporated into existing clay tile roofs shall match existing as closely as possible. Clay tiles from the same manufacturer as the original shall be used if possible.

2.1.2 Clay Roofing Tile

Clay roofing tile shall be minimum Grade 1 tile conforming to ASTM C 1167. Tile shall be one-piece barrel type. Tile glazing shall match existing.

2.1.2.1 Colors

Clay tile color shall match existing. Note that on many buildings, tiles of several clay shades, from orange to dark grey, are used in irregular patterns. Repair by replacement of tiles must preserve the character of these structures.

2.1.2.2 Fittings

Clay tile fittings at eaves, gables, hips, ridges, and valleys shall match historical fitting type or, if this is not possible in new installations, shall be as required by manufacturer's instructions.

2.1.3 Underlayment Membrane

An underlayment membrane shall be furnished on surfaces to be covered with tile. Membrane shall consist of asphalt-saturated felt and high strength composite self-adhering membrane.

2.1.3.1 Roofing Felt

Roofing felt shall be asphalt-saturated rag felt, Type II, No. 30 asphalt felt in accordance with ASTM D 226.

2.1.3.2 Elastomeric Membrane Underlayment

Elastomeric membrane shall be a cold-applied composite self-adhering membrane, minimum (0.004 inch) thick, high strength polyethylene film with slip-resistant embossing, coated on one side with a thick layer of adhesive-consistency rubberized asphalt, interwound with a disposable silicone coated release sheet. The tensile strength and elongation values shall be not less than 250 psi when tested in accordance with ASTM D 412 and pliability shall be unaffected when tested in accordance with ASTM D 146.

2.1.3.3 Elastomeric Membrane Accessories

Two component urethane, mastic and primer shall be as approved by the membrane manufacturer. Flashing, expansion joint covers, temporary UV protection and corner fillets shall be as recommended by the membrane manufacturer.

2.1.4 Fasteners

2.1.4.1 Nails

Nails shall be solid copper, Number 11 gauge nails, minimum (5/16 inch) head. Nails shall be of sufficient length to adequately penetrate the roof sheathing.

2.1.4.2 Miscellaneous Fasteners

Miscellaneous fasteners may include but are not limited to: wind locks, hurricane clips, tile attachment brackets, tile nails, twisted wire (tile-tie), deck anchor systems, and flashing cleats. Fasteners shall be made of solid copper (wind locks and hurricane clips can be made of stainless steel).

2.1.5 Flashing

Flashing shall be (20 ounce), light cold-rolled temper (H00) copper conforming to ASTM B 370. Like metals shall be used on all components of fastening systems and flashing in order to avoid galvanic action. Flashing shall be in accordance with the requirements as specified in Section 07600A SHEET METALWORK, GENERAL.

2.1.6 Plastic Cement

Plastic cement for gable rakes, hip rolls, ridges, stringers and other conditions shall be non-running, heavy body plastic cement composed of ingredients complying with ASTM D 2822.

2.1.7 Sealant

Sealant, when used in lieu of plastic cement, shall be silicone in accordance with ASTM C 1184.

2.1.8 Mortar

Mortar for filling the openings of cut valley tiles shall consist of 1 part portland cement to 3 parts damp plaster sand, and shall be colored to the nearest possible match with the color of the tile.

2.1.9 Wood Strips

Wood strips for nailers, battens, cant strips, and eave strips shall be of foundation grade redwood or preservative treated Douglas fir. Sizes and lengths shall be provided per tile manufacturer's installation details. These wood materials are subject to the requirement that 50 percent of wood materials furnished by the Contractor be from sources certified by the Forest Stewardship Council as specified in Section 06100, "Rough Carpentry."

2.1.10 Snow Guards

Snow guards which are compatible with the roof tile shall be provided as indicated.

PART 3 EXECUTION

3.1 PROTECTION OF ROOF SURFACES

Equipment (such as padded ridge ladders) and techniques shall be used which prevent damage to roof as a result of foot or material traffic. Contractor shall be responsible for controlling breakage of new or existing tile beyond what is indicated. The progression of work shall be laid out and presented to the Contracting Officer to prevent other trades from working on or above completed roofing. Personnel who are working on the roof shall have proper shoes which will not further damage tiles and shoe soles shall be made of a material which will aid in preventing falls.

3.2 TILE REMOVAL

Where work involves partial replacement or repair of roof, Contractor shall verify each tile for tightness and continued use. Tiles which have been identified for replacement or re-installation shall be marked for approval within 30 days of Notice to Proceed. Tiles identified for removal shall be marked with a non-destructive color mark which can be easily removed. Tiles fastened with non-copper fasteners shall be re-fastened with proper copper fasteners.

3.3 PREPARATION OF SURFACES

Roof deck surfaces shall be smooth, clean, firm, dry, and free from loose boards, large cracks, and projecting ends that might damage the roofing. Foreign particles shall be cleaned from all interlocking areas to ensure proper seating and to prevent water damming. Prior to installation of tile, vents and other projections through roofs shall be properly flashed and secured in position, and projecting nails shall be driven firmly home.

3.4 ROOFING FELT

3.4.1 Standard Application

Felt shall be laid in horizontal layers on deck areas to be covered with tile. Two layers of No. 30 felt shall be applied. Two layers shall be run down valley, ridges, and hips. Applications shall be doubled on rough surfaces and overlapped (12 inches) on hips, valleys, and ridges. Membranes lapping valley felts shall be set in mastic. Joints shall be lapped (2-1/2 inches) horizontally and (6 inches) vertically. Felt shall be carried (6 inches) up vertical surfaces and (4 inches) over gutters. Edges shall be fastened with corrosion-resistant, 12 gauge, (3/8 inch) head standard roofing nails on (6 inch) centers. Felt shall be preserved unbroken.

3.4.2 Special Applications

Low pitch roofs shall have two layers of felt installed and shall be solidly mopped between felt layers and on top of felt layers with (25 pounds per square) of hot asphalt.

3.5 ELASTOMERIC MEMBRANE UNDERLAYMENT

3.5.1 Surface Preparation

Dust, dirt, loose nails or other protrusions shall be removed. Priming is not required for wood or metal surfaces but is necessary on concrete or masonry surfaces.

3.5.2 Primer

Primer shall be applied at a coverage rate of (250-350 sq. ft./gal.) Primer shall be applied by spray or paint roller.

3.5.3 Temperature

Membrane shall be applied only in fair weather when air and surface temperatures are above (40 degrees F.)

3.5.4 Membrane Application

Membrane shall be applied according to manufacturer's instructions. Membrane shall be adhered directly to roof deck. Pine wood decks shall be covered with minimum (1/4 inch) plywood prior to receiving membrane coverage. Membrane shall be cut into (10 to 15 foot) lengths and shall be re-rolled. The release paper shall be peeled back (1 to 2 feet) and the membrane shall be aligned on the lower edge of the roof and the first (1 to 2 feet) shall be placed. The release paper under the membrane shall be pulled and peeled from the membrane. The membrane shall be pressed in place. Lower edges shall be rolled firmly with a wallpaper or hand roller. For ice dam protection, membrane shall be applied to reach a point above the highest expected level of ice dams. Ends and edges shall be overlapped a minimum of (6 inches.) Membrane shall not be folded onto an exposed face of the roof edge.

3.5.5 Valley and Ridge Application

The membrane shall be cut into (4 to 6 foot)lengths. The release paper shall be peeled and the sheet centered over the valley or ridge, draped and pressed in place working from the center of the valley or ridge outward in each direction. For valleys, membrane shall be applied starting at the low point and working upwards. Sheets shall overlap a minimum of (6 inches.)

3.5.6 Vertical Membrane Flashings

Vertical wall installations shall receive primer prior to the application of membrane. Primer shall be applied at a coverage rate of (250-350 sq. ft./gal.) Membrane shall be turned up walls and dormers as indicated on the drawings. Vertical membrane terminations shall be mechanically fastened. Vertical terminations shall receive a troweling of mastic as approved by the membrane manufacturer. Membrane may be folded onto the fascia, provided it will be covered by a gutter metal edge or other material.

3.5.7 Protection

Elastomeric membrane underlayment shall not be left permanently exposed to sunlight. Membrane shall be covered with exposed roofing materials as soon as possible. Membrane damaged due to exposure to sunlight shall be patched prior to the application of final roof covering.

3.6 METAL FLASHING

Metal flashing shall be as shown at intersections of vertical or projecting surfaces through the roof or against which the roof abuts, such as walls, parapets, dormers, and sides of chimneys. Flashing installation shall be in accordance with Section 07600A SHEET METALWORK, GENERAL.

3.7 CLAY ROOFING TILE (GENERAL)

3.7.1 Repair and Replacement

Existing reusable clay tiles removed from the repair area shall be intermingled with new clay tiles to provide a smooth visual transition between new and existing areas.

3.7.2 High or Low Slope Pitches

Tiles on roof slopes of less than 3:12 shall be applied over indicated underlayment on solid decking. Tiles on extremely steep or vertical applications shall have the butt of each tile set with mastic or sealant, and placed where it will not be seen. The mastic or sealant shall not stain the surface of the tile. Copper "hurricane clips" may be installed instead of using mastic or sealant.

3.7.3 Roof Decks and Fasteners

Tile shall be fastened to roof deck materials as follows:

DECK	FASTENER
Plywood	Slater's ring shank nail. Point shall just penetrate through underside of deck.
Plank board,	Slater's plain shank nail, at least 25 m(1 inch) or more in 37 mm. (1-1/2 inch) thickness shall not penetrate deck.
Gypsum plank or Nailable Concrete	Stainless steel or silicone bronze nails with spiral threads, 37 or 50 mm (1-1/2 or 2 inch) long. Nail shall penetrate deck at least 1/2 thickness but no more than 3/4. Underside of deck shall not be penetrated. If deck If deck material is old and excessively hard, smooth shank shall be used.

Metal	Sheet metal screw and mastic
Fibrous cement	Tile -tie system

Note: All fastening and flashing metals shall be of like material in order to avoid galvanic action.

3.7.4 Poured Concrete Deck

Poured concrete decks shall have embedded 25 by 50 mm (1 by 2 inch)beveled wood strips, extending from eave to ridge, spaced 500 mm (20 inches) on centers. Concrete shall be smooth and flush with strips. Felts weighing 23 kg per 9.3 sq. meters 50 lbs. per 100 square feet shall be fastened with lath nailed over embedded strips. Twenty five by 50 mm (One by 2 inch) wood strips, spaced to suit tile, shall be applied horizontally across lath. Tile shall then be laid as directed for a sheathed roof.

3.7.5 Chalk Lines

Horizontal and vertical guide lines shall be chalked on the membrane to assure proper appearance. The chalk lines shall be spaced by measuring the delivered tiles for average length and width exposures. An exposure length of 6 mm (1/4 inch) beyond the average shall not be exceeded.

3.8 ONE-PIECE BARREL TILE APPLICATION

3.8.1 Wood Strips

Wood stringers, 25 mm (1 inch) wide and of proper height, shall be applied on hips and ridges to carry hip roll and ridge. A 25 by 50 mm(1 by 2 inch) strip shall be applied for end bands. A 25 by 50 mm(1 by 2 inch) cant strip shall be applied at eaves if eave closures are not specified.

3.8.2 Tile Application

a. Eave closures shall be installed first.

b. Tiles shall be laid to straight lines parallel to ground level and shall be lapped 75 mm (3 inches) vertically.

c. Each tile shall be fastened with the quantity of nails, wind locks and/or hurricane clips recommended by the manufacturer for the specified roof slope, building height, and wind velocity.

d. Nails on tiles overlapping sheet metalwork shall not puncture the sheet metal. Tiles overlapping sheet metal shall be fastened with copper wire and plastic cement.

e. Gable rakes shall be cemented to field tiles and fastened with nails.

f. Hip rolls shall be cemented in laps and fastened with 50 mm (2 inch) copper nails.

g. Ridges shall be cemented and fastened with 63 mm (2-1/2 inch)copper nails in laps and where they rest on roof tiles.

h. Where tiles join hip stringers they shall be made waterproof with flashing cement.

i. When hip starter and closed ridge end fittings have not been specified, the voids at ends of hips and ridges shall be filled with mortar colored to nearest match of tile color.

j. Tile in contact with cement mortar shall be immersed in water for at least 2 minutes before laying.

k. When ridge angles and hip/ridge terminals are not otherwise specified, they shall be mitered on job, nailed or wired, and set in plastic cement.
l. When short course tiles are not otherwise specified for rafters which do not accommodate full courses, they shall be cut and drilled on job by roofer unless a plus or minus 25 mm (1 inch) adjustment of regular tile overhang at eave is sufficient.

3.9 TWO-PIECE BARREL TILE APPLICATION

3.9.1 Wood Strips

Wood stringers, 25 mm (1 inch) wide and of proper height, shall be applied on hips and ridges to carry hip roll and ridge. A 25 by 88 mm(1 by 3-1/2 inch) strip shall be applied and spaced appropriately for covers. When covers are laid at random exposure, strips shall be 25 by 100 mm. (1 by 4 inches.) At first row of cover tile after gable roll, a regular nailing strip shall be applied with an adjacent 50 by 50 mm(2 by 2 inch) nailing strip along rake side. A 25 by 50 mm (1 by 2 inch) cant strip shall be applied at eaves if eave closures are not specified.

3.9.2 Tile Application

a. Eave closures shall be installed first.

b. Tiles shall be laid to straight lines parallel to ground level, and shall be lapped 75 mm (3 inches) vertically.

c. Each tile shall be fastened with the quantity of nails, wind locks and/or hurricane clips recommended by the manufacturer for the specified roof slope, building height, and wind velocity.

d. Tiles overlapping sheet metalwork shall have the nails so placed as to avoid puncturing the sheet metal. Tiles overlapping sheet metal shall be fastened with copper wire and plastic cement.

e. When tile is applied tight method, short course covers shall be installed over regular pans at eave and regular covers over short course pans at ridge. Top edge of covers shall abut bottom edge of pans in the succeeding course throughout the roof.

f. When covers are laid at random exposure, 10 percent extra covers in the first three courses at eave shall be used to avoid horizontal and diagonal lines and maintain this effect throughout roof.

g. Gable rakes shall be cemented to field tiles and fastened with nails.

h. Hip rolls shall be cemented in laps and fastened with 50 mm (2 inch) copper nails.

i. Ridges shall be cemented and fastened with 63 mm (2-1/2 inch)copper nails in laps and where they rest on roof tiles.

j. Where tiles join hip stringers they shall be made waterproof with flashing cement.

k. When hip starter and closed ridge end fittings have not been specified, the voids at ends of hips and ridges shall be filled with mortar colored to nearest match of tile color.

l. Tile in contact with cement mortar shall be immersed in water for at least 2 minutes before laying.

m. When ridge angles and hip/ridge terminals have not been specified, they shall be mitered on job, nailed or wired, and set in plastic cement.

n. When short course tiles are not otherwise specified for rafters which do not accommodate full courses, they shall be cut and drilled on job by roofer unless a plus or minus 25 mm (1 inch) adjustment of regular tile overhang at eave is sufficient.

3.10 FLAT SHINGLE TILE APPLICATION

3.10.1 Wood Strips

Wood stringers, 25 mm (1 inch) wide and of proper height, shall be applied on hips and ridges to carry hip roll and ridge. A 18 by 25 mm(3/4 by 1 inch) cant strip shall be applied at eaves.

3.10.2 Tile Application

a. Tiles shall be laid to straight lines parallel to ground level, lapped 75 mm (3 inch) vertically.

b. Each tile shall be fastened with the quantity of nails, wind locks and/or hurricane clips recommended by the manufacturer for the specified roof slope, building height, and wind velocity.

c. Nails on tiles overlapping sheet metalwork shall not puncture the sheet metal. Tiles overlapping sheet metal shall be fastened with copper wire and plastic cement.

d. Gable rakes shall be cemented to field tiles and fastened with nails.

e. Hip rolls shall be cemented in laps and fastened with 50 mm (2 inch) copper nails.

f. Ridges shall be cemented and fastened with 63 mm (2-1/2 inch)copper nails in laps and where they rest on roof tiles.

g. Where tiles join hip stringers they shall be made waterproof with flashing cement.

h. Voids at ends of hips and ridges shall be filled with mortar colored to nearest match of tile color.

i. Tile in contact with cement mortar shall be immersed in water for at least 2 minutes before laying.

j. Ridge angles and hip/ridge terminals shall be mitered on job, nailed or wired, and set in plastic cement.

k. When short course tiles are not otherwise specified for rafters which do not accommodate full courses, they shall be cut and drilled on job by roofer unless a plus or minus 25 mm (1 inch) adjustment of regular tile overhang at eave is sufficient.

3.11 INTERLOCKING SHINGLE TILE APPLICATION

3.11.1 Wood Strips

Wood stringers, 25 mm (1 inch) wide and of proper height, shall be applied on hips and ridges to carry hip roll and ridge. A 22 by 25 mm(7/8 by 1 inch) cant strip shall be applied at eaves.

3.11.2 Tile Application

a. Tiles shall be laid to straight lines parallel to ground level, lapped 75 mm (3 inches) vertically.

b. Each tile shall be fastened with the quantity of nails, wind locks and/or hurricane clips recommended by the manufacturer for the specified roof slope, building height, and wind velocity.

c. Nails on tiles overlapping sheet metalwork shall not puncture the sheet metal. Tiles overlapping sheet metal shall be fastened with copper wire and plastic cement.

d. Gable rakes shall be cemented to field tiles and fastened with nails.

e. Hip rolls shall be cemented and fastened with 50 mm (2 inch)copper nails in laps.

f. Ridges shall be cemented and fastened with 63 mm (2-1/2 inch) copper nails in laps and where they rest on roof tiles.

g. Where tiles join hip stringers they shall be made waterproof with flashing cement.

h. Voids at ends of hips and ridges shall be filled with mortar colored to nearest match of tile color.

i. Tile in contact with cement mortar shall be immersed in water for at least 2 minutes before laying.

j. Ridge angles and hip/ridge terminals shall be mitered on job, nailed or wired, and set in plastic cement.

k. When short course tiles are not otherwise specified for rafters which do not accommodate full courses, they shall be cut and drilled on job by roofer unless a plus or minus 25 mm (1 inch) adjustment of regular tile overhang at eave is sufficient.

END OF SECTION

SECTION 07412

NON-STRUCTURAL METAL ROOFING

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.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 463 (2000) Steel Sheet, Aluminum-Coated, by the Hot-Dip Process

ASTM A 653 (2000) Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process

ASTM A 792 (1999) Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process

ASTM B 209 (2000) Aluminum and Aluminum-Alloy Sheet and Plate

ASTM C 518 (1998) Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

ASTM C 612 (2000) Mineral Fiber Block and Board Thermal Insulation

ASTM C 991 (1998) Flexible Glass Fiber Insulation for Pre-Engineered Metal Buildings

ASTM C 1177 (1999) Glass Mat Gypsum Substrate for Use as Sheathing

ASTM C 1289 (1998) Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board

ASTM D 226 (1997a) Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing

ASTM D 522 (1993a) Mandrel Bend Test of Attached Organic Coatings

ASTM D 523 (1989; R 1999) Specular Gloss

ASTM D 610 (1995) Evaluating Degree of Rusting on Painted Steel Surfaces

ASTM D 714 (1987; R 1994el) Evaluating Degree of Blistering of Paints

ASTM D 968 (1993) Abrasion Resistance of Organic Coatings by Falling Abrasive

ASTM D 1308 (1987; R 1998) Effect of Household Chemicals on Clear and Pigmented Organic Finishes

ASTM D 1654 (1992) Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments

ASTM D 2244 (1995) Calculation of Color Differences from Instrumentally Measured Color Coordinates

ASTM D 2247 (1999) Testing Water Resistance of Coatings in 100% Relative Humidity

ASTM D 2794 (1993; R 1999el) Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)

ASTM D 3359 (1997) Measuring Adhesion by Tape Test

ASTM D 4214 (1998) Evaluating Degree of Chalking of Exterior Paint Films

ASTM D 4397 (1996) Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications

ASTM D 5894 (1996) Standard Practice for Cyclic Salt Fog/UV Exposure of Painted Metal, (Alternating Exposures in a Fog/Dry Cabinet and a UV/Condensation Cabinet)

ASTM E 84 (2000a) Surface Burning Characteristics of Building Materials

ASTM E 96 (2000) Water Vapor Transmission of Materials

ASTM G 154 (2000ael) Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials

UNDERWRITERS LABORATORIES (UL)

UL 580 (1994; Rev thru Feb 1998) Tests for Uplift Resistance of Roof Assemblies

1.2 SUBMITTALS

Submittals are for Government information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Metal Roofing;

a. Drawings consisting of catalog cuts, flashing details, erection drawings, shop coating and finishing specifications, and other data as necessary to clearly describe materials, sizes, layouts, construction details, fasteners, and erection. Drawings shall be provided by the metal roofing manufacturer.
b. Drawings showing the UL 580, Class 90 tested roof system assembly.

SD-04 Samples

Not used.

SD-07 Certificates

Warranties;

At the completion of the project, signed copies of the 5-year Warranty for Non-Structural Metal Roofing System, a sample copy of which is attached to this section, and the 20-year Manufacturer's Material and Weathertightness Warranties.

1.3 GENERAL REQUIREMENTS

The Contractor shall furnish a commercially available roofing system which satisfies the specified design and additional requirements contained herein. The roofing system shall be provided by the Contractor as a complete system, as tested and approved in accordance with UL 580. Roof panels, components, transitions, accessories, and assemblies shall be supplied by the same roofing system manufacturer.

1.3.1 Non-Structural Metal Roof System

The Non-Structural Metal Roof System covered under this specification shall include the entire roofing system; the metal roof panels, fasteners, connectors, roof securement components, and assemblies tested and approved in accordance with UL 580. The system shall be installed on the existing substrate. In addition, the system shall consist of panel finishes, slip sheet, insulation, vapor retarder, all accessories, components, and trim and all connections with roof panels. This includes roof penetration items such as vents, curbs, skylights; interior or exterior gutters and downspouts, eaves, ridge, hip, valley, rake, gable, wall, or other roof system flashings installed and any other components specified within this contract to provide a weathertight roof system; and items specified in other sections of the specifications that are part of the system.

1.3.2 Manufacturer

The non-structural metal roofing system shall be the product of a manufacturer who has been in the practice of manufacturing metal roofs for a period of not less than 3 years and has been involved in at least five projects similar in size and complexity to this project.

1.3.3 Installer

The installer shall be certified by the metal roof manufacturer to have experience in installing at least three projects that are of comparable size, scope and complexity as this project for the particular roof system furnished. The installer may be either employed by the manufacturer or be an independent installer.

1.4 DESIGN LOADS

Non-structural Metal Roof System assemblies shall be tested as defined in UL 580 and shall be capable of resisting the wind uplift pressures shown on the contract drawings or, as a minimum, shall be approved to resist wind uplift pressures of UL 580, Class 90.

1.5 PERFORMANCE REQUIREMENTS

The metal roofing system supplied shall conform to the roof slope and underlayment recommended by the Government or by the manufacturer, and to the design loads specified in section 1.4, "Design Loads." The Contractor shall furnish a commercially available roofing system which satisfies all the specified requirements.

1.6 DELIVERY AND STORAGE

Materials shall be delivered to the site in a dry and undamaged condition and stored out of contact with the ground. Materials shall be covered with weather tight coverings and kept dry. Material shall not be covered with plastic where such covering will allow sweating and condensation. Plastic may be used as tenting with air circulation allowed. Storage conditions shall provide good air circulation and protection from surface staining.

1.7 WARRANTIES

The Non-Structural Metal Roofing System shall be warranted as outlined below. Any emergency temporary repairs conducted by the owner shall not negate the warranties.

1.7.1 Contractor's Weathertightness Warranty

The Non-Structural Metal Roofing System shall be warranted by the Contractor on a no penal sum basis for a period of five years against material and workmanship deficiencies; system deterioration caused by exposure to the elements and/or inadequate resistance to specified service design loads, water leaks, and

wind uplift damage. The roofing covered under this warranty shall include the entire roofing system, including but not limited to, the roof panels, fasteners, connectors, roof securement components, and assemblies tested and approved in accordance with UL 580. In addition, the system shall consist of panel finishes, slip sheet, insulation, vapor retarder, all accessories, components, and trim and all connections with roof panels. This includes roof penetration items such as vents, curbs, skylights; interior or exterior gutters and downspouts; eaves, ridge, hip, valley, rake, gable, wall, or other roof system flashings installed and any other components specified within this contract to provide a weathertight roof system; and items specified in other sections of the specifications that are part of the roof system. All material and workmanship deficiencies, system deterioration caused by exposure to the elements and/or inadequate resistance to service design loads, water leaks and wind uplift damage shall be repaired as approved by the Contracting Officer. See the attached Contractor's required warranty for issue resolution of warrantable defects. This warranty shall warrant and cover the entire cost of repair or replacement, including all material, labor, and related markups. The Contractor shall supplement this warranty with written warranties from the installer and system manufacturer, which shall be submitted along with Contractor's warranty; however, the Contractor shall be ultimately responsible for this warranty. The Contractor's written warranty shall be as outlined in attached WARRANTY FOR NON-STRUCTURAL METAL ROOF SYSTEM, and shall start upon final acceptance of the facility. It is required that the Contractor provide a separate bond in an amount equal to the installed total roofing system cost in favor of the owner (Government) covering the Contractor's warranty responsibilities effective throughout the 5 year Contractor's warranty period for the entire roofing system as outlined above.

1.7.2 Manufacturer's Material Warranties

The Contractor shall furnish, in writing, the following manufacturer's material warranties which cover all Non-Structural Metal Roofing System components such as roof panels, flashing, accessories, and trim, fabricated from coil material:

a. A manufacturer's 20 year material warranty warranting that the aluminum, zinc-coated steel, aluminum-zinc alloy coated steel or aluminum-coated steel as specified herein will not rupture, fail structurally, or perforate under normal atmospheric conditions at the site. Liability under this warranty shall be limited exclusively to the cost of either repairing or replacing nonconforming, ruptured, perforated, or structurally failed coil material.

b. A manufacturer's 20 year exterior material finish warranty warranting that the factory color finish, under normal atmospheric conditions at the site, will not crack, peel, or delaminate; chalk in excess of a numerical rating of 8 when measured in accordance with ASTM D 4214; or fade or change colors in excess of 5 NBS units as measured in accordance with ASTM D 2244. Liability under this warranty is exclusively limited to refinishing or replacing the defective coated coil material.

c. A roofing system manufacturer's 20 year system weathertightness warranty.

1.8 COORDINATION MEETING

When the Government determines a need, a coordination meeting shall be held prior to Notice To Proceed (NTP) on individual task orders for mutual understanding of the metal roofing system contract requirements. This meeting shall take place at the building site and shall include representatives from the Contractor (personnel familiar with the Contractor's proposed roofing system manufacturer, erection methods, and design) and the Contracting Officer. All items required by paragraph SUBMITTALS shall be discussed, including applicable standard manufacturer shop drawings along with technical, design, and scheduling issues. The Contractor shall coordinate time and arrangements for the meeting.

PART 2 PRODUCTS

2.1 ROOF PANELS

Panels shall be steel and shall have a factory color finish. Length of sheets shall be sufficient to cover the entire length of any unbroken roof slope for slope lengths that do not exceed 30 feet. Sheets longer than 30 feet may be furnished if approved by the Contracting Officer. Design provisions shall be made for thermal expansion and contraction consistent with the type of system to be used. All sheets shall be either square-cut or miter-cut. The ridge cap shall be installed as recommended by the metal roofing manufacturer. Height of corrugations, ribs, or seams, at overlap of adjacent roof sheets shall be the building manufacturer's standard for the indicated roof slope.

2.1.1 Steel Panels

Zinc-coated steel conforming to ASTM A 653/A 653M; aluminum-zinc alloy coated steel conforming to ASTM A 792/A 792M, AZ 55 coating; or aluminum-coated steel conforming to ASTM A 463/A 463M, Type 2, coating designation T2 65. Uncoated roof panels shall be 0.024 inch thick minimum. Panels shall be within 95 percent of the nominal thickness. Prior to shipment, mill finish panels shall be treated with a passivating chemical and oiled to inhibit the formation of oxide corrosion products. Panels that have become wet during shipment and have started to oxidize shall be rejected.

2.1.2 Aluminum Panels

Not used.

2.2 ACCESSORIES

Accessories shall be compatible with the roofing furnished. Flashing, trim, metal closure strips, caps, and similar metal accessories shall be not less than the minimum thicknesses specified for roof panels. Exposed metal accessories shall be finished to match the panels furnished. Molded closure strips shall be bituminous-saturated fiber, closed-cell or solid-cell synthetic rubber or neoprene, or polyvinyl chloride premolded to match configuration of the panels and shall not absorb or retain water.

2.3 FASTENERS

Fasteners for roof panels shall be zinc-coated steel, aluminum, or nylon capped steel, type and size as recommended by the manufacturer to meet the performance requirements. Fasteners for accessories shall be the manufacturer's standard. Exposed roof fasteners shall be gasketed or have gasketed washers on the exterior side of the roofing to waterproof the fastener penetration. Washer material shall be compatible with the panels; and gasketed portion of fasteners or washers shall be neoprene or other equally durable elastomeric material approximately 1/8 inch thick.

2.4 FACTORY COLOR FINISH

Panels shall have the manufacturer's factory-applied fluoropolymer finish on the exposed side. The exterior finish shall consist of a baked-on topcoat with an appropriate prime coat. Color shall be selected by the Contracting Officer and the completed system shall conform with requirements of the Energy Star Program. The exterior coating shall be a nominal 2 mil thickness consisting of a topcoat of not less than 0.7 mil dry film thickness and the paint manufacturer's recommended primer of not less than 1.0 mil thickness or as recommended by the manufacturer for the warranty period specified. The exterior color finish shall meet the test requirements specified below.

2.4.1 Cyclic Salt Fog/UV Test

A sample of the sheets shall be tested in accordance with ASTM G 154, test condition UVA-340 lamp, 4h UV at 60 degrees C followed by 4h CON at 50 degrees C. The coating shall withstand the weathering test without cracking, peeling, blistering, loss of adhesion of the protective coating, or corrosion of the base metal. Protective coating with an adhesion rating of less than 4B when tested in accordance with ASTM D 3359, Test Method B, shall be considered as an area indicating loss of adhesion. Following the accelerated weathering test, the coating shall have a chalk rating not less than No. 8 in accordance with ASTM D 4214

test procedures, and the color change shall not exceed 5 CIE or Hunter Lab color difference (delta E) units in accordance with ASTM D 2244. For sheets required to have a low gloss finish, the chalk rating shall be not less than No. 6 and the color difference shall be not greater than 7 units.

2.4.4 Humidity Test

When subjected to a humidity cabinet test in accordance with ASTM D 2247 for 1000 hours, a scored panel shall show no signs of blistering, cracking, creepage or corrosion.

2.4.5 Impact Resistance

Factory-painted sheet shall withstand direct and reverse impact in accordance with ASTM D 2794, 0.500 inch diameter hemispherical head indenter, equal to 1.5 times the metal thickness in mils, expressed in inch-pounds, with no cracking.

2.4.6 Abrasion Resistance Test

When subjected to the falling sand test in accordance with ASTM D 968, Method A, the coating system shall withstand a minimum of 50 liters of sand before the appearance of the base metal. The term "appearance of base metal" refers to the metallic coating on steel or the aluminum base metal.

2.4.7 Specular Gloss

Finished roof surfaces shall have a specular gloss value of 30 plus or minus 5 at 60 degrees when measured in accordance with ASTM D 523.

2.4.8 Pollution Resistance

Coating shall show no visual effects when covered spot tested in a 10 percent hydrochloric acid solution for 24 hours in accordance with ASTM D 1308.

2.5 UNDERLAYMENTS

2.5.1 Felt Underlayment

Felt underlayment shall be No. 30 felt in accordance with ASTM D 226, Type II. Felt underlayment selected shall have a minimum 40% total recycled content and shall be equal to recycled-content roofing felt products from Bedard Cascades, Tamko Roofing Products, or GS Roofing Products Co.

2.5.2 Rubberized Underlayment

Rubberized underlayment shall be equal to "Ice and Water Shield" as manufactured by Grace Construction Products, "Winterguard" as manufactured by CertainTeed Corporation, or "Weather Watch Ice and Water Barrier" as manufactured by GAF Building Materials Corporation.

2.5.3 Slip Sheet

Slip Sheet shall be 5 pounds per 100 sf rosin sized unsaturated building paper.

2.6 INSULATION

Thermal resistance of the insulation system shall be not less than R-value of 30. R-values shall be determined at a mean temperature of 75 degrees F in accordance with ASTM C 518. Insulation shall be a standard product with the insulation manufacturer, factory marked or identified with insulation manufacturer's name or trademark and R-value. Identification shall be on individual pieces or individual packages. Blanket insulation shall have a facing as specified in paragraph VAPOR RETARDER.

Insulation, including facings, shall have a flame spread not in excess of 25 and a smoke developed rating not in excess of 50 when tested in accordance with ASTM E 84. The stated R-value of the insulation shall be certified by an independent Registered Professional Engineer if tests are conducted in the insulation manufacturer's laboratory.

Recycled Content:

The Contractor shall comply with EPA requirements in accordance with Section 01670, "Recycled/ Recovered Materials."

2.6.1 Rigid Board Insulation for Use Above a Roof Deck

2.6.1.1 Polyisocyanurate

Polyisocyanurate insulation shall conform to ASTM C 1289, Type I, Class 2 and shall be a hydrochlorofluorocarbon (HCFC) FREE product equal to Atlas Corp. "ACUltra Technology" polyiso. No HCFC-content polyiso insulation shall be installed at Fort Lewis. For impermeable faced polyisocyanurate (Ex: aluminum foil) the maximum design R-value per 1 inch of insulation used shall be 7.2.

2.6.1.2 Mineral Fiber
Insulation shall conform to ASTM C 612.

2.6.1.3 Glass Mat Gypsum Roof Board

Glass mat gypsum roof board for underlayment/overlayment, thermal protection, or insulation protection shall be in accordance with ASTM C 1177/C 1177M.

2.6.2 Blanket Insulation

Blanket insulation shall conform to ASTM C 991.

2.7 INSULATION RETAINERS

Insulation retainers shall be type, size, and design necessary to adequately hold the insulation and to provide a neat appearance. Metallic retaining members shall be nonferrous or have a nonferrous coating. Nonmetallic retaining members, including adhesives used in conjunction with mechanical retainers or at insulation seams, shall have a fire resistance classification not less than that permitted for the insulation.

2.8 SEALANT

Sealant shall be an elastomeric type containing no oil or asphalt. Exposed sealant shall be clear or a color to coordinate with the applicable building color (earth tones predominate on Fort Lewis) and shall cure to a rubberlike consistency. Sealant placed in the roof panel standing seam ribs shall be provided in accordance with the manufacturer's recommendations.

2.9 GASKETS AND INSULATING COMPOUNDS

Gaskets and insulating compounds shall be nonabsorptive and suitable for insulating contact points of incompatible materials. Insulating compounds shall be nonrunning after drying.

2.10 VAPOR RETARDER

2.10.1 Vapor Retarders as Integral Facing

Insulation facing shall have a permeability of 0.02 perm or less when tested in accordance with ASTM E 96. Facing shall be white reinforced polypropylene kraft laminate (PSK). Facings and finishes shall be factory applied.

2.10.2 Vapor Retarders Separate from Insulation

Vapor retarder material shall be polyethylene sheeting conforming to ASTM D 4397. A single ply of 10 mil polyethylene sheet; or, at the Contractor's option, a double ply of 6 mil polyethylene sheet shall be used. A fully compatible polyethylene tape which has equal or better water vapor control characteristics than the vapor retarder material shall be provided. A cloth industrial duct tape in a utility grade shall also be provided to use as needed to protect the vapor retarder from puncturing.

2.10.3 Slip Sheet for Use With Vapor Retarder

Slip sheet for use with vapor retarder shall be a 5 per 100 square foot rosin-sized, unsaturated building paper.

PART 3 EXECUTION

3.1 INSTALLATION

Installation shall be in accordance with the manufacturer's erection instructions and drawings. Dissimilar materials which are not compatible when contacting each other shall be insulated by means of gaskets or insulating compounds. Improper or mislocated drill holes shall be plugged with an oversize screw fastener and gasketed washer; however, sheets with an excess of such holes or with such holes in critical locations shall not be used. Exposed surfaces and edges shall be kept clean and free from sealant, metal cuttings, hazardous burrs, and other foreign material. Stained, discolored, or damaged sheets shall be removed from the site.

3.1.1 Roofing

Side laps shall be laid away from the prevailing winds. Side and end lap distances, joint sealing, and fastening and spacing of fasteners shall be in accordance with manufacturer's standard practice. Spacing of exposed fasteners shall present an orderly appearance. Side laps and end laps of roof panels and joints at accessories shall be sealed. Fasteners shall be driven normal to the surface. Method of applying joint sealant shall conform to the manufacturer's recommendation to achieve a complete weathertight installation. Accessories shall be fastened into substrate, except as otherwise approved. Closure strips shall be provided as indicated and where necessary to provide weathertight construction.

3.1.2 Field Forming of Roof Panels for Unique Areas

When roofing panels are formed from factory-color-finished steel coils at the project site, the same care and quality control measures that are taken in shop forming of roofing panels shall be observed. Rollformer shall be operated by the metal roofing manufacturer's approved installer. In cold weather conditions, preheating of the steel coils to be field formed shall be performed as necessary just prior to the rolling operations.

3.1.3 Underlayment

Underlayment types shall be installed where shown on the drawings; they shall be installed directly over the substrate. If a roof panel rests directly on the underlayments, a slip sheet shall be installed as a top layer, beneath the metal roofing panels, to prevent adhesion. All underlayments shall be installed so that successive strips overlap the next lower strip in shingle fashion. Underlayments shall be installed in accordance with the manufacturer's written instructions. The underlayments shall ensure that any water that penetrates below the metal roofing panels will drain outside of the building envelope.

3.2 INSULATION INSTALLATION

Insulation shall be installed as indicated and in accordance with manufacturer's instructions. Insulation shall be continuous over entire roof surface. Where expansion joints, terminations, and other connections are made, the cavity shall be filled with batt insulation and vapor retarder providing equivalent R-Value and perm rating as remaining insulation.

3.2.1 Board Insulation in Warm Climates

Rigid or semirigid board insulation shall be laid in close contact. If more than one layer of insulation is required, joints in the second layer shall be offset from joints in the first layer. A layer of blanket insulation shall be placed over the rigid or semirigid board insulation to be compressed against the underside of the metal roofing to reduce thermal bridging, dampen noise, and prevent roofing flutter. This layer of blanket insulation shall be compressed a minimum of 50 percent. Rigid insulation shall be attached to the metal roof deck with bearing plates and fasteners, as recommended by the insulation manufacturer, so that the insulation joints are held tight against each other, with no less than 1 fastener and bearing plates per 4 square feet of insulation. Layout and joint pattern of insulation and fasteners shall be indicated on the shop drawings.

3.2.2 Board Insulation in Cool Climates

A layer of unfaced blanket insulation shall be placed over the board insulation and held tight against the metal roofing.

3.3 PROTECTION OF VAPOR RETARDER FROM ROOF DECK

A cloth industrial duct tape shall be adhered over all the seams of metal roof decking, at any penetration edges, and at all surface areas exhibiting sharp burrs or similar protrusions. For other types of roof decking, cloth industrial duct tape shall be adhered over all irregularities which could potentially puncture polyethylene membrane.

3.4 VAPOR RETARDER INSTALLATION

3.4.1 Integral Facing on Blanket Insulation

Integral facing on blanket insulation shall have the facing lapped and sealed with a compatible tape to provide a vapor tight membrane.

3.4.2 Polyethylene Vapor Retarder

The polyethylene vapor retarder membrane shall be installed over the entire surface. A fully compatible polyethylene tape shall be used to seal the edges of the sheets to provide a vapor tight membrane. Sheet edges shall be lapped not less than 6 inches. Sufficient material shall be provided to avoid inducing stresses in the sheets due to stretching or binding. All tears or punctures that are visible in the finished surface at any time during the construction process shall be sealed with polyethylene tape.

3.5 SLIP SHEET INSTALLATION

A slip sheet shall be laid over the blanket insulation facing to prevent the vinyl facing from adhering to the metal roofing.

END OF SECTION

CONTRACTOR'S FIVE (5) YEAR NO PENAL SUM WARRANTY FOR NON-STRUCTURAL METAL ROOF SYSTEM

FACILITY DESCRIPTION_____

BUILDING NUMBER:_____

CORPS OF ENGINEERS CONTRACT NUMBER:_____

CONTRACTOR

CONTRACTOR:_____

ADDRESS:_____

POINT OF CONTACT:_____

TELEPHONE NUMBER:_____

OWNER

OWNER:_____

ADDRESS:_____

POINT OF CONTACT:_____

TELEPHONE NUMBER:_____

CONSTRUCTION AGENT

CONSTRUCTION AGENT:_____

ADDRESS:_____

POINT OF CONTACT:_____

TELEPHONE NUMBER:_____

CONTRACTOR'S FIVE (5) YEAR NO PENAL SUM WARRANTY
FOR NON-STRUCTURAL METAL ROOF SYSTEM
(continued)

THE NON-STRUCTURAL METAL ROOF SYSTEM INSTALLED ON THE ABOVE NAMED BUILDING IS WARRANTED BY _____ FOR A PERIOD OF FIVE (5) YEARS AGAINST WORKMANSHIP AND MATERIAL DEFICIENCES, WIND DAMAGE, STRUCTURAL FAILURE, AND LEAKAGE. THE NON-STRUCTURAL METAL ROOFING SYSTEM COVERED UNDER THIS WARRANTY SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, THE FOLLOWING: THE ENTIRE ROOFING SYSTEM, MANUFACTURER SUPPLIED FRAMING AND STRUCTURAL MEMBERS, METAL ROOF PANELS, FASTENERS, CONNECTORS, ROOF SECUREMENT COMPONENTS, AND ASSEMBLIES TESTED AND APPROVED IN ACCORDANCE WITH UL 580. IN ADDITION, THE SYSTEM PANEL FINISHES, SLIP SHEET, INSULATION, VAPOR RETARDER, ALL ACCESSORIES, COMPONENTS, AND TRIM AND ALL CONNECTIONS ARE INCLUDED. THIS INCLUDES ROOF PENETRATION ITEMS SUCH AS VENTS, CURBS, SKYLIGHTS; INTERIOR OR EXTERIOR GUTTERS AND DOWNSPOUTS; EAVES, RIDGE, HIP, VALLEY, RAKE, GABLE, WALL, OR OTHER ROOF SYSTEM FLASHINGS INSTALLED AND ANY OTHER COMPONENTS SPECIFIED WITHIN THIS CONTRACT TO PROVIDE A WEATHERTIGHT ROOF SYSTEM; AND ITEMS SPECIFIED IN OTHER SECTIONS OF THE SPECIFICATIONS THAT ARE PART OF THE NON-STRUCTURAL METAL ROOFING SYSTEM.

ALL MATERIAL DEFICIENCIES, WIND DAMAGE, STRUCTURAL FAILURE, AND LEAKAGE ASSOCIATED WITH THE NON-STRUCTURAL METAL ROOF SYSTEM COVERED UNDER THIS WARRANTY SHALL BE REPAIRED AS APPROVED BY THE CONTRACTING OFFICER. THIS WARRANTY SHALL COVER THE ENTIRE COST OF REPAIR OR REPLACEMENT, INCLUDING ALL MATERIAL, LABOR, AND RELATED MARKUPS. THE ABOVE REFERENCED WARRANTY COMMENCED ON THE DATE OF FINAL ACCEPTANCE ON _____ AND WILL REMAIN IN EFFECT FOR STATED DURATION FROM THIS DATE.

SIGNED, DATED, AND NOTARIZED (BY COMPANY PRESIDENT)

_____

(Company President) (Date)

CONTRACTOR'S FIVE (5) YEAR NO PENAL SUM WARRANTY
FOR NON-STRUCTURAL METAL ROOFING SYSTEM
(continued)

THE CONTRACTOR SHALL SUPPLEMENT THIS WARRANTY WITH WRITTEN WARRANTIES FROM THE MANUFACTURER AND/OR INSTALLER OF THE NON-STRUCTURAL METAL ROOFING SYSTEM, WHICH SHALL BE SUBMITTED ALONG WITH THE CONTRACTOR'S WARRANTY. HOWEVER, THE CONTRACTOR WILL BE ULTIMATELY RESPONSIBLE FOR THIS WARRANTY AS OUTLINED IN THE SPECIFICATIONS AND AS INDICATED IN THIS WARRANTY EXAMPLE.

EXCLUSIONS FROM COVERAGE

1. NATURAL DISASTERS, ACTS OF GOD (LIGHTNING, FIRE, EXPLOSIONS, SUSTAINED WIND FORCES IN EXCESS OF THE DESIGN CRITERIA, EARTHQUAKES, AND HAIL).

2. ACTS OF NEGLIGENCE OR ABUSE OR MISUSE BY GOVERNMENT OR OTHER PERSONNEL, INCLUDING ACCIDENTS, VANDALISM, CIVIL DISOBEDIENCE, WAR, OR DAMAGE CAUSED BY FALLING OBJECTS.

3. DAMAGE BY STRUCTURAL FAILURE, SETTLEMENT, MOVEMENT, DISTORTION, WARPAGE, OR DISPLACEMENT OF THE BUILDING STRUCTURE OR ALTERATIONS MADE TO THE BUILDING.

4. CORROSION CAUSED BY EXPOSURE TO CORROSIVE CHEMICALS, ASH OR FUMES GENERATED OR RELEASED INSIDE OR OUTSIDE THE BUILDING FROM CHEMICAL PLANTS, FOUNDRIES, PLATING WORKS, KILNS, FERTILIZER FACTORIES, PAPER PLANTS, AND THE LIKE.

5. FAILURE OF ANY PART OF THE NON-STRUCTURAL METAL ROOF DUE TO ACTIONS BY THE OWNER TO INHIBIT FREE DRAINAGE OF WATER FROM THE ROOF AND GUTTERS AND DOWNSPOUTS OR ALLOW PONDING WATER TO COLLECT ON THE ROOF SURFACE. CONTRACTOR'S DESIGN SHALL INSURE FREE DRAINAGE FROM THE ROOF AND NOT ALLOW PONDING WATER.

6. THIS WARRANTY APPLIES TO THE NON-STRUCTURAL METAL ROOFING SYSTEM. IT DOES NOT INCLUDE ANY CONSEQUENTIAL DAMAGE TO THE BUILDING INTERIOR OR CONTENTS WHICH IS COVERED BY THE WARRANTY OF CONSTRUCTION CLAUSE INCLUDED IN THIS CONTRACT.

7. THIS WARRANTY CANNOT BE TRANSFERRED TO ANOTHER OWNER WITHOUT WRITTEN CONSENT OF THE CONTRACTOR; AND THIS WARRANTY AND THE CONTRACT PROVISIONS WILL TAKE PRECEDENCE OVER ANY CONFLICTS WITH STATE STATUTES.

**

CONTRACTOR'S FIVE (5) YEAR NO PENAL SUM WARRANTY
FOR NON-STRUCTURAL METAL ROOF SYSTEM
(continued)

** REPORTS OF LEAKS AND ROOF SYSTEM DEFICIENCIES SHALL BE RESPONDED TO FOLLOWING RECEIPT OF NOTICE, BY TELEPHONE OR IN WRITING, FROM EITHER THE OWNER OR CONTRACTING OFFICER, IN ACCORDANCE WITH PROVISIONS OF SECTION 01703. EMERGENCY REPAIRS TO PREVENT FURTHER ROOF LEAKS SHALL BE INITIATED IMMEDIATELY; A WRITTEN PLAN SHALL BE SUBMITTED FOR APPROVAL TO REPAIR OR REPLACE THIS ROOF SYSTEM WITHIN SEVEN (7) CALENDAR DAYS. ACTUAL WORK FOR PERMANENT REPAIRS OR REPLACEMENT SHALL BE STARTED WITHIN 30 DAYS AFTER RECEIPT OF NOTICE, AND COMPLETED WITHIN A REASONABLE TIME FRAME. IF THE CONTRACTOR FAILS TO ADEQUATELY RESPOND TO THE WARRANTY PROVISIONS, AS STATED IN THE CONTRACT AND AS CONTAINED HEREIN, THE CONTRACTING OFFICER MAY HAVE THE NON-STRUCTURAL METAL ROOF SYSTEM REPAIRED OR REPLACED BY OTHERS AND CHARGE THE COST TO THE CONTRACTOR.

IN THE EVENT THE CONTRACTOR DISPUTES THE EXISTENCE OF A WARRANTABLE DEFECT, THE CONTRACTOR MAY CHALLENGE THE OWNER'S DEMAND FOR REPAIRS AND/OR REPLACEMENT DIRECTED BY THE OWNER OR CONTRACTING OFFICER EITHER BY REQUESTING A CONTRACTING OFFICER'S DECISION UNDER THE CONTRACT DISPUTES ACT, OR BY REQUESTING THAT AN ARBITRATOR RESOLVE THE ISSUE. THE REQUEST FOR AN ARBITRATOR MUST BE MADE WITHIN 48 HOURS OF BEING NOTIFIED OF THE DISPUTED DEFECTS. UPON BEING INVOKED, THE PARTIES SHALL, WITHIN TEN (10) DAYS, JOINTLY REQUEST A LIST OF FIVE (5) ARBITRATORS FROM THE FEDERAL MEDIATION AND CONCILIATION SERVICE. THE PARTIES SHALL CONFER WITHIN TEN (10) DAYS AFTER RECEIPT OF THE LIST TO SEEK AGREEMENT ON AN ARBITRATOR. IF THE PARTIES CANNOT AGREE ON AN ARBITRATOR, THE CONTRACTING OFFICER AND THE PRESIDENT OF THE CONTRACTOR'S COMPANY WILL STRIKE ONE (1) NAME FROM THE LIST ALTERNATIVELY UNTIL ONE (1) NAME REMAINS. THE REMAINING PERSON SHALL BE THE DULY SELECTED ARBITRATOR. THE COSTS OF THE ARBITRATION, INCLUDING THE ARBITRATOR'S FEE AND EXPENSES, COURT REPORTER, COURTROOM OR SITE SELECTED, ETC., SHALL BE BORNE EQUALLY BETWEEN THE PARTIES. EITHER PARTY DESIRING A COPY OF THE TRANSCRIPT SHALL PAY FOR THE TRANSCRIPT. A HEARING WILL BE HELD AS SOON AS THE PARTIES CAN MUTUALLY AGREE. A WRITTEN ARBITRATOR'S DECISION WILL BE REQUESTED NOT LATER THAN 30 DAYS FOLLOWING THE HEARING. THE DECISION OF THE ARBITRATOR WILL NOT BE BINDING; HOWEVER, IT WILL BE ADMISSIBLE IN ANY SUBSEQUENT APPEAL UNDER THE CONTRACT DISPUTES ACT.

A FRAMED COPY OF THIS WARRANTY SHALL BE POSTED IN THE MECHANICAL ROOM OR OTHER APPROVED LOCATION DURING THE ENTIRE WARRANTY PERIOD.

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SECTION 07416

STRUCTURAL STANDING SEAM METAL ROOF (SSSMR) 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.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

AISC 335 (1989) Specification for Structural Steel Buildings - Allowable Stress Design, Plastic Design

AMERICAN IRON AND STEEL INSTITUTE (AISI)

AISI SG-973 (1996) Cold-Formed Steel Design Manual

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 463/A 463M (2000) Steel Sheet, Aluminum-Coated, by the Hot-Dip Process

ASTM A 653/A 653M (2000) Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process

ASTM A 792/A 792M (1999) Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process

ASTM B 209 (2000) Aluminum and Aluminum-Alloy Sheet and Plate

ASTM B 209M (2000) Aluminum and Aluminum-Alloy Sheet and Plate (Metric)

ASTM C 1177/C 1177M (1999) Glass Mat Gypsum Substrate for Use as Sheathing

ASTM C 1289 (1998) Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board

ASTM C 518 (1998) Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

ASTM C 991 (1998) Flexible Glass Fiber Insulation for Pre-Engineered Metal Buildings

ASTM D 1308 (1987; R 1998) Effect of Household Chemicals on Clear and Pigmented Organic Finishes

ASTM D 1654 (1992) Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments

ASTM D 2244 (1995) Calculation of Color Differences from Instrumentally Measured Color Coordinates

ASTM D 2247 (1999) Testing Water Resistance of Coatings in 100% Relative Humidity

ASTM D 2794 (1993; R 1999el) Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)

ASTM D 3359 (1997) Measuring Adhesion by Tape Test

ASTM D 4214 (1998) Evaluating Degree of Chalking of Exterior Paint Films

ASTM D 4397 (1996) Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications

ASTM D 522 (1993a) Mandrel Bend Test of Attached Organic Coatings

ASTM D 523 (1989; R 1999) Specular Gloss

ASTM D 5894 (1996) Standard Practice for Cyclic Salt Fog/UV Exposure of Painted Metal, (Alternating Exposures in a Fog/Dry Cabinet and a UV/Condensation Cabinet)

ASTM D 610 (1995) Evaluating Degree of Rusting on Painted Steel Surfaces

ASTM D 714 (1987; R 1994el) Evaluating Degree of Blistering of Paints

ASTM D 968 (1993) Abrasion Resistance of Organic Coatings by Falling Abrasive

ASTM E 1592 (1998) Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference

ASTM E 84 (2000a) Surface Burning Characteristics of Building Materials

ASTM E 96 (2000) Water Vapor Transmission of Materials

ASTM G 154 (2000ael) Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)

ASCE 7 (1998) Minimum Design Loads for Buildings and Other Structures

xx STEEL JOIST INSTITUTE (SJI)

SJI Specs & Tables (1994) Standard Specifications Load Tables and Weight Tables for Steel Joists and Joist Girders

ENVIRONMENTAL PROTECTION AGENCY (EPA)

CPG/RMAN CPG I (May 1, 1995), RMAN I (May 1, 1995), RMAN I Update (June 8, 1998), accessible from http://www.epa.gov/cpg/

1.2 GENERAL REQUIREMENTS

The Contractor shall furnish a commercial roofing system which satisfies all requirements contained herein and has been verified by load testing and independent design analyses to meet the specified design requirements.

1.2.1 Structural Standing Seam Metal Roof (SSSMR) System

The SSSMR system covered under this specification shall include the entire roofing system; the standing seam metal roof panels, fasteners, connectors, roof securement components, and assemblies tested and approved in accordance with ASTM E 1592. In addition, the system shall consist of panel finishes, slip sheet, insulation, vapor retarder, all accessories, components, and trim and all connections with roof panels. This includes roof penetration items such as vents, curbs, skylights; interior or exterior gutters and downspouts; eaves, ridge, hip, valley, rake, gable, wall, or other roof system flashings installed and any other components specified within this contract to provide a weathertight roof system.

1.2.2 Manufacturer

The SSSMR system shall be the product of a manufacturer who has been in the practice of manufacturing and designing SSSMR systems for a period of not less than 3 years and has been involved in at least five projects similar in size and complexity to this project.

1.2.3 Installer

The installer shall be certified by the SSSMR system manufacturer to have experience in installing at least three projects that are of comparable size, scope and complexity as this project for the particular roof system furnished. The installer may be either employed by the manufacturer or be an independent installer.

1.3 DESIGN REQUIREMENTS

The design of the SSSMR system shall be provided by the Contractor as a complete system. Members and connections not indicated on the drawings shall be designed by the Contractor. Roof panels, components, transitions, accessories, and assemblies shall be supplied by the same roofing system manufacturer.

1.3.1 Design Criteria

Design criteria shall be in accordance with ASCE 7.

1.3.2 Dead Loads

The dead load shall be the weight of the SSSMR system. Collateral loads such as sprinklers, mechanical and electrical systems, and ceilings shall not be attached to the panels.

1.3.3 Live Loads

1.3.3.1 Concentrated Loads

The panels and anchor clips shall be capable of supporting a 300 pound concentrated load. The concentrated load shall be applied at the panel midspan and will be resisted by a single standing seam metal roof panel assumed to be acting as a beam. The undeformed shape of the panel shall be used to determine the section properties.

1.3.3.2 Uniform Loads

The panels and concealed anchor clips shall be capable of supporting a minimum uniform live load of 20 psf.

1.3.4 Roof Snow Loads

The design roof snow loads shall be as shown on the contract drawings.

1.3.5 Wind Loads

The design wind uplift pressure for the roof system shall be as shown on the contract drawings. The design uplift force for each connection assembly shall be that pressure given for the area under consideration, multiplied by the tributary load area of the connection assembly. The safety factor listed below shall be applied to the design force and compared against the ultimate capacity. Prying shall be considered when figuring fastener design loads.

a. Single fastener in each connection.....3.0

b. Two or more fasteners in each connection...2.25

1.3.6 Thermal Loads

Roof panels shall be free to move in response to the expansion and contraction forces resulting from a total temperature range of 200 degrees C (328 degrees F) during the life of the structure.

1.3.7 Framing Members Supporting the SSSMR System

Any additions/revisions to framing members supporting the SSSMR system to accommodate the manufacturer/fabricator's design shall be the Contractor's responsibility and shall be submitted for review and approval. New or revised framing members and their connections shall be designed in accordance with AISI SG-973. Maximum deflection under applied live load, snow, or wind load shall not exceed 1/180 of the span length.

1.3.8 Roof Panels Design

Steel panels shall be designed in accordance with AISI SG-973. The structural section properties used in the design of the panels shall be determined using the unloaded shape of the roof panels. The calculated panel deflection from concentrated loads shall not exceed 1/180 of the span length. The calculated panel deflection under applied live load, snow, or wind load shall not exceed 1/180 times the span length. Deflections shall be based on panels being continuous across three or more supports. Deflection shall be calculated and measured along the major ribs of the panels.

1.3.9 Accessories and Their Fasteners

Accessories and their fasteners shall be capable of resisting the specified design wind uplift forces and shall allow for thermal movement of the roof panel system. Exposed fasteners shall not restrict free movement of the roof panel system resulting from thermal forces. There shall be a minimum of two fasteners per clip. Single fasteners with a minimum diameter of 9 mm (3/8 inch) will be allowed when the supporting structural members are prepunched or predrilled.

1.4 PERFORMANCE REQUIREMENTS

The SSSMR shall be tested for wind uplift resistance in accordance with ASTM E 1592; SSSMR systems previously tested and approved by the Corps of Engineers' STANDARD TEST METHOD FOR STRUCTURAL PERFORMANCE OF SSMRS BY UNIFORM STATIC AIR PRESSURE DIFFERENCE may be acceptable. Two tests shall be performed. Test 1 shall simulate the edge condition with one end having crosswise restraint and other end free of crosswise restraint. The maximum span length for the edge condition shall be 750 mm. (30 inches.) Test 2 shall simulate the interior condition with both ends free of crosswise restraint. The maximum span length for the interior condition shall be 1.5 m (5.0 feet). External reinforcement, such as clamps on the ribs, may be installed to improve uplift resistance. Bolts through seams shall not be installed.

1.5 SUBMITTALS

Submittals are for Government information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Structural Standing Seam Metal Roof System.

Metal roofing drawings and specifications and erection drawings; shop coating and finishing specifications; and other data as necessary to clearly describe design, materials, sizes, layouts, standing seam configuration, construction details, provisions for thermal movement, line of panel fixity, fastener sizes and spacings, sealants and erection procedures. Drawings shall reflect the intent of the architectural detailing using the manufacturer's proprietary products and fabricated items as required. The SSSMR system shop drawings shall be provided by the metal roofing manufacturer.

SD-03 Product Data

Design Analysis .

Design analysis signed by a Registered Professional Engineer employed by the SSSMR manufacturer. The design analysis shall include a list of the design loads, and complete calculations for the support system (when provided by the Contractor), roofing system and its components; valley designs, gutter/downspout calculations, screw pullout test results, and shall indicate how expected thermal movements are accommodated.

Qualifications.

Qualifications of the manufacturer and installer.

SD-04 Samples

Not used.

SD-06 Test Reports

Test Report for Uplift Resistance of the SSSMR.

The report shall include the following information:

a. Details of the SSSMR system showing the roof panel cross-section with dimensions and thickness.

b. Details of the anchor clip, dimensions, and thickness.

c. Type of fasteners, size, and the number required for each connection.

d. Purlins/subpurlins size and spacing used in the test.

e. Description of the seaming operation including equipment used.

f. Maximum allowable uplift pressures. These pressures are determined from the ultimate load divided by a factor of safety equal to 1.65.

g. Any additional information required to identify the SSSMR system tested.

h. Signature and seal of an independent registered engineer who witnessed the test.

SD-07 Certificates

Structural Standing Seam Metal Roof System.

a. Warranty certificate. At the completion of the project the Contractor shall furnish signed copies of the 5-year Warranty for Structural Standing Seam Metal Roof (SSSMR) System, a sample copy of which is attached to this section, the 20-year Manufacturer's Material Warranties, and the manufacturer's 20-year system weathertightness warranty.

1.6 DELIVERY AND STORAGE

Materials shall be delivered to the site in a dry and undamaged condition and stored out of contact with the ground. Materials shall be covered with weathertight coverings and kept dry. Storage conditions shall provide good air circulation and protection from surface staining.

1.7 WARRANTIES

The SSSMR system shall be warranted as outlined below. Any emergency temporary repairs conducted by the owner shall not negate the warranties.

1.7.1 Contractor's Weathertightness Warranty

The SSSMR system shall be warranted by the Contractor on a no penal sum basis for a period of five years against material and workmanship deficiencies; system deterioration caused by exposure to the elements and/or inadequate resistance to specified service design loads, water leaks, and wind uplift damage. The SSSMR system covered under this warranty shall include the entire roofing system including, but not limited to, the standing seam metal roof panels, fasteners, connectors, roof securement components, and assemblies tested and approved in accordance with ASTM E 1592. In addition, the system shall consist of panel finishes, slip sheet, insulation, vapor retarder, all accessories, components, and trim and all connections with roof panels. This includes roof penetration items such as vents, curbs, and skylights; interior or exterior gutters and downspouts; eaves, ridge, hip, valley, rake, gable, wall, or other roof system flashings installed and any other components specified within this contract to provide a weathertight roof system; and items specified in other sections of these specifications that are part of the SSSMR system. All material and workmanship deficiencies, system deterioration caused by exposure to the elements and/or inadequate resistance to specified design loads, water leaks and wind uplift damage shall be repaired as approved by the Contracting Officer. See the attached Contractor's required warranty for issue resolution of warrantable defects. This warranty shall warrant and cover the entire cost of repair or replacement, including all material, labor, and related markups. The Contractor shall supplement this warranty with written warranties from the installer and system manufacturer, which shall be submitted along with Contractor's warranty; however, the Contractor shall be ultimately responsible for this warranty. The Contractor's written warranty shall be as outlined in attached WARRANTY FOR STRUCTURAL STANDING SEAM METAL ROOF (SSSMR) SYSTEM, and shall start upon final acceptance of the facility. It is required that the Contractor provide a separate bond in an amount equal to the installed total roofing system cost in favor of the owner (Government) covering the Contractor's warranty responsibilities effective throughout the five year Contractor's warranty period for the entire SSSMR system as outlined above.

1.7.2 Manufacturer's Material Warranties.

The Contractor shall furnish, in writing, the following manufacturer's material warranties which cover all SSSMR system components such as roof panels, anchor clips and fasteners, flashing, accessories, and trim, fabricated from coil material:

a. A manufacturer's 20 year material warranty warranting that the zinc-coated steel, aluminum-zinc alloy coated steel or aluminum-coated steel as specified herein will not rupture, structurally fail, fracture, deteriorate, or become perforated under normal design atmospheric conditions and service design loads. Liability under this warranty shall be limited exclusively to the cost of either repairing or replacing nonconforming, ruptured, perforated, or structurally failed coil material.

b. A manufacturer's 20 year exterior material finish warranty on the factory colored finish warranting that the finish, under normal atmospheric conditions at the site, will not crack, peel, or delaminate; chalk in excess of a numerical rating of eight, as determined by ASTM D 4214 test procedures; or change color in excess of five CIE or Hunter Lab color difference (delta E) units in accordance with ASTM D 2244. Liability under this warranty is exclusively limited to refinishing with an air-drying version of the specified finish or replacing the defective coated material.

c. A roofing system manufacturer's 20 year, non-prorated, system weathertightness warranty.

1.8 COORDINATION MEETING

When the Government determines a need, a coordination meeting shall be held prior to Notice To Proceed (NTP) on individual task orders for mutual understanding of the Structural Standing Seam Metal Roof (SSSMR) System contract requirements. This meeting shall take place at the building site and shall include representatives from the Contractor (personnel familiar with the Contractor's proposed roof system manufacturer, erection methods, and design), and the Contracting Officer. All items required by paragraph SUBMITTALS shall be discussed, including applicable standard manufacturer shop drawings along with technical, design, and scheduling issues. The Contractor shall coordinate time and arrangements for the meeting.

PART 2 PRODUCTS

2.1 ROOF PANELS

Panels shall be steel and shall have a factory color finish. Length of sheets shall be sufficient to cover the entire length of any unbroken roof slope for slope lengths that do not exceed 9 m. (30 feet.) When length of run exceeds 9 m (30 feet) and panel laps are provided, each sheet in the run shall extend over three or more supports. Sheets longer than 30 m (100 feet) may be furnished if approved by the Contracting Officer. Width of sheets shall provide not more than 600 mm (24 inches) of coverage in place. SSSMR system with roofing panels greater than 300 mm (12 inches) in width shall have standing seams rolled during installation by an electrically driven seaming machine. Height of standing seams shall be not less than one and one-half mm (inches) for rolled seam and one and one-half mm (inches) for seams that are not rolled.

2.1.1 Steel Panels

Steel panels shall be zinc-coated steel conforming to ASTM A 653/A 653M; aluminum-zinc alloy coated steel conforming to ASTM A 792/A 792M, AZ 55 coating; or aluminum-coated steel conforming to ASTM A 463/A 463M, Type 2, coating designation T2 65. Zinc, zinc-aluminum alloy or aluminum coated panels shall be 0.584 mm (0.023 inch) thick minimum. Panels shall be within 95 percent of reported tested thickness as noted in wind uplift resistance testing required in paragraph PERFORMANCE REQUIREMENTS. Prior to shipment, mill finish panels shall be treated with a passivating chemical to inhibit the formation of oxide corrosion products. Panels that have become wet during shipment and have started to oxidize shall be rejected.

2.1.2 Aluminum Panels

Not used.

2.2 CONCEALED ANCHOR CLIPS

Concealed anchor clips shall be the same as the tested roofing system. Clip bases shall have factory punched or drilled holes for attachment. Clips shall be made from multiple pieces with the allowance for the total thermal movement required to take place within the clip. Single piece clips may be acceptable when the manufacturer can substantiate that the system can accommodate the thermal cyclic movement under sustained live or snow loads.

2.3 ACCESSORIES

Flashing, trim, metal closure strips, caps and similar metal accessories shall be the manufacturer's standard products. Exposed metal accessories shall be finished to match the panels furnished. Molded closure strips shall be bituminous-saturated fiber, closed-cell or solid-cell synthetic rubber or neoprene, or polyvinyl chloride premolded to match configuration of the panels and shall not absorb or retain water. Die cast metal closures, if used, shall be installed with double bead tape sealant and fasteners that stitch the panel to a 2 mm (16 gage) preformed backer plate to ensure a positive compression of the tape sealant. The use of a continuous angle butted to the panel ends to form a closure will not be allowed.

2.4 FASTENERS

Fasteners for steel roof panels shall be zinc-coated steel, aluminum, corrosion resisting steel, or nylon capped steel, type and size specified below or as otherwise approved for the applicable requirements. Fasteners for structural connections shall provide both tensile and shear ultimate strengths of not less than 3340 N (750 pounds) per fastener. Fasteners for accessories shall be the manufacturer's standard. Exposed roof fasteners shall be sealed or have sealed washers on the exterior side of the roof to waterproof the fastener penetration. Washer material shall be compatible with the roofing; have a minimum diameter of 10 mm (3/8 inch) for structural connections; and gasketed portion of fasteners or washers shall be neoprene or other equally durable elastomeric material approximately 3 mm (1/8 inch) thick. Exposed fasteners for factory color finished panels shall be factory finished to match the color of the panels.

2.4.1 Screws

Screws for attaching anchor devices shall be not less than No. 14. Actual screw pull out test results shall be performed for the actual material gage and yield strength of the structural purlins or subpurlins to which the clip is to be anchored/attached. Other screws shall be as recommended by the manufacturer to meet the strength design requirements of the panels.

2.4.2 Bolts

Bolts shall be not less than 6 mm (1/4 inch) diameter, shouldered or plain shank as required, with locking washers and nuts.

2.4.3 Structural Blind Fasteners

Blind screw-type expandable fasteners shall be not less than 6 mm (1/4 inch) diameter. Blind (pop) rivets shall be not less than 7 mm (9/32 inch) minimum diameter.

2.5 SUBPURLINS

Cold formed supporting structural members/subpurlins shall have a minimum thickness of 1.5 mm (0.059 inches) and a minimum tensile yield strength of 345 MPa. (50000 psi.) Hot rolled structural members shall have a minimum thickness of 6 mm (0.25 inches) and a minimum tensile yield strength of 248 MPa. (36000 psi.) Subpurlins shall be galvanized or shop painted.

2.6 FACTORY COLOR FINISH

Panels shall have the manufacturer's factory-applied polyvinylidene fluoride finish on the exposed side. The exterior finish shall consist of a baked-on topcoat with an appropriate prime coat. Color shall be selected by the Contracting Officer and the completed system shall conform with requirements for the Energy Star Program. The exterior coating shall be a nominal 0.025 mm (2 mil) thickness consisting of a topcoat of not less than 0.018 mm (0.7 mil) dry film thickness and the paint manufacturer's recommended primer of not less than 0.005 mm (1.0 mil) thickness. The interior color finish shall consist of a nominal 0.025 mm (1 mil) thick finish otherwise the same as the exterior. The exterior color finish shall meet the test requirements specified below.

2.6.1 Salt Spray Test

A sample of the sheets shall withstand a cyclic corrosion test for a minimum of 2016 hours in accordance with ASTM D 5894, including the scribe requirement in the test. Immediately upon removal of the panel from the test, the coating shall receive a rating of not less than 10, no blistering, as determined by ASTM D 714; 10, no rusting, as determined by ASTM D 610; and a rating of 6, over 2.0 to 3.0 mm (1/16 to 1/8 inch) failure at scribe, as determined by ASTM D 1654.

2.6.2 Formability Test

When subjected to testing in accordance with ASTM D 522 Method B, 3 mm (1/8 inch) diameter mandrel, the coating film shall show no evidence of cracking to the naked eye.

2.6.3 Accelerated Weathering, Chalking Resistance and Color Change

A sample of the sheets shall be tested in accordance with ASTM G 154, test condition UVA-340 lamp, 4h UV at 60 degrees C followed by 4h CON at 50 degrees C. The coating shall withstand the weathering test without cracking, peeling, blistering, loss of adhesion of the protective coating, or corrosion of the base metal. Protective coating with an adhesion rating less than 4B when tested in accordance with ASTM D 3359, Test Method B, shall be considered as an area indicating loss of adhesion. Following the accelerated weathering test, the coating shall have a chalk rating not less than No. 8 in accordance with ASTM D 4214 test procedures, and the color change shall not exceed 5

CIE or Hunter Lab color difference (delta E) units in accordance with ASTM D 2244. Low gloss finishes will not be used unless specifically called for by the Contracting Officer.

2.6.4 Humidity Test

When subjected to a humidity cabinet test in accordance with ASTM D 2247 for 1000 hours, a scored panel shall show no signs of blistering, cracking, creepage or corrosion.

2.6.5 Impact Resistance

Factory-painted sheet shall withstand direct and reverse impact in accordance with ASTM D 2794 13 mm (0.500 inch) diameter hemispherical head indenter, equal to 6.7 times the metal thickness in mm, expressed in Newton-meters, (1.5 times the metal thickness in mils, expressed in inch-pounds,) with no cracking.

2.6.6 Abrasion Resistance Test

When subjected to the falling sand test in accordance with ASTM D 968, Method A, the coating system shall withstand a minimum of 50 liters of sand before the appearance of the base metal. The term "appearance of base metal" refers to the metallic coating on steel or the aluminum base metal.

2.6.7 Specular Gloss

Finished roof surfaces shall have a specular gloss value of 30 plus or minus 5 at 60 degrees when measured in accordance with ASTM D 523.

2.6.8 Pollution Resistance

Coating shall show no visual effects when covered spot tested in a 10 percent hydrochloric acid solution for 24 hours in accordance with ASTM D 1308.

2.7 INSULATION

Thermal resistance of the insulation system shall be not less than an R-value of 30. R-values shall be determined at a mean temperature of 24 degrees C (75 degrees F) in accordance with ASTM C 518. Insulation shall be a standard product with the insulation manufacturer, factory marked or identified with insulation manufacturer's name or trademark and R-value. Identification shall be on individual pieces or individual packages. Blanket insulation shall have a facing as specified in paragraph VAPOR RETARDER. Insulation, including facings, shall have a flame spread not in excess of 25 and a smoke developed rating not in excess of 50 when tested in accordance with ASTM E 84. The stated R-value of the insulation shall be certified by an independent Registered Professional Engineer if tests are conducted in the insulation manufacturer's laboratory. Contractor shall comply with EPA CPG/RMAN requirements in accordance with Section 01670 RECYCLED / RECOVERED MATERIALS.

2.7.1 Polyisocyanurate Rigid Board Insulation for Use Above a Roof Deck

Polyisocyanurate insulation shall conform to ASTM C 1289, Type II, and shall be an HCFC free product equal to Atlas Corp. "ACUltra Technology" polyiso. No HCFC-content polyiso insulation shall be installed at Fort Lewis. For impermeable faced polyisocyanurate (Ex: aluminum foil), the maximum design R-value per 25 mm (1 inch) of insulation used shall be 1.27. (7.2.) Facings shall be non-asphaltic, glass fiber reinforced.

2.7.2 Blanket Insulation

Blanket insulation shall conform to ASTM C 991.

2.7.3 Glass Mat Gypsum Roof Board

Glass mat gypsum roof board for use above the deck or insulation for thermal protection shall have a flame spread - 0, smoke developed - 0, shall be water resistant and have a compressive strength of 3.4 kpa (500 psi). Glass mat gypsum roof board shall conform to ASTM C 1177/C 1177M.

2.8 INSULATION RETAINERS

Insulation retainers shall be type, size, and design necessary to adequately hold the insulation and to provide a neat appearance. Metallic retaining members shall be nonferrous or have a nonferrous coating. Nonmetallic retaining members, including adhesives used in conjunction with mechanical retainers or at insulation seams, shall have a fire resistance classification not less than that permitted for the insulation.

2.9 SEALANT

Sealants shall be elastomeric type containing no oil or asphalt. Exposed sealant shall be clear or colored to coordinate with the applicable building color (earth tones predominate on Fort Lewis) and shall cure to a rubberlike consistency. Sealant placed in the roof panel standing seam ribs shall be provided in accordance with the manufacturer's recommendations.

2.10 GASKETS AND INSULATING COMPOUNDS

Gaskets and insulating compounds shall be nonabsorptive and suitable for insulating contact points of incompatible materials. Insulating compounds shall be nonrunning after drying.

2.11 VAPOR RETARDER

2.11.1 Vapor Retarders as Integral Facing

Insulation facing shall have a permeability of 1.15 ng per Pa-second-square meter (0.02 perm) or less when tested in accordance with ASTM E 96. Facing shall be white reinforced polypropylene kraft laminate (PSK). Facings and finishes shall be factory applied.

2.11.2 Vapor Retarders Separate from Insulation

Vapor retarder material shall be polyethylene sheeting conforming to ASTM D 4397. A single ply of 0.25 mm (10 mil) polyethylene sheet; or, at the Contractor's option, a double ply of 0.15 mm (6 mil) polyethylene sheet shall be used. A fully compatible polyethylene tape which has equal or better water vapor control characteristics than the vapor retarder material shall be provided. A cloth industrial duct tape in a utility grade shall also be provided to use as needed to protect the vapor retarder from puncturing.

2.11.3 Slip Sheet for Use With Vapor Retarder

Slip sheet for use with vapor retarder shall be a 0.24 kg per square meter (5 lb. per 100 square feet) rosin-sized, unsaturated building paper.

2.12 EPDM RUBBER BOOTS

Flashing devices around pipe penetrations shall be flexible, one-piece devices molded from weather-resistant EPDM rubber. Rubber boot material shall be as recommended by the manufacturer. The boots shall have base rings made of aluminum or corrosion resisting steel that conform to the contours of the roof panel to form a weather-tight seal.

2.13 PREFABRICATED CURBS AND EQUIPMENT SUPPORTS

Prefabricated curbs and equipment supports shall be of structural quality, hot-dipped galvanized or galvanized sheet steel, factory primed and prepared for painting with mitered and welded joints. Integral base plates and water diverter crickets shall be provided. Minimum height of curb shall be 200 mm (8 inches) above finish roof. Curbs shall be constructed to match roof slope and to provide a level top surface for mounting of equipment. Curb flange

shall be constructed to match configuration of roof panels. Curb size shall be coordinated, prior to curb fabrication, with the mechanical equipment to be supported. Strength requirements for equipment supports shall be coordinated to include all anticipated loads. Flashings shall not be rigidly attached to underline structure.

PART 3 EXECUTION

3.1 INSTALLATION

Installation shall be in accordance with the manufacturer's erection instructions and drawings. Dissimilar materials which are not compatible when contacting each other shall be insulated by means of gaskets or insulating compounds. Molded closure strips shall be installed wherever roofing sheets terminate in open-end configurations, exclusive of flashings. The closure strip installation shall be weather-tight and sealed. Screws shall be installed with a clutching screw gun, to assure screws are not stripped. Field test shall be conducted on each gun prior to starting installation and periodically thereafter to assure it is adjusted properly to install particular type and size of screw as recommended by manufacturer's literature. Improper or mislocated drill holes shall be plugged with an oversize screw fastener and gasketed washer; however, sheets with an excess of such holes or with such holes in critical locations shall not be used. Exposed surfaces and edges shall be kept clean and free from sealant, metal cuttings, hazardous burrs, and other foreign material. Stained, discolored, or damaged sheets shall be removed from the site.

3.1.1 Field Forming of Panels for Unique Area

When roofing panels are formed from factory-color-finished steel coils at the project site, the same care and quality control measures that are taken in shop forming of roofing panels shall be observed. Rollformer shall be operated by the metal roofing manufacturer's representative. In cold weather conditions, preheating of the steel coils to be field formed shall be performed as necessary just prior to the rolling operations.

3.1.2 Subpurlins

Unless otherwise shown, subpurlins shall be anchored to the purlins or other structural framing members with bolts or screws. Attachment to the substrate (when provided) or to the panels is not permitted. The subpurlin spacing shall not exceed 750 mm (30 inches) on centers at the corner, edge and ridge zones, and 1500 mm (5 foot) maximum on centers for the remainder of the roof. Corner, edge, and ridge zones are as defined in ASCE 7.

3.1.3 Roof Panel Installation

Roof panels shall be installed with the standing seams in the direction of the roof slope. The side seam connections for installed panels shall be completed at the end of each day's work. Method of applying joint sealant shall conform to the manufacturer's recommendation to achieve a complete weather-tight installation. End laps of panels shall be provided in accordance with the manufacturer's instructions. Closures, flashings, EPDM rubber boots, roof curbs, and related accessories shall be installed according to the manufacturer's drawings. Fasteners shall not puncture roofing sheets except as provided for in the manufacturer's instructions for erection and installation. Expansion joints for the standing seam roof system shall be installed at locations indicated on the contract drawings and other locations indicated on the manufacturer's drawings.

3.1.4 Concealed Anchor Clips

Concealed anchor clips shall be fastened directly to the structural framing members. Attachment to the substrate (when provided) or to the metal deck is not permitted. The maximum distance, parallel to the seams, between clips shall be 750 mm (30 inches) on center at the corner, edge, and ridge zones, and 1500 mm (5 feet) maximum on centers for the remainder of the roof.

3.2 INSULATION INSTALLATION

Insulation shall be continuous over entire roof surface. Where expansion joints, terminations, and other connections are made, the cavity shall be filled with batt insulation with vapor retarder providing equivalent R-value and perm

rating as remaining insulation. Insulation shall be installed as indicated and in accordance with manufacturer's instructions.

3.2.1 Board Insulation with Blanket Insulation

Rigid or semirigid board insulation shall be laid in close contact. Board shall be attached to the metal roof deck with bearing plates and fasteners, as recommended by the insulation manufacturer, so that the insulation joints are held tight against each other, and shall have a minimum of 1 fastener per 0.37 square meters. (1 fastener per 4 square feet.) Layout and joint pattern of insulation and fasteners shall be indicated on the shop drawings. If more than one layer of insulation is required, joints in the second layer shall be offset from joints in the first layer. A layer of blanket insulation shall be placed over the rigid or semirigid board insulation to be compressed against the underside of the metal roofing to reduce thermal bridging, dampen noise, and prevent roofing flutter. This layer of blanket insulation shall be compressed a minimum of 50 percent.

3.2.2 Blanket Insulation

Blanket insulation shall be installed between and parallel to the purlins with tabs of a facer lapping on the top face of the purlins. Thermal blocks shall be provided over purlins, between clips. A second layer of unfaced insulation shall be added between purlins to provide full R-value. Blanket insulation shall be supported by an integral facing or other commercially available support system.

3.3 PROTECTION OF VAPOR RETARDER FROM ROOF DECK

A cloth industrial duct tape shall be applied over the seams of metal roof decks, at penetration edges, and at surface areas exhibiting sharp burrs or similar protrusions. For other types of roof decks, cloth industrial duct tape shall be applied over irregularities which could potentially puncture polyethylene membrane.

3.4 VAPOR RETARDER INSTALLATION

3.4.1 Integral Facing on Blanket Insulation

Integral facing on blanket insulation shall have the facing lapped and sealed with a compatible tape to provide a vapor tight membrane.

3.4.2 Polyethylene Vapor Retarder

The polyethylene vapor retarder membrane shall be installed over the entire surface. A fully compatible polyethylene tape shall be used to seal the edges of the sheets to provide a vapor tight membrane. Sheet edges shall be lapped not less than 150 mm. (6 inches.) Sufficient material shall be provided to avoid inducing stresses in the sheets due to stretching or binding. All tears or punctures that are visible in the finished surface at any time during the construction process shall be sealed with polyethylene tape.

3.5 SLIP SHEET INSTALLATION

Slip sheet shall be laid over blanket insulation facing to prevent vinyl facing from adhering to metal roofing.

3.6 CLEANING AND TOUCH-UP

Exposed SSSMR systems shall be cleaned at completion of installation. Debris that could cause discoloration and harm to the panels, flashings, closures and other accessories shall be removed. Grease and oil films, excess sealants, and handling marks shall be removed and the work shall be scrubbed clean. Exposed metal surfaces shall be free of dents, creases, waves, scratch marks, and solder or weld marks. Immediately upon detection, abraded or corroded spots on shop-painted surfaces shall be wire brushed and touched up with the same material used for the shop coat. Factory color finished surfaces shall be touched up with the manufacturer's recommended touch up paint.

END OF SECTION

CONTRACTOR'S FIVE (5) YEAR NO PENAL SUM WARRANTY
FOR
STRUCTURAL STANDING SEAM METAL ROOF (SSSMR) SYSTEM

FACILITY DESCRIPTION_____

BUILDING NUMBER:_____

CORPS OF ENGINEERS CONTRACT NUMBER:_____

CONTRACTOR

CONTRACTOR:_____

ADDRESS:_____

POINT OF CONTACT:_____

TELEPHONE NUMBER:_____

OWNER

OWNER:_____

ADDRESS:_____

POINT OF CONTACT:_____

TELEPHONE NUMBER:_____

CONSTRUCTION AGENT

CONSTRUCTION AGENT:_____

ADDRESS:_____

POINT OF CONTACT:_____

TELEPHONE NUMBER:_____

CONTRACTOR'S FIVE (5) YEAR NO PENAL SUM WARRANTY
FOR
STRUCTURAL STANDING SEAM METAL ROOF (SSSMR) SYSTEM
(continued)

THE SSSMR SYSTEM INSTALLED ON THE ABOVE NAMED BUILDING IS WARRANTED BY _____ FOR A PERIOD OF FIVE (5) YEARS AGAINST WORKMANSHIP AND MATERIAL DEFICIENCES, WIND DAMAGE, STRUCTURAL FAILURE, AND LEAKAGE. THE SSSMR SYSTEM COVERED UNDER THIS WARRANTY SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, THE FOLLOWING: THE ENTIRE ROOFING SYSTEM, MANUFACTURER SUPPLIED FRAMING AND STRUCTURAL MEMBERS, METAL ROOF PANELS, FASTENERS, CONNECTORS, ROOF SECUREMENT COMPONENTS, AND ASSEMBLIES TESTED AND APPROVED IN ACCORDANCE WITH ASTM E 1592. IN ADDITION, THE SYSTEM PANEL FINISHES, SLIP SHEET, INSULATION, VAPOR RETARDER, ALL ACCESSORIES, COMPONENTS, AND TRIM AND ALL CONNECTIONS ARE INCLUDED. THIS INCLUDES ROOF PENETRATION ITEMS SUCH AS VENTS, CURBS, SKYLIGHTS; INTERIOR OR EXTERIOR GUTTERS AND DOWNSPOUTS; EAVES, RIDGE, HIP, VALLEY, RAKE, GABLE, WALL, OR OTHER ROOF SYSTEM FLASHINGS INSTALLED AND ANY OTHER COMPONENTS SPECIFIED WITHIN THIS CONTRACT TO PROVIDE A WEATHERTIGHT ROOF SYSTEM; AND ITEMS SPECIFIED IN OTHER SECTIONS OF THE SPECIFICATIONS THAT ARE PART OF THE SSSMR SYSTEM.

ALL MATERIAL DEFICIENCIES, WIND DAMAGE, STRUCTURAL FAILURE, AND LEAKAGE ASSOCIATED WITH THE SSSMR SYSTEM COVERED UNDER THIS WARRANTY SHALL BE REPAIRED AS APPROVED BY THE CONTRACTING OFFICER. THIS WARRANTY SHALL COVER THE ENTIRE COST OF REPAIR OR REPLACEMENT, INCLUDING ALL MATERIAL, LABOR, AND RELATED MARKUPS. THE ABOVE REFERENCED WARRANTY COMMENCED ON THE DATE OF FINAL ACCEPTANCE ON _____ AND WILL REMAIN IN EFFECT FOR STATED DURATION FROM THIS DATE.

SIGNED, DATED, AND NOTARIZED (BY COMPANY PRESIDENT)

_____

(Company President) (Date)

CONTRACTOR'S FIVE (5) YEAR NO PENAL SUM WARRANTY
FOR
STRUCTURAL STANDING SEAM METAL ROOF (SSSMR) SYSTEM
(continued)

THE CONTRACTOR SHALL SUPPLEMENT THIS WARRANTY WITH WRITTEN WARRANTIES FROM THE MANUFACTURER AND/OR INSTALLER OF THE SSSMR SYSTEM, WHICH SHALL BE SUBMITTED ALONG WITH THE CONTRACTOR'S WARRANTY. HOWEVER, THE CONTRACTOR WILL BE ULTIMATELY RESPONSIBLE FOR THIS WARRANTY AS OUTLINED IN THE SPECIFICATIONS AND AS INDICATED IN THIS WARRANTY EXAMPLE.

EXCLUSIONS FROM COVERAGE

1. NATURAL DISASTERS, ACTS OF GOD (LIGHTNING, FIRE, EXPLOSIONS, SUSTAINED WIND FORCES IN EXCESS OF THE DESIGN CRITERIA, EARTHQUAKES, AND HAIL).

2. ACTS OF NEGLIGENCE OR ABUSE OR MISUSE BY GOVERNMENT OR OTHER PERSONNEL, INCLUDING ACCIDENTS, VANDALISM, CIVIL DISOBEDIENCE, WAR, OR DAMAGE CAUSED BY FALLING OBJECTS.

3. DAMAGE BY STRUCTURAL FAILURE, SETTLEMENT, MOVEMENT, DISTORTION, WARPAGE, OR DISPLACEMENT OF THE BUILDING STRUCTURE OR ALTERATIONS MADE TO THE BUILDING.

4. CORROSION CAUSED BY EXPOSURE TO CORROSIVE CHEMICALS, ASH OR FUMES GENERATED OR RELEASED INSIDE OR OUTSIDE THE BUILDING FROM CHEMICAL PLANTS, FOUNDRIES, PLATING WORKS, KILNS, FERTILIZER FACTORIES, PAPER PLANTS, AND THE LIKE.

5. FAILURE OF ANY PART OF THE SSSMR SYSTEM DUE TO ACTIONS BY THE OWNER TO INHIBIT FREE DRAINAGE OF WATER FROM THE ROOF AND GUTTERS AND DOWNSPOUTS OR ALLOW PONDING WATER TO COLLECT ON THE ROOF SURFACE. CONTRACTOR'S DESIGN SHALL INSURE FREE DRAINAGE FROM THE ROOF AND NOT ALLOW PONDING WATER.

6. THIS WARRANTY APPLIES TO THE SSSMR SYSTEM. IT DOES NOT INCLUDE ANY CONSEQUENTIAL DAMAGE TO THE BUILDING INTERIOR OR CONTENTS WHICH IS COVERED BY THE WARRANTY OF CONSTRUCTION CLAUSE INCLUDED IN THIS CONTRACT.

7. THIS WARRANTY CANNOT BE TRANSFERRED TO ANOTHER OWNER WITHOUT WRITTEN CONSENT OF THE CONTRACTOR; AND THIS WARRANTY AND THE CONTRACT PROVISIONS WILL TAKE PRECEDENCE OVER ANY CONFLICTS WITH STATE STATUTES.

**

CONTRACTOR'S FIVE (5) YEAR NO PENAL SUM WARRANTY
FOR
STRUCTURAL STANDING SEAM METAL ROOF (SSSMR) SYSTEM
(continued)

**REPORTS OF LEAKS AND SSSMR SYSTEM DEFICIENCIES SHALL BE RESPONDED TO FOLLOWING RECEIPT OF NOTICE, BY TELEPHONE OR IN WRITING, FROM EITHER THE OWNER OR CONTRACTING OFFICER, IN ACCORDANCE WITH PROVISIONS OF SECTION 01703. EMERGENCY REPAIRS TO PREVENT FURTHER ROOF LEAKS SHALL BE INITIATED IMMEDIATELY; A WRITTEN PLAN SHALL BE SUBMITTED FOR APPROVAL TO REPAIR OR REPLACE THIS SSSMR SYSTEM WITHIN SEVEN (7) CALENDAR DAYS. ACTUAL WORK FOR PERMANENT REPAIRS OR REPLACEMENT SHALL BE STARTED WITHIN 30 DAYS AFTER RECEIPT OF NOTICE, AND COMPLETED WITHIN A REASONABLE TIME FRAME. IF THE CONTRACTOR FAILS TO ADEQUATELY RESPOND TO THE WARRANTY PROVISIONS, AS STATED IN THE CONTRACT AND AS CONTAINED HEREIN, THE CONTRACTING OFFICER MAY HAVE THE SSSMR SYSTEM REPAIRED OR REPLACED BY OTHERS AND CHARGE THE COST TO THE CONTRACTOR.

IN THE EVENT THE CONTRACTOR DISPUTES THE EXISTENCE OF A WARRANTABLE DEFECT, THE CONTRACTOR MAY CHALLENGE THE OWNER'S DEMAND FOR REPAIRS AND/OR REPLACEMENT DIRECTED BY THE OWNER OR CONTRACTING OFFICER EITHER BY REQUESTING A CONTRACTING OFFICER'S DECISION UNDER THE CONTRACT DISPUTES ACT, OR BY REQUESTING THAT AN ARBITRATOR RESOLVE THE ISSUE. THE REQUEST FOR AN ARBITRATOR MUST BE MADE WITHIN 48 HOURS OF BEING NOTIFIED OF THE DISPUTED DEFECTS. UPON BEING INVOKED, THE PARTIES SHALL, WITHIN TEN (10) DAYS, JOINTLY REQUEST A LIST OF FIVE (5) ARBITRATORS FROM THE FEDERAL MEDIATION AND CONCILIATION SERVICE. THE PARTIES SHALL CONFER WITHIN TEN (10) DAYS AFTER RECEIPT OF THE LIST TO SEEK AGREEMENT ON AN ARBITRATOR. IF THE PARTIES CANNOT AGREE ON AN ARBITRATOR, THE CONTRACTING OFFICER AND THE PRESIDENT OF THE CONTRACTOR'S COMPANY WILL STRIKE ONE (1) NAME FROM THE LIST ALTERNATIVELY UNTIL ONE (1) NAME REMAINS. THE REMAINING PERSON SHALL BE THE DULY SELECTED ARBITRATOR. THE COSTS OF THE ARBITRATION, INCLUDING THE ARBITRATOR'S FEE AND EXPENSES, COURT REPORTER, COURTROOM OR SITE SELECTED, ETC., SHALL BE BORNE EQUALLY BETWEEN THE PARTIES. EITHER PARTY DESIRING A COPY OF THE TRANSCRIPT SHALL PAY FOR THE TRANSCRIPT. A HEARING WILL BE HELD AS SOON AS THE PARTIES CAN MUTUALLY AGREE. A WRITTEN ARBITRATOR'S DECISION WILL BE REQUESTED NOT LATER THAN 30 DAYS FOLLOWING THE HEARING. THE DECISION OF THE ARBITRATOR WILL NOT BE BINDING; HOWEVER, IT WILL BE ADMISSIBLE IN ANY SUBSEQUENT APPEAL UNDER THE CONTRACT DISPUTES ACT.

A FRAMED COPY OF THIS WARRANTY SHALL BE POSTED IN THE MECHANICAL ROOM OR OTHER APPROVED LOCATION DURING THE ENTIRE WARRANTY PERIOD.

SECTION 07520

THERMOPLASTIC POLYOLEFIN (TPO) ROOFING SYSTEM

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

1.1.1 References

ASTM C 1153(1997) Location of Wet Insulation in Roofing Systems Using Infrared Imaging

1.1.2 General

Provide design and installation for a single-ply membrane Thermplastic Polyolefin (TPO) roofing system, fully adhered or mechanically fastened. The completed design and installation shall qualify as a Class A Roof Covering as listed by Underwriters Laboratories, Inc. (UL) and Section 3204(a) of the Uniform Building Code and shall receive a FM I-90 Windstorm Classification as approved by Factory Mutual (FM) for Class 1 Construction. The roofing system shall meet the requirements of the Environmental Protection Agency (EPA) Energy Star Roofing Products Program.

1.1.3 Field Investigation

Conduct a pre-construction field investigation of existing roof substrate and field conditions to provide design and installation for a replacement Single-Ply Membrane (Thermoplastic) Roofing system (SMR). The roofing system may be either fully adhered, mechanically fastened, or a combination of both to meet field conditions.

1.1.4 Fire Retardancy

The design, material selection and installation shall meet the fire-retardancy requirements for Single-Ply membrane (Thermoplastic) assemblies for a Class A Roof Covering listed by Underwriters Laboratories, Inc.

1.1.5 Completeness Of Roofing System

The design and completed roofing system shall be inclusive of all flashings, roofing membrane, insulation, vapor barrier, fire barrier board and/or slip sheet, sealants and all other materials required to produce a weatherproof and watertight installation.

1.2 SUBMITTALS

Submittals are for Government information only. Submit in accordance with Section 01300, “Submittals,” Product Data.

SD-02 Shop Drawings

Not used.

SD-03 Product Data

Submit SMR membrane manufacturer’s published specification and installation instructions. Include the SMR system manufacturer's product data sheets for each proposed item to be incorporated into the new roofing system.

SD-07 CERTIFICATES

Submit a letter from the SMR system manufacturer certifying the Contractor is an approved applicator. Submit sample copy of SMR system manufacturer's 20-Year Total System Warranty covering all roofing components installed above the roof deck.

1.4 QUALITY ASSURANCE

The Contractor shall be certified by the SMR system manufacturer as an approved applicator.

1.5 DELIVERY, HANDLING, AND STORAGE

Materials shall be delivered to the site in undamaged condition, stored in a cool, shaded or covered, well ventilated area. Membrane rolls shall be stored lying down, fully protected from moisture and in sealed storage bags, preferably the original undisturbed plastic wrap. Adhesives shall be stored at temperatures above 40 degrees F or as recommended by manufacturer, in dry areas protected from water and direct sunlight. Store materials containing solvents in dry, well ventilated spaces with proper fire and safety precautions. Lids shall be kept tightly closed during storage, and materials used before expiration of their shelf life. Insulation must be on pallets, off the ground and tightly covered with waterproof materials. Materials that cannot be safely stored on site will be stored off-post by the Contractor and delivered as necessary to accomplish the Work. For all materials, follow storage instructions and precautions recommended by material manufacturer.

1.6 ENVIRONMENTAL REQUIREMENTS

Except for expedient temporary work, do not proceed with roofing work during high winds or inclement weather, or when there is ice, frost, moisture, or visible dampness on the substrate surface. Roofing or insulation shall not be applied in wet weather or over a wet surface. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day. Do not apply membrane when air temperature is below 40 degrees F or within five degrees F of the dewpoint. Roofing, equipment, and accessories shall be secured in such a manner as to preclude wind blow-off or wind damage at all times. Do not overload roof deck and structure during application or storage of materials.

1.7 SEQUENCING OF WORK

1.7.1 Protection From Foot Traffic

Arrange work sequence to avoid storage of materials and equipment on newly completed sections of new roofing. The Contractor shall provide both plywood and polyester felt protection for roof areas which receive traffic during construction.

1.7.2 Cleaning And Protection From Debris

Clean and protect area of completed work from debris, dust and other substances detrimental to the new SMR system. If necessary, Contractor shall be responsible for providing temporary protective covering for new SMR system.

1.8 WARRANTY

Provide Manufacturer's 20-Year Total System Warranty or other period as directed by the Government. Manufacturer's Total System Warranty shall include coverage of all labor and material costs (including removal of ponding water) resulting from failure to resist penetration of moisture or failure in materials. Warranty shall cover all roofing components above the roof deck upon acceptance of completed Work.

PART 2 PRODUCTS

2.1 GENERAL

A. All materials used in or in conjunction with the membrane roofing system shall be manufactured by or approved by the SMR manufacturer. All materials shall be delivered in packages bearing the manufacturer's label or identifying mark. Each package shall bear the label of an approved agency having a service for the inspection of material and finished products during manufacture.

2.2 SINGLE-PLY MEMBRANE

The generic type of SMR specified and intended for use shall be Thermoplastic Polyolefin (TPO) Based Sheet Roofing Membrane. Color shall be white and shall meet requirements of the EPA Energy Star Roofing Products Program. TPO membrane shall have a minimum puncture resistance of 250 lbf as measured by ASTM Federal Test Method (FTM) 101B, Method 2031.

2.2.1 Products and Manufacturers

SMR shall be TPO Membrane from a manufacturer with at least three years' experience in fabrication of this kind of membrane: Sure-Weld Hot Mopped Single-Ply (TPO) Roofing System distributed by Carlisle Roofing, Inc.; Stevens EP roofing membrane distributed by Stevens Roofing Systems, Inc.; EP roofing membrane distributed by Versico Incorporated; or equal.

2.3 VAPOR BARRIER

Provide materials required and approved by the SMR system manufacturer.

2.4 FIRE RETARDANT SLIP SHEET

Provide a .050 inch +/- unsaturated polyester slip sheet for cushioning or leveling layer for use as a separator between membrane and bituminous base roofing materials or incompatible field conditions. Provide Fire Retardant Slip-Sheet material designed to be used over wood decks or combustible materials. Slip-sheet shall provide protection against spread of flame, flame penetration, and act as a barrier between chemically incompatible roof insulation and membrane. Acceptable products include: FR 10 and FR 11 manufactured by Atlas Roofing Corporation, , or equal (no known equal).

2.5 INSULATION

Comply with requirements of Section 07220, "Roof And Deck Insulation."

2.5 ROOF WALKWAY

Provide SMR manufacturer's standard .060 inch thick non-skid membrane compatible with the deck membrane where necessary.

2.6 FLASHING MEMBRANE

Flashing membrane shall be the same composition as roofing membrane.

2.7 VINYL-COATED METAL

Vinyl-coated metal shall be 0.023 inch thick; G-90 galvanized steel sheeting coated on one side with a vinyl-based film that is compatible with the membrane fabric.

2.8 SEALANTS AND MASTICS

Strip Mastic Tape: Strip mastic tape shall be pre-cured, extruded sealant for use between membrane and the substrate as recommended by the SMR manufacturer.
Trowelable Mastic: Synthetic rubber and resin-based, solvent-release curing elastomer as recommended by the SMR manufacturer.
Pitch Pocket Sealant: Self-leveling silicone or urethane sealant recommended by the SMR manufacturer.
Caulk: One part polyurethane, conforming to Federal Specification TT-S-0023C, Type II, Class A and American Society for Testing and Materials (ASTM) C-920 for general-purpose use.

2.9 ADHESIVE

As required and recommended by SMR system manufacturer to provide a watertight bond to materials approved for installation. Adhesive bond must withstand a minimum FM I-90 (Windstorm Classification) uplift force.

2.10 FASTENERS AND PLATES

As required and recommended by SMR system manufacturer. Fastening system must withstand a minimum FM I-90 uplift force.

2.11 MISCELLANEOUS MATERIALS FOR SMR SYSTEM

2.11.1 Sheet Seaming System

Use manufacturer's standard materials and methods for sealing lapped joints, including edge sealer to cover exposed spliced edges as recommended by the SMR manufacturer.

2.11.2 Flashing Accessories

Use types recommended by manufacturer of the SMR material, or as shown in Section 07600, "Flashing And Sheet Metal," for each condition encountered on this project including termination bars, adhesive tapes, flashing, cements, sealants, and stainless steel clamps.

2.12 OTHER MATERIALS

All other materials not specifically described, but required for a complete and acceptable roofing system, shall be new and as selected by Contractor subject to the approval of the SMR system manufacturer.

PART 3 EXECUTION

3.1 PULL TEST

Conduct field pull tests to verify that the minimum acceptable pullout resistance for stated roof substrate can be met in accordance with the SMR system manufacturer's recommendations.
Submit a roof plan (sketch) showing location of tests, minimum acceptable resistance value established by SMR system manufacturer, and test result for each test location.

3.2 INSPECTION/COORDINATION

Verify that roof surfaces are dry, clean, and acceptable to the SMR manufacturer prior to starting installation of new SMR system.
Inspect equipment and curb construction for roof mounted equipment to ensure all equipment has been adjusted to meet the SMR system manufacturer's minimum height requirements unless a job specific waiver has been granted by the SMR system manufacturer.
Verify that insulation, wood nailers and cant strips are in place and secure.
Verify that existing vents have been extended to meet minimum height requirements of 6 inches.

If a utility shutdown is necessary, Contractor shall be responsible for coordination with the Contracting Officer prior to shutting down utilities.

3.3 SURFACE PREPARATION

A. Contractor shall examine surfaces scheduled to receive new roofing materials for defects, such as excessive surface roughness and structural soundness that would adversely affect the installation of the new SMR system.
Comply with the SMR system manufacturer's instructions for preparation of substrate to receive the new SMR system. Clean substrate of dust, debris, and other substances detrimental to system installation. Construct new crickets, saddles, and tapered edges as required by the SMR system manufacturer or as necessary to ensure a positive slope per manufacturer's recommendations.
Verify that roof drain lines are free flowing and unblocked before starting work. Seal drain openings to prevent clogging drains and drain lines during course of work. Beginning installation of new SMR system means acceptance of substrate conditions.

3.4 SINGLE-PLY MEMBRANE INSTALLATION

3.4.1 General

Remove all temporary work installed before installing permanent components. Comply with the SMR system manufacturer's instructions for installation of the roofing system, except where more stringent requirements are indicated. Cut sheets to maximum size possible, in order to minimize seams and to accommodate contours of the roof deck.

3.4.2 Drainage

Shingle joints on sloped substrate and in valley construction in the direction of drainage. Overlap edges and ends a minimum of 3 inches and seal seams. Apply a uniform bead of sealant to all seams and end of sheets. Prevent materials and compounds from entering the drains, and from spilling or migrating onto surface of other work.

3.4.3 Penetrations

Provide new flashings for all penetrations of the new SMR system to provide a watertight seal to membrane in accordance with manufacturer's instructions or procedures detailed in the NRCA Roofing Manual. Where Contractor determines during his survey or subsequently that a penetration of the existing roof is inactive or no longer used (e.g., ducts or stacks for equipment that is longer in the facility), the Contractor will notify the Government.

3.4.4 Walkway

Install SMR system manufacturer's reinforced walkway around each roof mounted equipment location with connecting walkway as required.

3.5 QUALITY CONTROL

3.5.1 Seam/Weld Testing

Using SMR manufacturer's approved seam tester, test all welds for continuity. Reweld defective seams complying with SMR System Manufacturer's instructions. Positive evidence of good welding is characteristic of uninterrupted extrusion of melted material from the seam. Finished field welding shall match the quality of typical seam welding submitted.

3.5.2 Seam/Weld Samples

When requested by Contracting Officer, provide samples of seam cuts. Sample locations will be determined by the Government. Samples shall be labeled and numbered with locations where samples were removed. Contractor shall be responsible for patching roof locations where field samples are removed.

3.6 NAILERS

Install new nailers and SMR clad metal flashings to provide a minimum 175 lbs/lineal ft. of pullout strength. Nailers and wood curbing shall be replaced as necessary to meet the SMR manufacturer's minimum height requirements for all locations that job specific waivers were not obtained.

3.7 ELECTRICAL

Disconnection of HVAC ductwork, equipment and electrical wiring necessary to perform the work will be accomplished by workers skilled in those crafts.

3.8 FLASHINGS AND EXPANSION

Limit installation of new SMR clad metal flashing to lengths under 20'. Provide 1/4" space between metal ends for expansion and install closure caps at expansion joints.

3.9 PRECAUTIONS

Contractor will be responsible for providing not less than 2 Dry Chemical Fire Extinguishers on the roof. Fire extinguishers shall be UL listed and Rated: 4 A 60; B; C 20 lb. multi-purpose.
Adhesives as indicated are extremely flammable and/or toxic. Use precautions indicated on can and carton labels to prevent fires or injury to workers. All screw fasteners shall be installed with a depth-sensing screw gun to prevent overdriving. After installation, close off completed areas to prevent unauthorized traffic and damage to newly installed roofing system.

3.10 WATER CUT-OFFS

At the end of each work day or when precipitation is imminent, apply a water cut-off at unsealed edges of the roof covering. Seal approximately six inches of the membrane edge to the deck with roof cement. Remove water cut-off and roof cement prior to continuing the installation.

3.11 ROOF DRAINS

Flash and seal new roofing membrane as approved in shop drawings and manufacturer's standard installation instruction. Contractor shall demonstrate that drains and lines are free of obstructions prior to final acceptance.

3.12 FINAL CLEAN-UP

Leave SMR membrane and all accessories clean and free of dirt, adhesive drips and oversplash.

3.13 INFRARED INSPECTION

Eight months after completion of the roofing system, the Contractor shall inspect the roof surface using infrared (IR) scanning as specified in ASTM C 1153. Where the IR inspection indicates wet insulation, moisture content of the insulation shall be determined at sample cuts (including a sample from a suspected dry area). Wet insulation shall be replaced where the moisture content by weight exceeds the following values: wood fiber: 30 percent; glass fiber or perlite: 25 percent; polyisocyanurate: 260 percent. Wet insulation, overlying roofing and sample-cut areas shall be replaced as directed.

END OF SECTION

SECTION 07530

ELASTOMERIC ROOFING (EPDM)

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.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 29/C 29M (1997) Bulk Density ("Unit Weight") and Voids in Aggregate

ASTM C 1153 (1997) Location of Wet Insulation in Roofing Systems Using Infrared Imaging

ASTM D 448 (1986; R 1993) Sizes of Aggregate for Road and Bridge Construction

ASTM D 4637 (1996) EPDM Sheet Used in Single-Ply Roof Membrane

ASTM E 108 (1996) Fire Tests of Roof Coverings

FACTORY MUTUAL ENGINEERING AND RESEARCH (FM)

FM P9513 (1996) Loss Prevention Data for Roofing Contractors

SINGLE PLY ROOFING INSTITUTE (SPRI)

SPRI RP-4 (1997) Wind Design Standard for Ballasted Single-Ply Roofing Systems

UNDERWRITERS LABORATORIES (UL)

UL 580 (1994; Rev thru Feb 1998) Tests for Uplift Resistance of Roof Assemblies

UL 790 (1997; Rev thru Jul 1998) Tests for Fire Resistance of Roof Covering Materials

UL 1256(1998) Fire Test of Roof Deck Constructions

1.2 SUBMITTALS

Submittals are for Government information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Not used.

SD-03 Product Data

Product Data;

Manufacturer's standard product data for the roofing system proposed for installation.

Inspection;

The inspection procedure for substrate suitability including decks, curbs and insulation installation, prior to start of the work. Inspection procedures during and after placement of the membrane, and after completion of work by other trades.

SD-07 Certificates

Materials;

Certificates of compliance attesting that the roofing system and materials meet specification requirements. The certificates shall list the components required for the specified fire and wind uplift resistance ratings.

1.3 GENERAL REQUIREMENTS

Elastomeric membrane roofing shall be fully adhered to the roof surfaces indicated. Roofing membrane sheet widths shall be consistent with membrane attachment methods and wind uplift requirements, and shall be as large as practical to minimize joints. Membrane shall be free of defects and foreign material. Flashing work shall be coordinated to permit continuous membrane installation operations. Applied insulation shall be weatherproofed by the membrane on the same day.

1.3.1 Delivery and Storage

Materials shall be delivered to the jobsite in the manufacturer's original, unopened packages, clearly marked with the manufacturer's name, brand name, and description of contents. Materials shall be stored in clean, dry areas. Storage temperatures shall be as specified by the manufacturer. Materials stored on the roof shall not exceed one day's supply and shall be distributed so as not to exceed the roof live load capacity.

1.3.2 Fire Resistance

The completed roof system shall have a ASTM E 108 (same test as UL 790 and FM P9513, Appendix A) Class A classification, and meet fire test requirements of UL 1256 or FM P9513, Appendix B for roof deck construction. Compliance of each component of the roofing system shall be evidenced by label or by written certification from the manufacturer.

1.3.3 Wind Uplift Requirements

Roofing system shall have a 90 UL 580 Class Rating or FM P9513, Appendix C Windstorm Classification. Ratings from other independent laboratories may be substituted provided that the tests, requirements and ratings are documented to be equivalent, to the satisfaction of the Contracting Officer.

1.3.4 Warranty

Manufacturer's standard warranty for the roofing system shall be provided for not less than 20 years from acceptance of the work, or other warranted time period selected by the Contracting Officer. Warranty shall state that manufacturer shall repair or replace defective materials if the roofing system leaks or allows the insulation beneath the membrane to become wet during the period of the warranty.

PART 2 PRODUCTS

2.1 ADHESIVES

Adhesives, splicing cements, solvents, and sealants shall be as recommended by the membrane manufacturer.

2.2 BALLAST

Not used.

2.3 FASTENERS

Fasteners for sheet-metal flashing shall be corrosion resistant steel annular-type nails or screws. Fasteners for anchoring the roofing membrane shall be as approved by the membrane manufacturer and identical to those used to obtain the wind uplift rating.

2.4 FLASHING

Flashing shall be of ultra-violet resistant materials as recommended by the membrane manufacturer and shall conform with Section 07600, "Flashing And Sheet Metal." Prefabricated shaped flashings shall be used where possible. Sheared edges of metal flashings that contact the membrane shall be turned into a tight hem.

2.5 MEMBRANE

Membrane shall conform to ASTM D 4637, Type I EPDM, Grade 1; Class U, 1.52 mm(0.060 inch) minimum thickness 1.00 mm.

2.6 PREFABRICATED ACCESSORIES

Pipe seals and expansion joint covers shall be types and sizes recommended by the membrane manufacturer.

2.7 WALKWAYS

Walkways shall be 100% recycled rubber. Pavers for walkways less than 1.2 m(4 feet) wide may rest directly on the membrane unless underlayment is recommended by the manufacturer. Where drainage would be blocked by walkway pavers, spaces shall be provided between or below pavers to facilitate drainage. Alternative walkway material may be used if recommended by the manufacturer and approved by the Contracting Officer.

PART 3 EXECUTION

3.1 ENVIRONMENTAL CONDITIONS

Membrane shall not be installed in high wind, inclement weather or when there is visible ice, frost or moisture on the deck, insulation or membrane. Membrane shall not be installed when air temperature is below the minimum specified by the membrane manufacturer.

3.2 PREPARATION

In case of new construction or replacement of the substrate, the substrate of any bay or section of the building shall be complete and suitable for insulation and membrane installation before roofing is begun. Insulation over which elastomeric roofing is installed shall conform to Section 07220, ROOF AND DECK INSULATION. Surfaces against which membrane is applied shall be smooth, clean, and free from dirt, water, dew, oil, grease, sharp edges and construction debris; all joints over 6 mm(1/4 inch) wide shall be sealed; joints over 13 mm(1/2 inch) between insulation boards shall be filled with the same insulation. Wood nailers shall comply with Section 06100, ROUGH CARPENTRY.

3.3 INSTALLATION

Installation shall comply with the manufacturer's approved instructions, or as recommended in the NRCA Roofing Manual.

3.3.1 Flashing

Edges of membrane, projections through the roof and changes in roof planes shall be flashed. The flashing material shall be extended and sealed a minimum of 75 mm(3 inches) on each side of the fasteners which attach the membrane to nailers. The installed flashing shall be fastened at the top of the flashing a maximum of 300 mm(12

inches) on center under metal counter-flashing or cap. Where Contractor determines during his pre-construction roof survey or subsequently that a penetration of the existing roof is inactive or no longer used (e.g., ducts or stacks for equipment that is no longer in the facility), the Contractor will notify the Government.

3.3.2 Expansion Joints

Expansion joints shall be covered using prefabricated covers or elastomeric flashing in accordance with the manufacturer's recommendations.

3.3.3 Membrane Installation

Membrane shall be applied in accordance with the manufacturer's instructions or the following requirements. Seam tape or contact adhesive may be used as recommended by the membrane manufacturer and shall be compatible with the roofing system. If adhesive is used, then adjoining sheets comprising the membrane shall be adhered one to another using a butyl-based contact adhesive. Minimum width of the laps shall be 75 mm. (3 in.) A primer shall be used before applying the contact adhesive if required by the membrane manufacturer. In applying the contact adhesive, the minimum thickness of the wet film shall be in accordance with the membrane manufacturer's recommendations. If manufacturer's recommendations are not available, the minimum thickness shall be 0.6 mm. (0.025 inch.) A wet film thickness gage shall be used to determine wet film thickness. Direction of lap shall be such that water flows over lap. Membrane joints shall be free of wrinkles or fishmouths. Before application of the contact adhesive, the rubber surfaces to be mated shall be well cleaned. Joints shall be inspected over entire length after completion and defective areas shall be resealed and patched. Damaged areas of membrane shall be removed and replaced with new materials, lapping underlying membrane by at least 75 mm(3 inches) on all sides.

3.3.4 Cutoffs

Cutoffs shall be installed if work day is ended or interrupted by bad weather before roof section is complete. The insulation line shall be straightened using loose-laid cut insulation and the membrane shall be sealed to the roof deck. Flutes in metal decking shall be sealed off along the cutoff edge. Membrane shall be pulled free or cut to expose the insulation when resuming work, and cut insulation sheets used for fill-in shall be removed as necessary to maintain the staggered pattern.

3.3.5 Installation of Walkways

Concrete paver walkways, where required, shall be installed on a loose-laid pad of the membrane material extending at least 25 mm(1 inch) beyond the walkway material, and as specified by the manufacturer.

3.4 BALLAST

Not used.

3.5 PROTECTION OF FINISHED ROOFING

The roofing membrane shall be protected from damage by other trades. After completion of work by other trades, the protection shall be removed and the roof shall be inspected. Any damage shall be repaired in accordance with the recommendations of the roofing manufacturer.

3.6 INSPECTION

The Contractor shall establish and maintain an inspection procedure to assure compliance of the installed elastomeric roofing with the contract requirements. The procedure shall include a checklist of points to be observed. Any work found not to be in compliance with the contract shall be promptly removed and replaced or corrected in an approved manner. Quality control shall include, but not be limited to, the following:

a. Observation of environmental conditions; number and skill level of roofing workers; start and end time of various tasks; condition of substrate.

b. Verification of compliance of materials before, during and after installation.

c. Inspection of insulation, nailers, flashings, penetrations and work requiring coordination with roofing.

d. Inspection of membrane placement, splicing, and attachment.

3.7 INFRARED INSPECTION

Eight months after completion of the roofing system, the Contractor shall inspect the roof surface using infrared (IR) scanning as specified in ASTM C 1153. Where the IR inspection indicates wet insulation, moisture content of the insulation shall be determined at sample cuts (including a sample from a suspected dry area). Wet insulation shall be replaced where the moisture content by weight exceeds the following values: wood fiber: 30 percent; glass fiber or perlite: 25 percent; polyisocyanurate: 260 percent. Wet insulation, overlying roofing and sample-cut areas shall be replaced as directed.

END OF SECTION

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SECTION 07548

POLYVINYL CHLORIDE (PVC) ROOFING

PART 1 GENERAL

This roofing system should not be used in direct physical contact with asphalt, coal tar pitches, petroleum products, nor where coal-tar fumes are present. For additional guidance on PVC roofing, the contractor should consult the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual.

Roofs must be constructed to drain with a minimum slope of 20 mm per meter (1/4 inch per foot).

Roof expansion joints must be provided at each expansion joint in the structure, at each change in deck material, and at each intersection where a roof deck changes direction. Expansion joints and curb dividers in the membrane should be located at high points where practicable.

Top of nailers for curbs, area dividers and expansion joints should be at least 200 mm (8 inches) above surface of finished roof and should not interfere with drainage. Do not use flush type joints.

Contractor should provide materials, products, and innovative construction methods and techniques which are environmentally sensitive, take advantage of recycling, and conserve natural resources.

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.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 29/C 29M (1997) Bulk Density ("Unit Weight") and Voids in Aggregate

ASTM D 448 (1986; R 1998) Sizes of Aggregate for Road and Bridge Construction

ASTM D 4434 (1996) Poly(Vinyl Chloride) Sheet Roofing

ASTM G 21 (1996) Determining Resistance of Synthetic Polymeric Materials to Fungi

FACTORY MUTUAL ENGINEERING AND RESEARCH (FM)

FM P7825a (1998) Approval Guide Fire Protection

FM P9513 (1996) Loss Prevention Data for Roofing Contractors

NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)

NRCA Roofing Manual Roofing And Waterproofing Manual, 5th Ed.

SINGLE PLY ROOFING INSTITUTE (SPRI)

SPRI RP-4 (1997) Wind Design Standard for Ballasted Single-Ply Roofing Systems

UNDERWRITERS LABORATORIES (UL)

UL 580 (1994; Rev thru Feb 19998) Tests for Uplift Resistance of Roof Assemblies

UL 790 (1997; Rev thru Jul 1998) Tests for Fire Resistance of Roof Covering Materials

1.2 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

Not used

SD-03 Product Data

Product Information and Installation;

Manufacturer's product information and instructions for preparing and installing the membrane, flashing, seams, insulation, nailers, and other accessories.

Protection of Finished Roofing;

A protection plan showing areas to be protected, type of material used, a procedure to protect the membrane from damage until completion of work by other trades, and a description of the method of repairing the roofing.

Inspection;

The inspection procedure for substrate suitability including decks, curbs and insulation installation, prior to start of the work. Inspection procedures during and after placement of the membrane, and after completion of work by other trades.

SD-07 Certificates

Materials;

Certificates of compliance attesting that the materials meet specification requirements. The certificates shall list the components required for the specified rating.

Qualifications;

Documentation verifying that the Contractor has a minimum of 2 years experience with PVC roofing systems and has been certified by the PVC roofing manufacturer as an approved Installer for the specified PVC roofing system.

1.3 GENERAL REQUIREMENTS

Polyvinyl Chloride (PVC) roofing shall be fully adhered or mechanically fastened to the roof surfaces. Roofing membrane sheet widths shall be consistent with membrane attachment methods and wind uplift requirements, and shall be as large as practical to minimize joints. Membrane shall be free of defects and foreign material. Flashing work shall be coordinated to permit continuous roof-surfacing operations. Insulation shall be applied and weatherproofed on the same day.

1.3.1 Delivery and Storage

Materials shall be delivered to the jobsite in the manufacturer's original unopened packages, clearly marked with the manufacturer's name, brand name, description of contents, and label for compliance with UL requirements. Time limited materials shall be used before shelf life expires. Materials other than ballast shall be stored in clean, dry areas. Storage temperatures shall be as specified by the manufacturer. A maximum of one day's supply of materials

other than ballast may be stored on the roof when distributed so as not to exceed the roof live load limit. These materials shall be kept dry and clean until application. Ballast shall be stored uncovered, shall not be in contact with sod or earth, and shall not be stored on the roof.

1.3.2 Fire Resistance

The roofing system fire resistance shall be rated Class A as determined by UL 790 or Class 1 as determined by FM P7825a. Compliance of each component of the roofing system shall be evidenced by label or by written certification from the manufacturer.

1.3.3 Wind Uplift Requirements

Wind uplift resistance of the complete roof assembly shall be rated Class I-90 in accordance with FM P9513 or Class 90 in accordance with UL 580.

1.3.4 Warranty

Manufacturer's standard warranty for 20 years shall be furnished. Warranty shall provide for repair or replacement of the complete roofing system, including insulation and flashings, if leaking is caused by defects in materials or workmanship.

PART 2 PRODUCTS

2.1 SOLVENTS AND SEALANTS

Adhesives, welding solvents, and sealants shall be as recommended by the membrane manufacturer.

2.2 BALLAST

Not used.

2.3 FASTENERS

Fasteners for sheet-metal flashing shall be corrosion-resistant steel annular-ring type nails, or screws. Fasteners for anchoring the roofing membrane shall be as approved by the membrane manufacturer and identical to those used to obtain the wind uplift rating.

2.4 FLASHINGS

Flashings shall be ultra-violet resistant materials furnished by the membrane manufacturer, except as otherwise specified. Shaped flashing components shall be prefabricated. Sheared edges of metal flashings that will contact the membrane shall be turned into a tight hem.

2.5 MEMBRANE

Membrane shall be reinforced and shall contain fibers or fabric, shall be at least 60 mils thick, and shall comply with ASTM D 4434, Type II or III. Membrane shall be fungi resistant as demonstrated by "non sustained growth" or discoloration after 21 days exposure as specified in ASTM G 21.

2.6 PREFABRICATED ACCESSORIES

Pipe seals and expansion joint covers shall be types and sizes recommended by the membrane manufacturer.

2.7 SLIP SHEET

Slip sheets between insulation and membrane shall be as recommended by the membrane manufacturer.

2.8 WALKWAYS

Walkways shall be 100% recycled rubber pavers, with a non-skid top surface. Pavers for walkways less than 1.2 m (4 feet) wide around mechanical equipment, or other features except drains, may rest directly on the membrane unless underlayment is specified by the manufacturer. Alternate walkway material may be used if recommended by the manufacturer and approved by the Contracting Officer.

PART 3 EXECUTION

3.1 ENVIRONMENTAL CONDITIONS

Membrane shall not be installed in high wind, inclement weather or when there is visible ice, frost or moisture on the deck or membrane. Unless otherwise specified by the manufacturer, membrane shall not be installed when air temperature is below 4 degrees C (40 degrees F) or within 3 degrees C(5 degrees F) of the dew point.

3.2 PREPARATION

The substrate of any bay or section of the building shall be complete and suitable for insulation and membrane installation before roofing is begun. Insulation under roofing shall comply with Section 07220 ROOF INSULATION. Surfaces on or against which membrane is applied shall be smooth, clean, and free from oil, grease, sharp edges, standing water, and construction debris. Joints over 6 mm(1/4 inch) wide shall be filled with insulation material. Wood nailers shall comply with Section 06100 ROUGH CARPENTRY.

3.3 INSTALLATION

Installation shall comply with the manufacturer's approved instructions except as otherwise specified.

3.3.1 Membrane

Membrane shall not be placed directly on concrete deck or other hard surface which may damage the membrane. Unless otherwise specified by the manufacturer, the membrane shall be rolled out on the surface and allowed to relax for at least 1/2 hour when ambient temperature is 15 degrees C(60 degrees F) or higher or 2 hours when ambient temperature is below 15 degrees C (60 degrees F) prior to other installation activities. Membrane shall be overlapped a minimum of 75 mm (3 inches) at sides and minimum 100 mm (4 inches) at ends. Direction of laps shall allow water to flow over and not into the lap. Membrane joints shall be free of wrinkles and fishmouths. The entire length of joints shall be probe-tested and corrected during the day of installation. Defective areas shall be re-sealed. Wrinkles, fishmouths, or damaged areas shall be cut out and the area covered with membrane using a 75 mm (3 inch) seam on all sides. Repairs shall be probe-tested for continuity. Bonded areas of seams shall be a minimum 75 mm (3 inches) wide for bonded seams and 50 mm (2 inches) wide for heat-welded seams.

3.3.2 Nailing

Membrane shall be fastened to nailers in accordance with the membrane manufacturer's approved instructions. Unless otherwise specified, nails shall be staggered on 100 mm (4 inch) centers maximum; screws for sheet metal shall be staggered on 200 mm (8 inch) centers maximum; and a row of fasteners shall be at least 13 mm (1/2 inch) from edges of sheet metal.

3.3.3 Flashing

Roof edges, projections through the roof and changes in roof planes shall be flashed. The seam between the flashing and the membrane shall be completed before the flashing is bonded to vertical surfaces. The seam shall be sealed a minimum of 75 mm (3 inches) beyond the fasteners which attach the membrane to nailers. The installed flashings shall be secured at the top of the flashing a maximum of 300 mm (12 inches) on centers under the counterflashing or cap. Where possible, prefabricated components shall be used for pipe seals and flashing accessories.

3.3.4 Expansion Joints

Expansion joints shall be covered using Prefabricated covers or elastomeric flashing in accordance with the recommendations of the manufacturer.

3.3.5 Cutoffs

If work is terminated prior to weatherproofing the entire roof, the membrane shall be sealed to the roof deck. Flutes in metal decking shall be sealed off along the cutoff edge. Membrane shall be pulled free or cut to expose the insulation when resuming work and cut insulation sheets used for fill-in shall be removed. Asphalt or coal-tar products shall not be used for sealing.

3.3.6 Walkways

Walkways shall be installed on a loose-laid pad of the membrane material extending at least 25 mm (1 inch) beyond the walkway material, and as specified by the manufacturer.

3.4 BALLAST APPLICATION

Not used.

3.5 PROTECTION OF FINISHED ROOFING

The roofing membrane shall be protected from damage by other trades. After completion of work by other trades, the protection shall be removed and the roof shall be inspected. Any damage shall be repaired in accordance with the recommendation of the roofing manufacturer.

3.6 INFRARED INSPECTION

Eight months after completion of the roofing system, the Contractor shall inspect the roof surface using infrared (IR) scanning as specified in ASTM C 1153. Where the IR inspection indicates wet insulation, moisture content of the insulation shall be determined at sample cuts (including a sample from a suspected dry area). Wet insulation shall be replaced where the moisture content by weight exceeds the following values: wood fiber: 30 percent; glass fiber or perlite: 25 percent; polyisocyanurate: 260 percent. Wet insulation, overlying roofing and sample-cut areas shall be replaced as directed.

END OF SECTION

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SECTION 07551

MODIFIED BITUMEN ROOFING

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.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 1153 (1997) Location of Wet Insulation in Roofing Systems Using Infrared Imaging

ASTM C 208 (1995) Cellulosic Fiber Insulating Board

ASTM D 1863 (1993; R 1996) Mineral Aggregate Used on Built-Up Roofs

ASTM D 2824 (1994) Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos

ASTM D 312 (2000) Asphalt Used in Roofing

ASTM D 41 (1994) Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing

ASTM D 4586 (1993; R 1999) Asphalt Roof Cement, Asbestos Free

ASTM D 4601 (1998) Asphalt-Coated Glass Fiber Base Sheet Used in Roofing

ASTM D 4897 (1998) Asphalt-Coated Glass-Fiber Venting Base Sheet Used in Roofing

ASTM D 517 (1998) Asphalt Plank

ASTM D 6162 (2000) Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements

ASTM D 6163 (2000) Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements

ASTM D 6164 (2000) Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements

ASTM D 6222 (2000) Atactic Polypropylene (ARP) Modified Bituminous Sheet Materials Using Polyester Reinforcements

ASTM D 6223 (2000) Atactic Polypropylene (ARP) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements

FACTORY MUTUAL ENGINEERING AND RESEARCH (FM)

FM P7825c (1998) Approval Guide Building Materials

UNDERWRITERS LABORATORIES (UL)

UL 1256(1998) Fire Test of Roof Deck Constructions

UL 790 (1997; Rev thru Jul 1998) Tests for Fire Resistance of Roof Covering Materials

UL Bld Mat Dir (1999) Building Materials Directory

1.2 SYSTEM DESCRIPTION

The modified bitumen roofing system shall consist of a manufacturer's standard, prefabricated, reinforced polymer-modified bitumen membrane, with base sheet, and insulation as specified and indicated. The manufacturer shall have a minimum of 5 years experience in manufacturing of the proposed modified bitumen sheet roofing for similar applications.

1.3 SUBMITTALS

Submittals are for Government information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

EVT and Flash Point;

Bills of lading shall indicate the flash point and equiviscous temperature (EVT) and this information shall be shown on labels for each unit (or plug) of asphalt.

Materials;
Installation;

Manufacturer's instructions, including membrane description and performance data, detailed procedure for installation, and safety precautions, prior to the start of roofing work.

SD-07 Certificates

Manufacturer;

Evidence that the manufacturer has a minimum of 5 years experience manufacturing modified bitumen roofing. The roofing system applicator shall be approved by the modified bitumen roofing manufacturer, and shall have a minimum of 3 years experience as an approved applicator. A list of installations using the same products and applicator as proposed shall be included.

Materials;

Certificates of compliance for felts, bitumens, and membrane sheet.

1.4 STORAGE OF MATERIALS

Felts and roofing sheets shall be kept dry before, during, and after delivery to the site. Felts and roofing sheets shall be stored on end one level high, in an enclosed building or trailer and on platforms, off the deck or floor. Felts and sheets shall be maintained at a temperature above 10 degrees C (50 degrees F) for 24 hours immediately before laying.

1.5 COORDINATION REQUIREMENTS

The work shall be coordinated with other trades to ensure that components are available when they are to be secured or stripped into the roofing system.

1.5.1 Insulation Application

Application of roofing shall immediately follow application of insulation as a continuous operation.

1.5.2 Flashing

Modified bituminous sheet shall be used for flashings where the roof deck abuts angles, vertical surfaces, edge metal, and penetrations, unless otherwise specified or indicated. Flashing shall be installed as the work progresses.

1.5.3 Sheet Metalwork

Sheet metalwork specified in Section 07600 FLASHING AND SHEET METAL shall be coordinated with roofing operations.

1.6 ENVIRONMENTAL CONDITIONS

Air temperature shall be above4 degrees C (40 degrees F) and there shall be no visible ice, frost, or moisture on the roof deck at the time roofing is installed. With Contracting Officer approval, the Contractor may apply roofing when the air temperature is minus 7 degrees C. between (20 and 40 degrees F.) However, when the air temperature is less than 4 degrees C, (40 degrees F,) kettles shall be insulated, felts and sheets shall be kept warm, and the application site shall be protected.

1.7 FLAME HEATED EQUIPMENT

The Fort Lewis Fire Department must be contacted before any flame heated equipment is used. Flame heated kettles shall not be placed on the roof. Torch application shall be approved by the membrane manufacturer for the specific modified bitumen. Open flame equipment shall not be left unattended while ignited.

1.8 ELECTRIC-HEATED EQUIPMENT

Adequate electrical service shall be provided as required by the manufacturer of the equipment, to insure proper application of the roofing materials.

1.9 FIRE AND WIND UPLIFT REQUIREMENTS

The complete roof system shall have an ANSI/UL 790, Class A classification, be listed as "fire classified" in UL Bld Mat Dir, and bear the UL label or be listed as a Class I Roof Deck in FM P7825c. Roofing system over steel deck shall be rated Class I-90 in accordance with FM P7825c. Ratings from other independent laboratories may be substituted provided that the tests, requirements and ratings are documented to be equivalent, to the satisfaction of the Contracting Officer.

1.10 WARRANTY

Manufacturer's standard warranty for the roofing system shall be provided for not less than 20 years from acceptance of the work. Warranty shall state that manufacturer shall repair or replace defective materials if the roofing system leaks or allows the insulation beneath the membrane to become wet during the period of the warranty.

PART 2 PRODUCTS

2.1 PRIMER

Primer shall conform to ASTM D 41.

2.2 ASPHALT

Asphalt shall conform to ASTM D 312, Type III for slopes up to 25 percent (1/4 vertical/horizontal) and Type IV for slopes up to 50 percent (1/2 vertical/horizontal).

2.3 BITUMINOUS CEMENT

Bituminous cement shall conform to ASTM D 4586.

2.4 CANTS AND WOOD NAILERS

Treated wood cants and wood nailers shall be of water-borne preservative-treated material as specified in Section 06100 ROUGH CARPENTRY. Cants shall be made from treated wood or treated fiberboard not less than 89 mm (3-1/2 inches) high and cut to reduce change in direction of the membrane to 45 degrees or less. Fiberboard shall conform to ASTM C 208, treated with sizing, wax or bituminous impregnation. When membrane or flashing is to be torch applied, cants shall be fire resistant.

2.5 BASE SHEET

Venting inorganic felt base sheet shall conform to ASTM D 4897, Type II. Non venting base sheet shall conform to ASTM D 4601, Type II.

2.6 MODIFIED BITUMEN SHEET

Modified bitumen sheet shall be a prefabricated styrene-butadiene-styrene modified bitumen sheet and shall comply with ASTM D 6162, Type II, Grade G or S or ASTM D 6163, Type II, Grade G or S or ASTM D 6164, Type II, G or S or prefabricated atactic polypropylene modified bitumen sheet and shall comply with ASTM D 6222, Type II, Grade G or S or ASTM D 6223, Type II, G or S.

2.7 NAILS AND FASTENERS

Nails and fasteners shall be an approved type recommended by the roofing felt or membrane manufacturer.

2.8 SURFACING MATERIAL

Not used.

2.9 ADHESIVE

Adhesive shall be a type recommended by the membrane manufacturer.

2.10 WALKWAY SURFACES

If required, walkway surfaces shall be mineral surfaced modified bitumen cap sheet as recommended by the membrane manufacturer, mineral asphalt plank, ASTM D 517, minimum 19 mm (3/4 inch) thick, or concrete pavers, 200 x 400 mm38 mm(1-1/2 inch)minimum thickness, and made from20.68 MPa (3000 psi) air entrained concrete.

2.11 INSULATION

Insulation shall be compatible with the membrane, as recommended by the membrane manufacturer's printed instructions, and as specified in Section 07220 ROOF AND DECK INSULATION.

2.12 COATING

Aluminum coating shall conform to ASTM D 2824 Type I or III, or shall be as recommended by the membrane manufacturer.

PART 3 EXECUTION

3.1 PREPARATION REQUIREMENTS

If this contract is used to put a roof on a new building or major renovation requiring a new concrete substrate, the substrate construction of any bay or section of the building shall be completed before roofing work is begun thereon. Roofing applied directly on concrete shall not be scheduled until hot bitumen sticks tightly and does not froth or bubble when applied to the concrete. Vents and other items penetrating the roof shall be secured in position and properly prepared for flashing. Nailers, curbs and other items attached to roof surface shall be in place before roofing is begun.

3.2 INSTALLATION OF CANTS

Cants shall be installed in the angles formed between the roof and walls or other vertical surfaces. Cants shall be laid in a solid coat of bituminous cement just prior to laying the base sheet or membrane. Cants shall be continuous, and shall be installed in lengths as long as practicable.

3.3 CONDITION OF SURFACES

Surfaces shall be inspected and approved immediately prior to application of roofing and flashings. The roofing and flashings shall be applied to a smooth and firm surface free from ice, frost, visible moisture, dirt, projections, and foreign materials. Prior to application of primer on precast concrete decks, joints shall be covered with a 100 mm (4 inch) strip of roofing felt, embedded in and coated with bituminous cement. Modified bitumen membrane shall be isolated from coal tar pitch.

3.4 MECHANICAL APPLICATION DEVICES

Mechanical application devices shall be mounted on pneumatic-tired wheels, and shall be designed and maintained to operate without damaging the insulation, roofing membrane, or structural components.

3.5 PRIMING

Concrete, masonry and metal surfaces to receive bitumen shall be uniformly coated with primer at a rate of not less than 0.4 liter per square meter (1 gallon per square) and allowed to dry.

3.6 HEATING OF BITUMEN

Asphalt shall not be heated higher than 42 degrees C (75 degrees F) above the EVT or 28 degrees C (50 degrees F) below the flash point or 274 degrees C (525 degrees F) (maximum) whichever is lower. EVT and flash point temperatures of asphalt in the kettle shall be conspicuously posted on the kettle. Heating kettle shall be provided with automatic thermostatic control and an accurate thermometer (mercury shall not be used in thermometers). Kettle operators shall be in attendance at all times during the heating to ensure that the maximum temperature specified is not exceeded. An asphalt tanker shall be treated as a kettle.

3.7 BITUMEN APPLICATION

Asphalt shall be applied within 14 degrees C (25 degrees F) below or above the EVT, or 204 degrees C, (400 degrees F,) whichever is higher. Application temperatures shall be measured at the mop bucket or mechanical applicator. Bitumen at a temperature below the recommended temperature shall be returned to the kettle.

3.8 APPLICATIONS OF BASE SHEET

Base sheet shall be applied, shingle fashion, in a continuous operation, with side laps in accordance with manufacturer's printed instructions. End laps shall be not less than 150 mm (6 inches) and staggered a minimum of 600 mm. (24 inches.) Base sheets shall be applied at right angles to the slope (except on curved or steep deck) and laps shall face down the slope. Base sheet may be venting or non venting type. Venting base sheet shall be

mechanically fastened in conformance with requirements of FM P7825c and the manufacturer's printed instructions. Non venting base sheet shall be applied in hot mopping of not less than 0.97 kg (20 pounds) nor more than 1.7 kg (35 pounds) of asphalt per square meter(square) and shall be embedded in the hot asphalt with a squeegee or broom to eliminate air pockets and assure complete adhesion. Operator shall avoid heavy application of squeegees to glass-fiber sheets.

3.9 MODIFIED BITUMEN MEMBRANE APPLICATION

Membrane shall be one or two plies, as recommended by the membrane manufacturer. Each sheet in each ply shall be fully adhered to the underlying surface. Sheet edges shall lie flat, with no fishmouths or wrinkles. Installation shall begin at the low point of the roof and progress to the high point with each sheet installed shingle fashion. Each sheet shall be unrolled to provide 100 mm (4 inch) side laps and 150 mm (6 inch) end laps. End laps shall be staggered not less than 600 mm. (24 inches.) Laps shall not coincide with laps of base layers except at lines of permanent termination. The underside of each sheet and the laps of the preceding roll shall be heated with a torch or electric heater and trowelled or rolled into place to provide a full adhesion of the membrane in a flow of modified bitumen of at least 10 mm (3/8 inch) but not more than 25 mm (1 inch) on all side and end laps. Comply with membrane manufacturer's instructions for installation.

3.10 TERMINATIONS AT PERIMETERS

The modified bitumen membrane shall extend up abutting surface at least 100 mm (4 inches) or 50 mm (2 inches) above the top of the cant.

3.11 MECHANICAL FASTENING

Nails and fasteners for securing base or membrane sheet to wood nailers or deck shall be flush driven through flat metal disks of not less than 25 mm (1 inch) diameter. Metal disks may be omitted where heads of fasteners are equivalent in size to the 25 mm (1 inch) diameter disks. Screw fasteners with disks as specified by the membrane manufacturer shall be used on concrete or metal deck. Nails and fasteners shall be spaced to meet the wind uplift requirement and within the tolerances specified by the manufacturer. Penetration of nails and fasteners will not be permitted through the exposed surface of membrane.

3.12 PROTECTION OF APPLIED ROOFING

At end of day's work or whenever precipitation is imminent, the terminated edge of the roofing shall be sealed with two full width strips of roofing felt set in and coated with bituminous cement or hot mopped asphalt. One half-width of strips shall be extended up and over the finished roofing and the other half-width extended out and onto the bare roof deck or existing membrane. Sealing strips shall be removed before continuing installation of roofing. To facilitate sealing, termination edges may be straightened with pieces of insulation board which shall be removed when work is resumed.

3.13 FLASHINGS

Flashings shall be provided over cants, in the angles formed at walls and other vertical surfaces, and where required to make the work watertight. Modified bitumen flashings shall be used, except where metal flashings are specified in other sections of the specifications.

3.14 WALKWAYS

Where required, walkways shall be provided in accordance with membrane manufacturer's recommendations.

3.15 SURFACING

After roofing membrane has been laid and flashings installed, the roof surface, except for cants, shall be flood coated uniformly with 2.9 kg(60 pounds) of hot asphalt per square meter, (square,) and while the asphalt is still hot,

aggregate surfacing material shall be spread on the hot bitumen at a rate of 19.5 kg (400 pounds) per square meter (square) for gravel or 14.6 kg (300 pounds) per square meter (square) for other approved surfacing aggregate.

3.16 COATING APPLICATION

After roofing membrane has been laid and flashings installed, the roof surface, including cants, shall be coated with an aluminum coating as recommended by the membrane manufacturer.

3.17 FIRE WATCH

Fire watch shall be provided continuously during and for at least 1 hour following torch application. At least two 9.46 liter (2-1/2 gallon) containers of water and two6.8 kg (15 pound) carbon dioxide extinguishers shall be available during the fire watch. When work is interrupted, or at the end of a section of roofing, and at end of each day's work, areas which had been subjected to torch applications shall be surveyed with an infra-red sensing device. Hot spots shall be cooled and re-surveyed. If a hot spot persists, the roof shall be cut open and any smoldering shall be extinguished before the foreman leaves the site.

3.18 INFRARED INSPECTION

Eight months after completion of the roofing system, the Contractor shall inspect the roof surface using infrared (IR) scanning as specified in ASTM C 1153. Where the IR inspection indicates wet insulation, moisture content of the insulation shall be determined at sample cuts (including a sample from a suspected dry area). Wet insulation shall be replaced where the moisture content by weight exceeds the following values: wood fiber: 30 percent; glass fiber or perlite: 25 percent; polyisocyanurate: 260 percent. Wet insulation, overlying roofing and sample-cut areas shall be replaced as directed.

3.19 INSPECTION

The Contractor shall establish and maintain an inspection procedure to assure compliance of the installed roofing with the contract requirements. Any work found not to be in compliance with the contract shall be promptly removed and replaced or corrected in an approved manner. Inspection shall include, but not be limited to, the following:

a. Observation of environmental conditions; number and skill level of roofing workers; start and end time of various tasks; condition of substrate.

b. Verification of compliance of materials before, during, and after installation.

c. Inspection of condition of equipment and accuracy of thermometers and metering devices.

d. Inspection of flashings, cants and curbs.

e. Inspection of membrane placement, including edge envelopes, widths of starter sheets, laps, proper use of squeegee, and mechanical fastening.

f. Inspection of application of bitumen and walkways if required.

g. Cutout sampling and analysis as directed.

END OF SECTION

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SECTION 07600

FLASHING AND SHEET METAL

PART 1 GENERAL

Sheet metal color will be long lasting such as anodized aluminum, or baked enamel, and will not be painted in the field. This does not preclude the use of natural materials like copper or aluminum. Avoid use of copper where drainage from the copper will pass over exposed masonry, stonework, or other metal surfaces.

Galvanized steel will not be permitted as an option to other metals specified. Galvanized steel may be specified for temporary structures or where it may be satisfactory due to climatic conditions. Where galvanized steel is specified, changes will be made to the text as follows:

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 the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 167 (1999) Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip

ASTM A 308 (1999) Steel Sheet, Terne (Lead-Tin Alloy) Coated by the Hot Dip Process

ASTM A 526 (1990) Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Commercial Quality

ASTM A 653/A 653M (2001, Rev A) Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process

ASTM B 32 (2000) Solder Metal

ASTM B 69 (2001, Rev A) Rolled Zinc

ASTM B 101 (2001) Lead-Coated Copper Sheet and Strip for Building Construction

ASTM B 209M (2001) Aluminum and Aluminum-Alloy Sheet and Plate (Metric)

ASTM B 209 (2001) Aluminum and Aluminum Alloy Sheet and Plate

ASTM B 221M (2000) Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric)
ASTM B 221 (2000) Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes

ASTM B 370 (1998) Copper Sheet and Strip for Building Construction

ASTM D 41 (1994) Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing

ASTM D 226 (1997, Rev A) Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing

ASTM D 1784 (1999, Rev A) Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds

ASTM D 4586 (2000) Asphalt Roof Cement, Asbestos-Free

AMERICAN WELDING SOCIETY (AWS)

AWS D1.2 (1997) Structural Welding Code Aluminum

NATIONAL ROOFING CONTRACTORS' ASSOCIATION (NRCA)

NRCA Roofing Manual (Fifth Edition) NRCA Roofing And Waterproofing Manual

SHEET METAL & AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)

SMACNA Arch. Manual (1993) Architectural Sheet Metal Manual

1.2 General Requirements

Sheet metalwork shall be accomplished to form weathertight construction without waves, warps, buckles, fastening stresses or distortion, and shall allow for expansion and contraction. Cutting, fitting, drilling, and other operations in connection with sheet metal required to accommodate the work of other trades shall be performed by sheet metal mechanics. Installation of sheet metal items used in conjunction with roofing shall be coordinated with roofing work to permit continuous roofing operations.

1.3 SUBMITTALS

Not used.

1.4 DELIVERY, HANDLING, AND STORAGE

Package and protect materials during shipment. Uncrate and inspect materials for damage, dampness, and wet-storage stains upon delivery to the job site. Remove fromthe site and replace damaged materials that cannot be restored to like-new condition. Handle sheet metal items to avoid damage to surfaces, edges, and ends. Store materials in dry, weather-tight, ventilated areas until immediately before installation.

PART 2 PRODUCTS

2.1 MATERIALS

Lead, lead-coated metal, and galvanized steel shall not be used except on temporary facilities. Any metal listed by SMACNA Arch. Manual for a particular item may be used, unless otherwise specified or indicated. Materials shall conform to the requirements specified below and to the thicknesses and configurations established in SMACNA Arch. Manual. Different items need not be of the same metal, except that if copper is selected for any exposed item, all exposed items shall be copper. In historically significant structures as determined by the Contracting Officer, the Government will consider flashing material types on a case-by-case basis as necessary to meet Historical Preservation requirements.

Furnish sheet metal items in 2400 to 3000 mm (8 to 10 foot) lengths. Single pieces less than 2400 mm (8 feet) long may be used to connect to factory-fabricated inside and outside corners, and at ends of runs. Factory fabricate corner pieces with minimum 300 mm (12 inch) legs. Provide accessories and other items essential to complete the sheet metal installation. These accessories shall be made of the same materials as the items to which they are applied. Fabricate sheet metal items of the materials specified below and to the gage, thickness, or weight shown in Table I at the end of this section. Sheet metal items shall have mill finish unless specified otherwise. Where more than one material is listed for a particular item in Table I, each is acceptable and may be used except as follows:

Galvanized Steel, if used, shall conform to ASTM A 526, Coating G90.

2.1.1 Exposed Sheet Metal Items

Shall be of the same material. The following items shall be considered as exposed sheet metal: gutters, including hangers; downspouts; gravel stops and fascias; cap, valley, steeped, base, and eave flashings and related accessories.

2.1.2 Drainage

Do not use copper for an exposed item if drainage from that item will pass over exposed masonry, stonework or other metal surfaces. In addition to the metals listed in Table I, lead-coated copper may be used for such items.

2.1.3 Copper, Sheet and Strip

ASTM B 370, cold-rolled temper, H 00 (standard).

2.1.4 Lead-Coated Copper Sheet

ASTM B 101.

2.1.5 Lead Sheet

Minimum weight 19.6 kilograms per square meter(4 pounds per square foot).

2.1.6 Steel Sheet, Zinc-Coated (Galvanized)

ASTM A 653/A 653M.

2.1.6.1 Finish

Exposed exterior items of zinc-coated steel sheet shall have a baked-on, factory-applied color coating of polyvinylidene fluoride or other equivalent fluorocarbon coating applied after metal substrates have been cleaned and pretreated. Finish coating dry-film thickness shall be 0.020 to 0.033 mm (0.8 to 1.3 mils) and color shall be as determined by the Government.

2.1.7 Zinc Sheet and Strip

ASTM B 69, Type I, a minimum of 0.61 mm (0.024 inch) thick.

2.1.8 Stainless Steel

ASTM A 167, Type 302 or 304, 2D Finish, fully annealed, dead-soft temper.

2.1.9 Terne-Coated Steel

Minimum of 350 by 500 mm (14 by 20 inches) with minimum of 18 kilogram(40 pound) coating per double base box. ASTM A 308.

2.1.10 Aluminum Alloy Sheet and Plate

ASTM B 209M, (ASTM B 209,)anodized form alloy, and temper appropriate for use.

2.1.10.1 Alclad

When fabricated of aluminum, the following items shall be fabricated of Alclad 3003, Alclad 3004, Alclad 3005, clad on one side unless otherwise indicated.

a. Gutters, downspouts, and hangers

b. Gravel stops and fascias

c. Flashing

2.1.10.2 Finish

Exposed exterior sheet metal items of aluminum shall have a baked-on, factory-applied color coating of polyvinylidene fluoride (PVF2) or other equivalent fluorocarbon coating applied after metal substrates have been cleaned and pretreated. Finish coating dry-film thickness shall be 0.020 to 0.033 mm (0.8 to 1.3 mils), and color shall blend with adjacent surfaces.

2.1.11 Aluminum Alloy, Extruded Bars, Rods, Shapes, and Tubes

ASTM B 221M(ASTM B 221).

2.1.12 Solder

ASTM B 32, 95-5 tin-antimony.

2.1.13 Polyvinyl Chloride Reglet

ASTM D 1784, Type II, Grade 1, Class 14333-D, 1.9 mm (0.075 inch) minimum thickness.

2.1.14 Bituminous Plastic Cement

ASTM D 4586, Type I.

2.1.15 Building Paper

ASTM D 226 Type I or Type II.

2.1.16 Asphalt Primer

ASTM D 41.

2.1.17 Through-Wall Flashing

Not used.

2.1.18 Fasteners

Use the same metal or a metal compatible with the item fastened. Use stainless steel fasteners to fasten dissimilar materials.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Metal Roofing

3.1.1.1 Flat Copper, Zinc, Terne-coated Steel Roofing

Before applying roofing, cover deck with rosin-sized building paper. Lap 50 mm (2 inches) at joints and secure in place with roofing nails. Using solder of equal parts tin and lead, solder slowly with well-heated irons to thoroughly heat sheet and completely sweat solder through full width of seam. Tin edges of copper to be soldered at least 20 mm (3/4 inch) before sheets are locked. Use stainless nails in terne-coated steel; in copper, use solid copper or bronze roofing nails; in zinc, use zinc-coated roofing nails. Where roof decks abut vertical surfaces, turn metal roofing up vertical surfaces about 200 mm (8 inches) where practicable; where vertical surfaces are covered with applied materials, turn up roofing behind applied materials. Use standing-seam method for roofs having rise of

more than one in four (3 inches per foot), and use flat-seam method when rise is one in four(3 inches per foot) or less. Walking not permitted directly on metal roofs; provide approved walkways.

3.1.1.2 Standing-seam Method

Make standing seams parallel with slope of roof. Fabricate sheets into long lengths at shop by locking short dimensions together and thoroughly soldering joints thus formed. In applying metal, turn up one edge of course at each side seam at right angles 40 mm (1.5 inches). Then install 50 by 75 mm (2 by 3 inch) cleats spaced 300 mm (12 inches) apart by fastening one end of each cleat to roof with two 25 mm (one inch) long nails and folding roof end back over nail heads. Turn end adjoining turned-up side seam up over upstanding edge of course. Turn up adjoining edge of next course 45 mm (1.75 inches) and abutting upstanding edges locked, turned over, and flattened against one side of standing seam. Make standing seams straight, rounded neatly at the top edges, and stand about 25 mm (one inch) above roof deck. All sheets shall be same length, except as required to complete run or maintain pattern. Locate transverse joints of each panel half way between joints in adjacent sheets. Align joints of alternate sheets horizontally to produce uniform pattern, as shown in SMACNA Arch. Manual.

3.1.1.3 Flat-seam Method

Lay metal so short dimension is parallel to gutter or eave lines and so water will flow over and not into seams. Make seams by turning edges of sheet 20 mm (3/4 inch) and lock and solder together. If sheets are laid one at a time, secure to roof deck with cleats, using three cleats to each sheet, two on long side and one on short side. Use cleats 50 mm (inches) wide, hooked over 20 mm (3/4 inch) upturned edges of sheets, and nail to roof deck with two 25 mm (one inch) long nails. Turn back roof end of cleat over nail heads before next sheet is applied. If desired, sheets may be made into long lengths at shop by locking short dimensions together and soldering seams thus formed. Turn long lengths 20 mm (3/4 inch), and secure each length to roof deck by cleats spaced 300 mm (12 inches) apart. Mallet and solder seams after pans are in place." All sheets to be same length, except as required to complete run or maintain pattern. Locate transverse joints of each panel half way between joints in adjacent sheets. Align joints of alternate sheets horizontally to produce uniform pattern, as shown in SMACNA Arch. Manual.

3.1.2 Workmanship

Make lines, arrises, and angles sharp and true. Free exposed surfaces from visible wave, warp, and buckle, and tool marks. Fold back exposed edges neatly to form a 13 mm (1/2 inch) hem on the concealed side. Make sheet metal exposed to the weather watertight with provisions for expansion and contraction.

Make surfaces to receive sheet metal plumb and true, clean, even, smooth, dry, and free of defects and projections which might affect the application. For installation of items not shown in detail or not covered by specifications conform to the applicable requirements of SMACNA Arch. Manual, Architectural Sheet Metal Manual. Provide sheet metal flashing in the angles formed where roof decks abut walls , curbs, ventilators, pipes, or other vertical surfaces and wherever indicated and necessary to make the work watertight. Join sheet metal items together as shown in Table II.

3.1.3 Nailing

Confine nailing of sheet metal generally to sheet metal having a maximum width of 450 mm (18 inches). Confine nailing of flashing to one edge only. Space nails evenly not over 75 mm (3 inches) on centers and approximately 13 mm (1/2 inch) from edge unless otherwise specified or indicated. Face nailing will not be permitted. Where sheet metal is applied to other than wood surfaces, include in shop drawings, the locations for sleepers and nailing strips required to secure the work. Sleepers and nailing strips are specified in Section 06100, "Rough Carpentry."

3.1.4 Cleats

Provide cleats for sheet metal 450 mm (18 inches) and over in width. Space cleats evenly not over 300 mm (12 inches) on centers unless otherwise specified or indicated. Unless otherwise specified, cleats shall be not less than 50 mm wide by 75 mm long (2 inches wide by 3 inches long) and of the same material and thickness as the sheet metal being installed. Secure one end of the cleat with two nails and the cleat folded back over the nailheads. Lock

the other end into the seam. Where the fastening is to be made to concrete or masonry, screws shall be used and shall be driven in expansion shields set in concrete or masonry. Pretin cleats for soldered seams.

3.1.5 Bolts, Rivets, and Screws

Install bolts, rivets, and screws where indicated or required. Provide compatible washers where required to protect surface of sheet metal and to provide a watertight connection. Joints in aluminum sheets 1.0 mm (0.040 inch) or less in thickness shall be mechanically made.

3.1.6 Seams

Straight and uniform in width and height with no solder showing on the face.

3.1.6.1 Flat-lock Seams

Finish not less than 20 mm (3/4 inch) wide.

3.1.6.2 Lap Seams

Finish soldered seams not less than 25 mm (one inch) wide. Overlap seams not soldered, not less than 75 mm (3 inches).

3.1.6.3 Loose-Lock Expansion Seams

Not less than 75 mm (3 inches) wide; provide minimum 25 mm (one inch) movement within the joint. Completely fill the joints with the specified sealant, applied at not less than 3 mm (1/8 inch) thick bed. Sealants are specified in Section 07920N, "Joint Sealants."

3.1.6.4 Standing Seams

Not less than 25 mm (one inch) high, double locked without solder.

3.1.6.5 Flat Seams

Make seams in the direction of the flow.

3.1.7 Soldering

Where soldering is specified, it shall apply to copper, terne-coated stainless steel, zinc-coated steel, and stainless steel items. Edges of sheet metal shall be pretinned before soldering is begun. Seal the joints in aluminum sheets of 0.040 inch or less in thickness with specified sealants. Do not solder aluminum.

3.1.7.1 Edges

Scrape or wire-brush the edges of lead-coated material to be soldered to produce a bright surface. Fluxbrush the seams in before soldering. Treat with soldering acid flux the edges of stainless steel to be pretinned. Seal the joints in aluminum sheets of one mm (0.040 inch) or less in thickness with specified sealants. Do not solder aluminum.

3.1.8 Welding and Mechanical Fastening

Use welding for aluminum of thickness greater than one mm (0.040 inch). Aluminum one mm (0.040 inch) or less in thickness shall be butted and the space backed with formed flashing plate; or lock joined, mechanically fastened, and filled with sealant as recommended by the aluminum manufacturer.

3.1.8.1 Welding of Aluminum

Use welding of the inert gas, shield-arc type. For procedures, appearance and quality of welds, and the methods used in correcting welding work, conform to AWS D1.2.

3.1.8.2 Mechanical Fastening of Aluminum

Use No. 12, aluminum alloy, sheet metal screws or other suitable aluminum alloy or stainless steel fasteners. Drive fasteners in holes made with a No. 26 drill in securing side laps, end laps, and flashings. Space fasteners 300 mm (12 inches) maximum on centers. Where end lap fasteners are required to improve closure, locate the end lap fasteners not more than50 mm (2 inches) from the end of the overlapping sheet.

3.1.9 Protection from Contact with Dissimilar Materials

3.1.9.1 Copper or Copper-bearing Alloys

Paint with heavy-bodied bituminous paint surfaces in contact with dissimilar metal, or separate the surfaces by means of moistureproof building felts.

3.1.9.2 Aluminum

Aluminum surfaces shall not directly contact other metals except stainless steel, zinc, or zinc coating. Where aluminum contacts another metal, paint the dissimilar metal with a primer followed by two coats of aluminum paint. Where drainage from a dissimilar metal passes over aluminum, paint the dissimilar metal with a non-lead pigmented paint.

3.1.9.3 Metal Surfaces

Paint surfaces in contact with mortar, concrete, or other masonry materials with alkali-resistant coatings such as heavy-bodied bituminous paint.

3.1.9.4 Wood or Other Absorptive Materials

Paint surfaces that may become repeatedly wet and in contact with metal with two coats of aluminum paint or a coat of heavy-bodied bituminous paint.

3.1.10 Expansion and Contraction

Provide expansion and contraction joints at not more than 9750 mm (32 foot) intervals for aluminum and at not more than 12 meter(40 foot) intervals for other metals. Where the distance between the last expansion joint and the end of the continuous run is more than half the required interval, an additional joint shall be provided. Space joints evenly. Join extruded aluminum gravel stops and fascias by expansion and contraction joints spaced not more than 3600 mm (12 feet) apart.

3.1.11 Base Flashing

Lay the base flashings with each course of the roof covering, shingle fashion, where practicable, where sloped roofs abut chimneys, curbs, walls, or other vertical surfaces. Extend up vertical surfaces of the flashing not less than 200 mm (8 inches) and not less than 100 mm (4 inches) under the roof covering. Where finish wall coverings form a counterflashing, extend the vertical leg of the flashing up behind the applied wall covering not less than 150 mm (6 inches). Overlap the flashing strips or shingles with the previously laid flashing not less than 75 mm (3 inches). Fasten the strips or shingles at their upper edge to the deck. Horizontal flashing at vertical surfaces must extend vertically above the roof surface and fastened at their upper edge to the deck a minimum of 6 inches o.c. with large headed aluminum roofing nails or hex headed, galvanized shielded screws a minimum of 2-inch lap of any surface. Solder end laps and provide for expansion and contraction. Extend the metal flashing over crickets at the up-slope side of chimneys, curbs, and similar vertical surfaces extending through sloping roofs, the metal flashings. Extend the metal flashings onto the roof covering not less than 115 mm (4.5 inches) at the lower side of dormer walls, chimneys, and similar vertical surfaces extending through the roof decks. Install and fit the flashings so as to be

completely weathertight. Base flashing for interior and exterior corners shall be factory-fabricated. Metal base flashing shall not be used on built-up roofing.

3.1.12 Counterflashing

Except where indicated or specified otherwise, insert counterflashing in reglets located from 230 to 250 mm (9 to 10 inches) above roof decks, extend down vertical surfaces over upturned vertical leg of base flashings not less than 75 mm (3 inches). Fold the exposed edges of counterflashings 13 mm (1/2 inch). Where stepped counterflashings are required, they may be installed in short lengths a minimum 8 inch by 8 inch or may be of the preformed one-piece type. Provide end laps in counterflashings not less than 75 mm (3 inches) and make it weathertight with plastic cement. Do not make lengths of metal counterflashings exceed 3000 mm (10 feet). Form the flashings to the required shapes before installation. Factory-form the corners not less than 300 mm (12 inches) from the angle. Secure the flashings in the reglets with lead wedges and space not more than 450 mm (18 inches) apart; on short runs, place wedges closer together. Fill caulked-type reglets or raked joints which receive counterflashing with caulking compound. Caulking is covered in Section 07920, "Joint Sealants." Turn up the concealed edge of counterflashings built into masonry or concrete walls not less than 6 mm (1/4 inch) and extend not less than 50 mm (2 inches) into the walls. Install counterflashing to provide a spring action against base flashing. Where bituminous base flashings are provided, the counter flashing shall extend down as close as practicable to the top of the cant strip. Counter flashing shall be factory formed to provide spring action against the base flashing.

3.1.13 Metal Reglets

Caulked type or friction type reglets shall be factory fabricated with a minimum opening of 6 mm (1/4 inch) and a depth of 30 mm (1 1/4 inches), as approved.

3.1.13.1 Caulked Reglets

Provide with rounded edges and metal strap brackets or other anchors for securing to the concrete forms. Provide reglets with a core to protect them from injury during the installation. Provide built-up mitered corner pieces for internal and external angles. Wedge the flashing in the reglets with lead wedges every 450 mm (18 inches), caulked full and solid with an approved compound.

3.1.13.2 Friction Reglets

Provide with flashing receiving slots not less than 16 mm (5/8 inch) deep, 25 mm (one inch)jointing tongues, and upper and lower anchoring flanges installed at 24 inches maximum snaplock receiver. Insert the flashing the full depth of the slot and lock by indentations made with a dull-pointed tool, wedges, and filled with a sealant. For friction reglets, install flashing snaplock receivers at 24 inches o.c. maximum. When the flashing has been inserted the full depth, caulk the slot and lock with wedges and fill with sealant.

3.1.14 Polyvinyl Chloride Reglets

Rigid polyvinyl chloride reglets ASTM D 1784, Type II, Grade 1, Class 14333-D, 0.075 inches minimum thickness may be provided in lieu of metal reglets for temporary construction only.

3.1.15 Gravel Stops and Fascias

Prefabricate in the shapes and sizes indicated and in lengths not less than 2400 mm(8 feet). Extend flange at least 100 mm (4 inches) onto roofing. Provide prefabricated, mitered corners internal and external corners. Install gravel stops and fascias after all plies of the roofing membrane have been applied, but before the flood coat of bitumen is applied. Prime roof flange of gravel stops and fascias on both sides with an asphalt primer. After primer has dried, set flange on roofing membrane and strip-in. Nail flange securely to wood nailer with large-head, barbed-shank roofing nails 38 mm (1.5 inches) long spaced not more than 75 mm (3 inches) on centers, in two staggered rows.

3.1.15.1 Edge Strip

Hook the lower edge of fascias at least 20 mm (3/4 inch) over a continuous strip of the same material bent outward at an angle not more than 45 degrees to form a drip. Nail hook strip to a wood nailer at 150 mm (6 inches) maximum on centers. Where fastening is made to concrete or masonry, use screws spaced 300 mm (12 inches) on centers driven in expansion shields set in the concrete or masonry. Where horizontal wood nailers are slotted to provide for insulation venting, install strips to prevent obstruction of vent slots. Where necessary, install strips over 2 mm (1/16 inch) thick compatible spacer or washers.

3.1.15.2 Joints

Leave open the section ends of gravel stops and fascias 6 mm (1/4 inch) and backed with a formed flashing plate, mechanically fastened in place and lapping each section end a minimum of 100 mm (4 inches) set laps in plastic cement. Face nailing will not be permitted. Install prefabricated aluminum gravel stops and fascias in accordance with the manufacturer's printed instructions and details.

3.1.16 Metal Drip Edge

Provide a metal drip, designed to allow water run-off to drip free of underlying construction, at eaves and rakes prior to the application of roofing shingles. Apply directly on the wood deck at the eaves and over the underlay along the rakes. Extend back from the edge of the deck not more than 75 mm (3 inches) and secure with compatible nails spaced not more than 250 mm (10 inches) on center along upper edge.

3.1.17 Gutters

The hung type of shape indicated and supported on underside by brackets that permit free thermal movement of the gutter. Provide gutters in sizes indicated complete with mitered corners, end caps, outlets, brackets, and other accessories necessary for installation. Bead with hemmed edge or reinforce the outer edge of gutter with a stiffening bar not less than 20 by 5 mm (3/4 by 3/16 inch) of material compatible with gutter. Fabricate gutters in sections not less than 2400 mm (8 feet). Lap the sections a minimum of 25 mm (one inch) in the direction of flow or provide with concealed splice plate 150 mm (6 inches) minimum. Join the gutters, other than aluminum, by riveted and soldered joints. Aluminum gutters shall be joined with riveted sealed joints. Provide expansion-type slip joints midway between outlets. Install gutters below slope line of the roof so that snow and ice can slide clear. Support gutters on adjustable hangers spaced not more than 750 mm (30 inches) on center, by continuous cleats, or by cleats spaced not less than 36 inches apart. Adjust gutters to slope uniformly to outlets, with high points occurring midway between outlets. Fabricate hangers and fastenings from metals compatible with the gutters.

3.1.18 Downspouts

Supports for downspouts shall be spaced according to the manufacturer's recommendation for the substrate. Types, shapes, and sizes shall be as required. Provide complete including elbows and offsets. Provide downspouts in approximately 3000 mm (10 foot) lengths. Provide end joints to telescope not less than 13 mm (1/2 inch) and lock longitudinal joints. Provide gutter outlets with wire ball strainers for each outlet. Provide strainers to fit tightly into outlets and be of the same material used for gutters. Keep downspouts not less than 25 mm (one inch) away from walls. Fasten to the walls at top, bottom, and at an intermediate point not to exceed 1500 mm (5 feet) on centers with leader straps or concealed rack-and-pin type fasteners. Form straps and fasteners of metal compatible with the downspouts.

3.1.18.1 Terminations

Neatly fit into the drainage connection the downspouts terminating in drainage lines and fill the joints with a portland cement mortar cap sloped away from the downspout. Provide downspouts terminating in splash blocks with elbow-type fittings. Splash blocks shall be made of 100% post consumer recycled HDPE or equivalent material. Provide splash pans as required.

3.1.19 Flashing for Roof Drains

Provide a 750 mm (30 inch) square sheet indicated. Taper insulation to drain from 600 mm (24 inches) out. Set flashing on finished felts in a full bed of asphalt roof cement, ASTM D 4586. Apply strip flashing to the drain flashing in accordance with the NRCA Roofing Manual. Heavily coat the drain flashing ring with asphalt roof cement. Clamp the roof membrane, flashing sheet, and stripping felt in the drain clamping ring. Secure clamps so that felts and drain flashing are free of wrinkles and folds. Roofing system outer surfaces shall be sloped to drain to roof drains from a minimum of 24 inches out. This may be accomplished through use of factory- or field-tapered board insulation, use of poured-in-place concrete or thermosetting insulating fill to create a slope, installation or adjustment of a cricket, or other method recommended by the roof system manufacturer. Roof drain flashing shall be applied and installed in accordance with methods detailed in the NRCA Roofing Manual.

3.1.20 Scuppers

Line interior of scupper openings with sheet metal. Extend the lining through and project outside of the wall to form a drip on the bottom edge and form to return not less than 25 mm (one inch) against the face of the outside wall at the top and sides. Fold outside edges under 13 mm (1/2 inch) on all sides. Provide the perimeter of the lining approximately 13 mm (1/2 inch) less than the perimeter of the scupper. Join the top and sides of the lining on the roof deck side to a closure flange by a locked and soldered joint. Join the bottom edge by a locked and soldered joint to the closure flange, where required, form with a ridge to act as a gravel stop around the scupper inlet. Provide surfaces to receive the scupper lining and coat with bituminous plastic cement. Mechanically fasten joints in aluminum and seal.

3.1.21 Conductor Heads

Type indicated and fabricated of the same material as the downspouts. Set the depth of top opening equal to two-thirds of the width. Provide outlet tubes not less than 100 mm (4 inches) long. Flat-lock solder the seams except the mechanically fastened aluminum joints filled with a hard setting sealant. Where conductor heads are used in conjunction with scuppers, set the conductor a minimum of 50 mm (2 inches) wider than the scupper. Attach conductor heads to the wall with masonry fasteners, and loose-lock to provide conductor heads with screens of the same material. Securely fasten screens to the heads.

3.1.22 Splash Pans

Install splash pans where downspouts discharge on roof surfaces and at other locations as indicated. Unless otherwise shown, provide pans not less than 600 mm long by 450 mm wide(24 inches long by 18 inches wide) with metal ribs across the bottom of the pan. Form the sides of the pan with vertical baffles not less than 25 mm (one inch) high in the front, and 100 mm (4 inches) high in the back doubled over and formed continuous with horizontal roof flanges not less than 100 mm (4 inches) wide. Bend the rear flange of the pan to contour of cant strip and extend up 150 mm (6 inches) under the side wall covering or to height of base flashing under counterflashing. Bed the pans and roof flanges in plastic bituminous cement and strip-flash as specified in Roofing Section.

3.1.23 Open Valley Flashing

Provide valley flashing free of longitudinal seams, of width sufficient to extend not less than 150 mm (6 inches) under the roof covering on each side. Provide a 13 mm (1/2 inch) fold on each side of the valley flashing. Lap the sheets not less than 150 mm (6 inches) in the direction of flow and secure to roofing construction with cleats attached to the fold on each side. Nail the tops of sheets to roof sheathing. Space the cleats not more than 300 mm (12 inches) on centers. Provide exposed flashing not less than 100 mm (4 inches) in width at the top and increase 25 mm (one inch) in width for each additional 2400 mm (8 feet) in length. Where the slope of the valley is one in 2.67 or less (4.5 inches or less per foot), or the intersecting roofs are on different slopes, provide an inverted V-joint, 25 mm (one inch) high, along the centerline of the valley; and extend the edge of the valley sheets 200 mm (8 inches) under the roof covering on each side. Valley flashing for asphalt shingle roofs is specified in Section 07311, "Asphalt Shingles."

3.1.24 Eave Flashing

One piece in width, applied in 2400 to 3000 mm (8 to 10 foot) lengths with expansion joints spaced as specified in paragraph entitled "Expansion and Contraction." Provide a 20 mm (3/4 inch) continuous fold in the upper edge of the sheet to engage cleats spaced not more than 250 mm (10 inches) on centers. Locate the upper edge of flashing not less than 450 mm (18 inches) from the outside face of the building, measured along the roof slope. Fold lower edge of the flashing over and loose-lock into a continuous edge strip on the fascia. Where eave flashing intersects metal valley flashing, secure with 25 mm (one inch) flat locked joints with cleats that are 250 mm (10 inches) on centers. Place eave flashing over underlayment and in plastic bituminous cement.

3.1.25 Sheet Metal Covering on Flat, Sloped, or Curved Surfaces

Except as specified or indicated otherwise, cover and flash all minor flat, sloped, or curved surfaces such as crickets, bulkheads, dormers and small decks with metal sheets of the material used for flashing; maximum size of sheets, 375 by 455 mm (16 by 18 inches). Fasten sheets to sheathing with metal cleats. Lock seams and solder. Lock aluminum seams and fill with sealer as recommended by aluminum manufacturer. Provide an underlayment of building paper for all sheet metal covering.

3.1.26 Expansion Joints

Provide expansion joints for roofs. Expansion joints in continuous sheet metal shall be provided at 40 foot intervals for copper and stainless steel and at 32 foot intervals for aluminum, aluminum gravel stops and fascias which shall have expansion joints at not more than 12 foot spacing. Joints shall be evenly spaced. An additional joint shall be provided where the distance between the last expansion joint and the end of the continuous run is more than half the required interval spacing. Conform to the requirements of Table I. Expansion joints to be spaced at 12.0 m (40 foot) intervals for galvanized steel.

3.1.26.1 Roof Expansion Joints

Consist of curb with wood nailing members on each side of joint, bituminous base flashing, metal counterflashing, and metal joint cover. Provide counterflashing as specified in paragraph "Counterflashing," except as follows: Provide counterflashing with vertical leg of suitable depth to enable forming into a horizontal continuous cleat. Secure the inner edge to the nailing member. Make the outer edge projection not less than 25 mm (one inch) for flashing on one side of the expansion joint and be less than the width of the expansion joint plus 25 mm (one inch) for flashing on the other side of the joint. Hook the expansion joint cover over the projecting outer edges of counterflashing. Provide roof joint with a joint cover of the width indicated. Hook and lock one edge of the joint cover over the shorter projecting flange of the continuous cleat, and the other edge hooked over and loose locked with the longer projecting flange. Joints are specified in Table II.

3.1.26.2 Floor and Wall Expansion Joints

Not used.

3.1.27 Flashing at Roof Penetrations and Equipment Supports

Provide metal flashing for all pipes, ducts, and conduits projecting through the roof surface and for equipment supports, guy wire anchors, and similar items supported by or attached to the roof deck. Goose-necks, rainhoods, power roof ventilators, and similar roof-mounted structures shall be flashed according to manufacturer's instructions or the NRCA Roofing Manual.

3.1.28 Single Pipe Vents

See Table I, footnote (d). Set flange of sleeve in bituminous plastic cement and nail 75 mm (3 inches) on centers. Bend the top of sleeve over and extend down into the vent pipe a minimum of 50 mm (2 inches). For long runs or long rises above the deck, where it is impractical to cover the vent pipe with lead, use a two-piece formed metal housing. Set metal housing with a metal sleeve having a 100 mm (4 inch) roof flange in bituminous plastic cement and nailed 75 mm (3 inches) on centers. Extend sleeve a minimum of 200 mm (8 inches) above the roof deck and lapped a minimum of 75 mm (3 inches) by a metal hood secured to the vent pipe by a draw band. Seal the area of

hood in contact with vent pipe with an approved sealant. Sealants are covered under Section 07920N, "Joint Sealants."

3.1.29 Stepped Flashing

Stepped flashing shall be installed where sloping roofs surfaced with shingles abut vertical surfaces. Separate pieces of base flashing shall be placed in alternate shingle courses.

3.1.30 Copings

Provide coping using copper sheets 2400 or 3000 mm (8 or 10 feet) long joined by a 20 mm (3/4 inch) locked and soldered seam. Terminate outer edges in edge strips. Install with sealed lap joints, cover plate joints, or standing seam joints as required by roofing system manufacturer.

3.2 PAINTING

Field-paint sheet metal for separation of dissimilar materials.

3.3 CLEANING

Clean exposed sheet metal work at completion of installation. Remove grease and oil films, handling marks, contamination from steel wool, fittings and drilling debris, and scrub-clean. Free the exposed metal surfaces of dents, creases, waves, scratch marks, and solder or weld marks.

3.4 REPAIRS TO FINISH

Scratches, abrasions, and minor surface defects of finish may be repaired in accordance with the manufacturer's printed instructions and as approved. Repair damaged surfaces caused by scratches, blemishes, and variations of color and surface texture. Replace items which cannot be repaired.

3.5 FIELD QUALITY CONTROL

The Contractor is urged to take particular responsibility for quality control in his flashing and detailing work because of the frequency of roofing failures in the industry associated with these systems. Establish and maintain a Quality Control Plan for sheet metal used in conjunction with roofing to assure compliance of the installed sheet metalwork with the contract requirements. Work not in compliance with the contract shall be promptly removed and replaced or corrected. Quality control shall include, but not be limited to, the following:

a. Observation of environmental conditions; number and skill level of sheet metal workers; condition of substrate.

b. Verification that specified material is provided and installed.

c. Inspection of sheet metalwork, for proper size(s) and thickness(es), fastening and joining, and proper installation.

3.5.1 Procedure

To be determined by Contractor unless otherwise directed by the Contracting Officer.

TABLE I. SHEET METAL WEIGHTS, THICKNESSES, AND GAGES

Sheet Metal Items	Copper, Ounces Per Square Foot	Aluminum, Inch	Stainless Steel, Inch	Terne-Coated Steel, Inch	Zinc-Coated Steel, U. S. Std. Gage
Building Expansion Joints					
Cover.....	16	.032	.015	.015	24
Waterstop-bellows or flanged, U-type.....	16	-	.015	.015	-
Covering on minor flat, pitched or curved surfaces.....	20	.040	.018	.018	-
Downspouts and leaders.....	16	.032	.015	.015	24
Downspout clips and anchors.....	-	.040 clip	-	-	-
	-	.125 anchor	-	-	-
Downspout straps, 2-inch.....	48(a)	.060	.050	-	-
Conductor heads.....	16	.032	.015	.015	-
Scupper lining.....	20	.032	.015	.015	-
Strainers, wire diameter or gage.....	No. 9 gage	.144 diameter	.109 diameter	-	-
Flashings:					
Base.....	20	.040	.018	.018	24
Cap (Counter-flashing)	16	.032	.015	.015	26
Eave.....	16	-	.015	.015	24
Spandrel beam.....	10	-	.010	.010	-
Bond barrier.....	16	-	.015	.015	-
Stepped.....	16	.032	.015	.015	-
Valley.....	16	.032	.015	.015	-
Roof drain.....	16(b)				
Pipe vent sleeve(d)					
Coping.....	16	-	-	-	-
Gravel stops and fascias:					
Extrusions.....	-	.075	-	-	-
Sheets, corrugated.....	16	.032	.015	.015	-
Sheets, smooth.....	20	.050	.018	.018	24
Edge strip.....	24	.050	.025	-	-
Gutters:					
Gutter section.....	16	.032	.015	.015	24
Continuous cleat.....	16	.032	.015	.015	24
Hangers, dimensions.....	1 inch x 1/8 inch (a)	1 inch x .080 inch (c)	1 inch x .037 inch	-	-

Joint Cover plates... (See Table II)	16	.032	.015	.015	24
Reglets (c).....	10	-	.010	.010	-
Splash pans.....	16	.040	.018	.018	-

(a) Brass.

(b) May be lead weighing 4 pounds per square foot.

(c) May be polyvinyl chloride.

(d) 2.5 pound minimum lead sleeve with 4 inch flange. Where lead sleeve is impractical, refer to paragraph entitled "Single Pipe Vents" for optional material.

TABLE II. SHEET METAL JOINTS
TYPE OF JOINT

Item Designation	Copper, Terne-Coated Stainless Steel, Zinc-Coated Steel and Stainless Steel	Aluminum	Remarks
Joint cap for Building expansion Seam, cleated joint At roof	1.25 inch single lock, standing seam	1.25 inch single lock, standing seam	N/A
Flashings			
Base	One inch, 3 inch lap For expansion joint	One inch flat locked, soldered, sealed; 3 inch lap For expansion joint	Aluminum producer's recommended hard setting sealant for locked aluminum joints. Fill each metal expansion joint with a joint sealing compound. See Section 07920, “Joint Sealants.”
Cap-in Reglet	3 inch lap	3 inch lap	Seal groove with joint sealing compound. See Section 07920, “Joint Sealants.”
Reglets	Butt joint	- - -	Seal reglet groove with joint sealing compound. See Section 07920, “Joint Sealants.”
Eave	One inch flat locked, Cleated once inch loose locked, expansion joint cleated	One inch flat locked, locked, cleated one inch loose locked, sealed expansion joints, cleated	Same as base flashing.
Stepped	3 inch lap	3 inch lap	- - -
Valley	6 inch lap cleated	6 inch lap cleated	- - -
Edge strip	Butt	Butt	- - -
Gravel stops:			
Extrusions	- - -	Butt with 1/2 inch space	Use sheet flashing beneath and a cover plate.
Sheet, Smooth	Butt with 1/4 inch Space	Butt with 1/4 inch space	Use sheet flashing backup plate
Sheet,	Butt with 1/4 inch	Butt with 1/4 inch	Use sheet flashing beneath

Corrugated	space	space	and a cover plate or a Combination unit.
Gutters	1.5 inch lap, riveted And soldered	One inch flat locked, riveted, and sealed	Aluminum producers recommend hard setting sealant for locked Aluminum joints.

(a) Elastomeric flashing shall have 3 inch lap with manufacturer's recommended sealant.

(b) Polyvinyl chloride reglet shall be sealed with manufacturer's recommended sealant.

END OF SECTION

SECTION 07920

JOINT SEALANTS

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 the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 834 (1995) Latex Sealants

ASTM C 920 (1998) Elastomeric Joint Sealants

1.2 SUBMITTALS

Submit manufacturer's standard data for the following products proposed for use at Fort Lewis for Government information in accordance with Section 01300, "Submittal Procedures." If the product is specific to one type of roof system, information shall include the type of roof system for which the product is proposed.

SD-03 Product Data

Sealants

Primers

Bond breakers

Backstops

1.3 ENVIRONMENTAL CONDITIONS

The ambient temperature shall be within the limits of 4 and 38 degrees C(40 and 100 degrees F) when sealant is applied.

1.4 DELIVERY AND STORAGE

Deliver materials to the job site in unopened manufacturers' external shipping containers, with brand names, date of manufacture, color, and material designation clearly marked thereon. Elastomeric sealant containers shall be labeled to identify type, class, grade, and use. Carefully handle and store materials to prevent inclusion of foreign materials or subjection to sustained temperatures exceeding 38 degrees C(100 F degrees) or less than 4 degrees C(0 degrees F).

PART 2 PRODUCTS

2.1 SEALANTS

Provide sealant that has been tested and found suitable for the substrates to which it will be applied. Use elastomeric Sealants (ASTM C 920) for interior and exterior applications where maximum joint movement is anticipated to be between 25 and 50 percent of joint width. Chemically curing sealants should not be used adjacent to or above membrane surfaces of asphaltic or bituminous materials; a sealant based on asphalt or bituminous materials similar to those in the membrane should be used. Use Latex Sealant (ASTM C 834) only for temporary, low budget

construction and only when specifically approved by the Contracting Officer. Latex sealant shall normally not be used in roofing applications at Fort Lewis.

2.1.1 Interior Sealant

Not used.

2.1.2 Exterior Sealant

For joints in vertical surfaces, provide ASTM C 920, Type S or M, Grade NS, Class 25, Use NT. For joints in horizontal surfaces, provide ASTM C 920, Type S or M, Grade P, Class 25, Use T. Color for exterior sealant shall be clear or compatible with adjacent surfaces.

2.1.3 Floor Joint Sealant

Not used.

2.2 PRIMERS

Provide a nonstaining, quick-drying type and consistency recommended by the sealant manufacturer for the particular application.

2.3 BOND BREAKERS

Provide the type and consistency recommended by the sealant manufacturer for the particular application.

2.4 BACKSTOPS

Provide glass fiber roving or neoprene, butyl, polyurethane, or polyethylene foams free from oil or other staining elements as recommended by sealant manufacturer. Backstop material shall be compatible with sealant. Do not use oakum and other types of absorptive materials as backstops.

2.5 CLEANING SOLVENTS

Provide type(s) recommended by the sealant manufacturer for the sealant type and for surfaces that will be in contact with sealant.

PART 3 EXECUTION

3.1 SURFACE PREPARATION

Surfaces shall be clean, dry to the touch, and free from dirt, frost, moisture, grease, oil, wax, lacquer, paint, or other foreign matter that would tend to destroy or impair adhesion. When resealing an existing joint, remove existing calk or sealant prior to applying new sealant.

3.1.1 Steel Surfaces

Remove loose mill scale by sandblasting or, if sandblasting is impractical or would damage finish work, scraping and wire brushing. Remove protective coatings by sandblasting or using a residue-free solvent.

3.1.2 Aluminum or Bronze Surfaces

Remove temporary protective coatings from surfaces that will be in contact with sealant. When masking tape is used as a protective coating, remove tape and any residual adhesive just prior to sealant application. For removing protective coatings and final cleaning, use nonstaining solvents recommended by the manufacturer of the item(s) containing aluminum or bronze surfaces.

3.2 SEALANT PREPARATION

Do not add liquids, solvents, or powders to the sealant. Mix multicomponent elastomeric sealants in accordance with manufacturer's instructions.

3.3 APPLICATION

3.3.1 Joint Width-To-Depth Ratios

a. Acceptable Ratios:

JOINT WIDTH	JOINT DEPTH, MINIMUM	JOINT DEPTH, MAXIMUM
For metal, glass, or other nonporous surfaces:		
1/4 inch (minimum)	1/4 inch	1/4 inch
over 1/4 inch	1/2 of width	Equal to width
For wood, concrete, masonry, stone, or other porous surfaces:		
1/4 inch (minimum)	1/4 inch	1/4 inch
Over 1/4 inch to 1/2 inch	1/4 inch	Equal to width
Over 1/2 inch to 2 inches	1/2 inch	5/8 inch
Over 2 inches	As recommended by sealant manufacturer	

b. Unacceptable Ratios: Where joints of acceptable width-to-depth ratios have not been provided, clean out joints to acceptable depths and grind or cut to acceptable widths without damage to the adjoining work. Grinding shall not be required on metal surfaces.

3.3.2 Backstops

Install backstops dry and free of tears or holes. Tightly pack the back or bottom of joint cavities with backstop material to provide a joint of the depth specified. Install backstops in the following locations:

a. Where indicated.

b. Where backstop is not indicated but joint cavities exceed the acceptable maximum depths specified in paragraph entitled, "Joint Width-to-Depth Ratios."

3.3.3 Primer

Immediately prior to application of the sealant, clean out loose particles from joints. Where recommended by sealant manufacturer, apply primer to joints in concrete masonry units, wood, and other porous surfaces in accordance with sealant manufacturer's instructions. Do not apply primer to exposed finish surfaces.

3.3.4 Bond Breaker

Provide bond breakers to the back or bottom of joint cavities, as recommended by the sealant manufacturer for each type of joint and sealant used, to prevent sealant from adhering to these surfaces. Carefully apply the bond breaker

to avoid contamination of adjoining surfaces or breaking bond with surfaces other than those covered by the bond breaker.

3.3.5 Sealants

Provide a sealant compatible with the material(s) to which it is applied. Do not use a sealant that has exceeded shelf life or has jelled and can not be discharged in a continuous flow from the gun. Apply the sealant in accordance with the manufacturer's instructions with a gun having a nozzle that fits the joint width. Force sealant into joints to fill the joints solidly without air pockets. Tool sealant after application to ensure adhesion. Sealant shall be uniformly smooth and free of wrinkles. Upon completion of sealant application, roughen partially filled or unfilled joints, apply sealant, and tool smooth as specified.

3.4 PROTECTION AND CLEANING

3.4.1 Protection

Protect areas adjacent to joints from sealant smears. Masking tape may be used for this purpose if removed 5 to 10 minutes after the joint is filled.

3.4.2 Final Cleaning

Upon completion of sealant application, remove remaining smears and stains and leave the work in a clean and neat condition.

a. Masonry and Other Porous Surfaces: Immediately scrape off fresh sealant that has been smeared on masonry and rub clean with a solvent as recommended by the sealant manufacturer. Allow excess sealant to cure for 24 hour then remove by wire brushing or sanding.

b. Metal and Other Non-Porous Surfaces: Remove excess sealant with a solvent-moistened cloth.

END OF SECTION