DACA85-03-R-0002

PROPOSAL DOCUMENTS

REPAIR UTILIDOR PHASE IV

EIELSON AFB, ALASKA

SOLICITATION, OFFER, AND AWARD
SUPPLIES OR SERVICES AND PRICE/COSTS
CONSTRUCTION SPECIFICATIONS/STATEMENT OF WORK
INSPECTION AND ACCEPTANCE
SPECIAL CONTRACT REQUIREMENTS
CONTRACT CLAUSES
LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS
REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENTS OF OFFERORS
INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS
EVALUATION FACTORS FOR AWARD

JULY 2003

U.S. ARMY ENGINEER DISTRICT, ALASKA
CORPS OF ENGINEERS
P.O. BOX 6898
ELMENDORF AFB, ALASKA 99506-6898

INCREASE PROFIT **SUBMIT VE CHANGES**

DESIGN AUTHENTICATION

Signatures affixed below indicate the drawings and specifications included in this solicitation were prepared, reviewed, and certified in accordance with ER 1110-345-100, Design Policy for Military Construction.

Solicitation: REPAIR UTILIDORS, PHASE IV
EIELSON AFB, ALASKA
DACA85-03-R-0002

Thomas L. Lubeck, PE
Chief, Civil Sanitary Section — Date: 11 July 03

for William F. Boyle, AIA
Chief, Architectural Section — Date: 11 July 03

Peter H. Lam, PE
Chief, Structural Section — Date: 11-Jul-03

Charles C. Von Gunten
Chief, Mechanical Section — Date: 11 July 2003

Robert L. Bolton
Chief, Electrical Section — Date: 11 July 2003

for James W. Pekar
Chief, Materials and
Instrumentation Section — Date: 11 July 2003

FOR Charles R. Wilson
Chief, Soils and Geology Section — Date: 11 July 2003

Jamil Abu-Niaj
Chief, Specifications Section — Date: 7-11-03

This project was designed by the Alaska District of the U.S. Army Corps of Engineers. The initials or signatures and registration designations of individuals appear on these project documents within the scope of their employment as required by ER 1110-1-8152.

DESIGN AUTHENTICATION

Signatures affixed below indicate the drawings and specifications included in this solicitation were prepared, reviewed, and certified in accordance with ER 1110-345-100, Design Policy for Military Construction.

Solicitation: REPAIR UTILIDORS, PHASE IV
EIELSON AFB, ALASKA
DACA85-03-R-0002

OLTON SWANSON, P.E.
Chief, Engineering Division

11 JULY 2003
Date

LAURA A. WALKER, P.E.
Chief, Military Technical Engineering Branch

This project was designed by the Alaska District of the U.S. Army Corps of Engineers. The initials or signatures and registration designations of individuals appear on these project documents within the scope of their employment as required by ER 1110-1-8152.

SOLICITATION, OFFER, AND AWARD *(Construction, Alteration, or Repair)*	1. SOLICITATION NUMBER	2. TYPE OF SOLICITATION	3. DATE ISSUED	PAGE OF PAGES
	DACA85-03-R-0002	☐ SEALED BID *(IFB)* ☒ NEGOTIATED *(RFP)*	18 Jul 03	

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

4. CONTRACT NUMBER	5. REQUISITION/PURCHASE REQUEST NUMBER	6. PROJECT NUMBER

7. ISSUED BY	CODE	8. ADDRESS OFFER TO
US ARMY ENGINEER DISTRICT, ALASKA CEPOA-CT (DACA85) PO BOX 6898 ANCHORAGE, AK 99506-6898	DACA85	US Army Engineer District, Alaska 2204 3rd Street Elmendorf AFB, Alaska 99506 Mailing: PO Box 6898 Anchorage, AK 99506-6898

9. FOR INFORMATION CALL ▶	A. NAME	B. TELEPHONE NUMBER *(Include area code) (NO COLLECT CALLS)*
	JUNE WOHLBACH	(907)753-5624

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):*

NAICS: 237990
PROJECT TITLE/LOCATION: Repair Utilidors, Phase IV, Eielson AFB, Alaska
OPEN TO LARGE SMALL BUSINESSES
DESCRIPTION OF WORK: Design and Construct to Repair Utilidors Phase IV is the repair of approximately 6,000 feet of utilidor systems on Eielson AFB. Repairs include complete replacement of sewer, water, steam and steam condensate lines within existing utilidor structures. Work will also include enlargement of some existing manholes, asbestos abatement, and repair of cracks/leaks to concrete utilidor structure. Responders are advised that the requirements may be delayed, cancelled or revised at any time during the solicitation, selection, evaluation, negotiation, and/or final award process based on decisions related to DoD changes and disposition of the Armed Services. THIS SOLICITATION WILL BE ISSUED USING ELECTRONIC BID SETS EBS) AND PROVIDED ON OUR WEBSITE (AND CD-ROM) AT NO CHARGE. https://ebs.poa.usace.army.mil/AdvertisedSolicitations.asp

NOTE: CONTRACT AWARD SUBJECT TO AVAILABILITY OF FUNDS

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* SCR-1 (also calendar days) *.)*

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

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and **See Section 00100, Part III General Requirements copies to perform the work required are due at the place specified in Item 8 by 2:00pm *(hour)* local time 22 AUG 03 *(date).* If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

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

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

D. Offers providing less than 60 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)*
	16. REMITTANCE ADDRESS *(Include only if different than Item 14)*
CODE FACILITY CODE	

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

AMOUNTS ▶

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 ▶ *(4 copies unless otherwise specified)*	ITEM	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO ☐ 10 U.S.C. 2304(c) ( ) ☐ 41 U.S.C. 253(c) ( )
26. ADMINISTERED BY CODE		27. PAYMENT WILL BE MADE BY

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☐ 28. NEGOTIATED AGREEMENT *(Contractor is required to sign this document and return _____ copies to 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)*	
30B. SIGNATURE	30C. DATE	31B. UNITED STATES OF AMERICA BY	31C. AWARD DATE

! ! ! C A U T I O N T O O F F E R O R S ! ! !

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

2. **SUBMIT PROPOSALS:** In Room 29, located in the basement of US Army Corp of Engineers, 2204 Third St, Elmendorf AFB, AK. Please be sure to submit proposals by the time specified on Standard Form 1442, Block 13-A. Any bids received after the specified time will not be accepted.

3. **VISITORS TO ELMENDORF AFB: ***NOTE: BE ADVISED THAT DUE TO BASE SECURITY MEASURES, YOU WILL NEED EXTRA TIME TO PROCESS THROUGH BONIFACE GATE.** You are required to have the following to obtain a base pass: current Anchorage emissions control inspection certificate, driver's license, DOD ID card (if applicable), proof of insurance, Alaska vehicle registration and Contracting Division point of contact/telephone number.

4. **AMENDMENTS:** Have you acknowledge receipt of **ALL** amendments? If in doubt as to the number of amendments issued, please contact our office, (907)753-2545 or (907)753-2553. SEE SECTION 00100 FOR ADDITIONAL INFORMATION REGARDING AMENDMENTS.

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

6. **OFFER GUARANTEE:** Sufficient offer guarantee in proper form (SF 24) must be furnished **with your proposal**. (FOR JOBS EXCEEDING $25,000)

7. **MISTAKE IN PROPOSAL:** Have you reviewed your proposal price for possible errors in calculation or work left out?

8. **TELEGRAPHIC MODIFICATIONS:** THE ALASKA DISTRICT DOES NOT HAVE THE CAPABILITY OF RECEIVING COMMERCIAL TELEGRAMS DIRECTLY. Offerors who wish to modify their offer by telegram are urged to ensure that telegrams are submitted within enough time to arrive at the offer depository room prior to the time specified for bid opening. (SEE STANDARD FORM 1442, BLOCK 13-A FOR SPECIFIC PROPOSAL DUE TIME). Any doubt as to time should be resolved in favor of **EXTRA TIME**. Transmission by Fax to this office is **NOT ACCEPTABLE.**

9. **OFFER ACCEPTANCE PERIOD:** The minimum OFFER acceptance period is specified in Block 13D of the Standard Form 1442, Solicitation, Offer and Award. Please ensure that you allow at least the stated number of calendar days for the Government to accept your proposal.

10. **WEB-SITE:** If you have access to the Internet, updated project listing and planholder lists are available at
https://ebs.poa.usace.army.mil/AdvertisedSolicitations.asp

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RETURN THE FOLLOWING WITH YOUR BID:

Section 00010 - Completed
Section 00600 - Completed
20% Bid Bond

REPAIR UTILIDORS, PHASE IV

EIELSON AFB, ALASKA

Item No.	Description	Estimated Quantity	Unit	Unit Price	Amount
	BASE ITEMS				
0001.	Flightline Ave. (South): Design for 2,200 ft of main utilidor, 400 ft of service utilidor, 7 FH, and 12 MHs between MH 507 and 705, including new MHs and utilidor access shaft indicated. replace Bldg services 3242, 1206, 3240, and 1209. Approx. 350 ft of crack repair using chemical grouting. Comm conduit between CITS MH and utilidor MH 506-A, all complete.	1	Lump sum	$_____	$_____
0002.	Flightline ave (South): Construct repairs of approx. 2,200 ft of main utilidor, 400 ft of service utilidor, 7 FH, and 12 MHs between MH 507 and 705, including new MHs and utilidor access shaft indicated. replace Bldg services 3242, 1206, 3240, and 1209. Approx. 350 ft of crack repair using chemical grouting. Comm conduit between CITS MH and utilidor MH 506-A, all complete.	1	Lump sum	$_____	$_____
0003.	West of Division St. & Flightline Ave. intersection: Design for approx. 310 ft of main utilidor, 1 FH, and 1 MH between MH 507 west portal and MH 140. Approx. 45 feet of cracks for chemical grouting. Demolition of 90 ft section of service utilidor between MH 140 and and Bldg 1201, all complete.	1	Lump sum	$_____	$_____
0004.	West of Division St. & Flightline Ave. intersection: Construct repairs				

of approx. 310 ft of main utilidor, 1 FH, and 1 MH between MH 507 west portal

Item No.	Description	Estimated Quantity	Unit	Unit Price	Amount
	and MH 140. Approx. 45 feet of cracks for chemical grouting, and demolish 90 ft section of service utilidor between MH 140 and and Bldg 1201, all complete.	1	Lump sum	$_____	$_____

Total of Items 0001 thru 0004

$_____

OPTIONAL ITEMS

0005.	Broadway Ave.: Design of approx. 700 ft of main Utilidor, 170 ft of Service utilidor, 2 FH, and 5 MHs between MH 219-1 and 204. Replace Bldg services 3343 and 3301. Approx. 105 ft of crack repair using chemical grouting. Comm conduit between CITS MHs and utilidor MHs 219-1 and 211, all complete.	1	Lump sum	$_____	$_____
0006.	Broadway Ave.: Construct repairs of approx. 700 ft of main Utilidor, 170 ft of Service utilidor, 2 FH, and 5 MHs between MH 219-1 and 204. Replace Bldg services 3343 and 3301. Approx. 105 ft of crack repair using chemical grouting. Comm conduit between CITS MHs and utilidor MHs 219-1 and 211, all complete.	1	Lump sum	$_____	$_____
0007.	Broadway Ave.: Design of approx. 735 ft of main utilidor, 1 FH and 4 MHs between MH 204 west portal and 113. Replace Bldg services 3112 (east) and 3112 (west). Approx. 105 ft of crack repair using chemical grouting, all complete.	1	Lump sum	$_____	$_____
0008.	Broadway Ave.: Construct repairs of approx. 735 ft of main utilidor, 1 FH and 4 MHs between MH 204 west portal				

and 113. Replace Bldg services

Item No.	Description	Estimated Quantity	Unit	Unit Price	Amount
	3112 (east) and 3112 (west). Approx. 105 ft of crack repair using chemical grouting, all complete.	1	Lump sum	$_____	$_____
0009.	Flightline Ave.(N): Design of approx. 700 ft of main utilidor, 80 ft of service utilidor, 1 FH, and 3 MHs between MH 113 north portal and 111, including 2nd access hatch as designated. Replace Bldg services 1140 (south). Approx 105 ft of crack repair using chemical grouting. Comm conduit between CITS MH and utilidor, all complete.	1	Lump sum	$_____	$_____
0010.	Flightline Ave.(N): Construct repairs of approx. 700 ft of main utilidor, 80 ft of service utilidor, 1 FH, and 3 MHs between MH 113 north portal and 111, including 2nd access hatch as designated. Replace Bldg services 1140 (south). Approx 105 ft of crack repair using chemical grouting. Comm conduit between CITS MH and utilidor, all complete.	1	Lump sum	$_____	$_____
			Total of Items 0005 thru 0010		$_____
			Total of Base and Optional Items		$_____

EVALUATION OF OFFERS.

1. AWARD: Award will be made in accordance with Section 00120 - EVALUATION FACTORS FOR AWARD.

2. INCOMPLETE OFFERS: Failure to submit an offer on all items in the schedule will result in an incomplete offer and the proposal will be rejected. Lump sum or unit prices must be shown for each item within the schedule.

3. EVALUATION OF OPTIONS: See Contract Clauses.

-- End of Proposal Schedule --

PROPOSAL NO. DACA85-03-R-0002

If the offer is submitted by a corporation, partnership, Joint Venture or an LLC, the applicable form listed must be completed. In the alternative, other evidence must be submitted to substantiate the authority of the person signing the offer. If a corporation, the same officer shall not execute both the offer and the certificate.

LLC

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

_____(CORPORATE SEAL)
(Secretary)

CORPORATE CERTIFICATE

I, _____, certify that I am the _____ Secretary of the corporation named as Offeror/Contractor herein; that _____ who signed this offer/contract on behalf of the Offeror/Contractor was then _____of said corporation; that said offer/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 SEAL)
(Secretary)

AUTHORITY TO BIND PARTNERSHIP

This is to certify that the names and signatures of all partners are listed below and that the person signing the offer had authority to actually bind the partnership pursuant to its partnership agreement. 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.

_____

(Type or Print Name) (Signature)

PROPOSAL NO. DACA85-03-R-0002

JOINT VENTURE

I, _____ , certify that I am the Secretary of the Corporation named as Offeror/Contractor Herein, that who signed this offer/contract on behalf of the Offeror/Contractor was then _____ of said corporation by authority of its governing body and is within the scope of its corporate powers. IN WITNESS WHEREOF, I have hereunto affixed my hand and the seal of said corporation this _____ day of

AFFIX CORPORATE SEAL

_____
(Secretary)

JOINT VENTURE

I, _____ , certify that I am the Secretary of the corporation names as Offeror/Contractor herein, that who signed this offer/contract on behalf of the Offeror/Contractor was then _____ of said corporation; that said offer/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.

IN WITNESS WHEREOF, I have hereunto affixed my hand and the seal of said corporation this _____ day of _____.

AFFIX CORPORATE SEAL

_____
(Secretary)

PROPOSAL NO. DACA85-03-R-0002

PRE-AWARD QUESTIONNAIRE

Following offer opening, the apparent low offeror will be contacted and requested to submit the data referenced below. This will expedite our pre-award process. Prior to awarding any contract, it is required for this office to have on record specific information concerning the apparent low, responsible, responsive offeror. Accordingly it is requested that you complete the following form and return to this office, ATTN: Contracting Division, CEPOA-CT-SP.

Name of Contractor _____ X Proper Block

Business Address _____ Corporation

City/State/Zip _____ Partnership

Telephone No. _____ Individual

Operating Office Address, (This Area): J/V

LLC

Name of Contractor

Business Address _____ inc. in State of:
City/State/Zip
Telephone No.

Year inc.

LIST OF CORPORATION OFFICERS/PARTNERS BY NAME AND TITLE

_____ Small Business

_____ Large Business

_____ Minority Business

YEARS EXPERIENCE in the field of proposed work (_____). Also indicate similarity between work currently being produced and work required under subject invitation:

Financial Institution Ratings. Is your firm listed in:
a. Dun & Bradstreet: ____No ____Yes: If yes, what is the rating?
b. Thomas Register: ____No ____Yes: If yes, what is the rating?

CERTIFIED CURRENT BALANCE SHEET and latest PROFIT AND LOSS STATEMENT signed by an officer of the company. The name of your banking firm and telephone number and the name of the individual to contact for a line-of-credit reference. The last financial statements will be acceptable if they are less than 6 months old.

PROPOSAL NO. DACA85-03-R-0002

List all pending lawsuits or unsatisfied judgments against you; the nature of same and Court where filed or adjudicated. Lawsuits or judgments where full payment will be made, or are covered by your insurance are not to be included.

_____

_____

_____

List all your contract claims pending; state nature and amount of each claim and approximate date filed.

_____

_____

_____

Name(s) of Bonding Company(ies)_____

Business Address(es)_____

Your bonding capacity as established by your surety $_____

PLEASE ATTACH with Pre-Award Questionnaire a list of tools, equipment and facilities, with year, date and value which will be used for this project.

By my signature hereon, I certify that the offer price of $
on
subject project has been reviewed and is without error.

Signature_____

Title_____

Date_____

SECTION 00100

PROPOSAL SUBMISSION REQUIREMENTS

COST LIMITATION:

The funds available for contract award of the base and all the options for design and construction of the FY 03 Phase IV, Repair Utilidors is $7,000,000. The Government cannot guarantee that additional funds will be available for award of any portion of this solicitation. Offerors are under no obligation to approach this ceiling.

PART 1 – GENERAL INFORMATION

PRELIMINARY INFORMATION

1. **REQUEST FOR PROPOSAL.** The Request for Proposal (RFP) for this solicitation, including plans and specifications (if any), will be issued on CD-ROM at no charge. Traditional paper copies will not be available.

2. **BOND AMOUNT REQUIRED**

   a. Performance & Payment Bonds

      (1) Performance Bond & Payment Bond: Offerors are required to obtain and furnish a written letter of commitment from a good and sufficient surety. The obligation of the surety for each bond under the letter of commitment shall be equal to the contract price. The letter of commitment shall express the surety's willingness to provide the required bonding within 10 calendar days after notification that the need is transmitted to the surety by the contractor. The performance & payment bonds shall each equal one hundred percent (100%) of the contract price. (SEE Clause 52.228-15, Performance and Payment Bonds Construction (Jul 2000), Section 700)

      (2) The Government may require additional performance bond protection if the contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price. The Government may secure additional protection by directing the contractor to increase the penal amount of the existing bond or to obtain an additional bond.

3. **SURETY REQUIREMENTS**

   a. Corporate Sureties - Corporate sureties for bid, performance, and payment bonds must appear on the list contained in the Department of the Treasury Circular 570, "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and Acceptable Reinsuring Companies". Other requirements for corporate sureties are contained in FAR 28.202-1.

   b. Individual Sureties - If individual sureties are used for bond obligations, they must meet the requirements under FAR 28.203.

4. **EQUIPMENT OWNERSHIP AND OPERATION EXPENSE SCHEDULE**

Whenever a contract or modification of contract price is negotiated, the contractor's cost proposal for equipment ownership and operating expenses shall be determined in accordance with the requirements of SCR-29, EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE, contained in the Special Contract Requirements section of the specifications. A copy of EP 1110-1-8 "Construction Equipment

Ownership and Operating Expense Schedule" is available for review at the US Army Engineer District, Alaska, Bldg. 2204 3rd Street, Elmendorf AFB, Alaska.

5. INQUIRIES

Prospective offerors may submit inquiries concerning administrative and technical matters in writing to June L. Wohlbach, Contract Specialist, (907) 753-5624, Fax (907) 753-2544. All written inquiries should be addressed to U.S. Army Engineer District, Alaska, ATTN: June L. Wohlbach, CEPOA-CT-CM, P.O. Box 6898, Elmendorf AFB, AK 99506-6898. (e-mail: june.l.wohlbach@poa02.usace.army.mil)

COLLECT CALLS WILL NOT BE ACCEPTED!

6. VISITORS TO ARMY AND AIR FORCE BASES

All vehicle operators are required to wear seatbelts. Violators will lose their driving privileges for 10 days on their first offense, 30 days on the second offense, and 6 months or longer on the third offense.

If a firm does not have a current pass to obtain entry to Elmendorf AFB, the firm may request a day pass using the following procedures:

Forty-eight (48) hours prior to your meeting or delivery of proposal, the firm must contact Ms. Wohlbach at the above e-mail and request a day pass. The firm must provide:

a. The solicitation number

b. The names of all person(s) in the vehicle

c. The name of their employer(s)

State that this is a request for a day pass. On the DAY OF entry, the driver must go to the Boniface Parkway gate and provide:

a. Valid driver's license

b. Proof of current insurance

c. Proof of current IM certification

d. Current vehicle registration.

e. Please inform the security police that you are on the list for a DAY PASS.

7. FACSIMILE PROPOSALS

Facsimile proposals or modifications will not be accepted.

8. PICK-UP SERVICE FOR TELEGRAPHIC AMENDMENTS

The US Army Engineer District, Alaska, does not provide pick-up service for telegraphic amendments.

9. PERFORMANCE OF WORK BY CONTRACTOR

Your attention is invited to SPECIAL CONTRACT REQUIREMENT 21 entitled "PERFORMANCE OF WORK BY CONTRACTOR". Unless submitted with the proposal, the successful contractor must furnish

the Contracting Officer within 30 days after award a description of the work, which he intends to perform with his own organization (e.g. earthwork, paving, brickwork, or roofing), the percentage of the total work this represents and the estimated cost thereof.

10. EXCLUSION OF DEBARRED AND SUSPENDED CONTRACTORS

By entering into this contract, the Contractor certifies that neither it, 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 being suspended or debarred in accordance with FAR subpart 9.4.

11. PRE-PROPOSAL CONFERENCE / SITE VISIT

A pre-proposal conference and site visit will be conducted on 5 August at 1000 hours at 2258 Central Avenue, Eielson AFB, Alaska, in the basement (ROCK) conference room. Offerors wishing to attend will be required to provide their full name, company name, and telephone number to June L. Wohlbach, Contract Specialist**,** at the U.S. Army Engineer District, Alaska, at FAX (907) 753-2544 two business days prior to the site visit. Personal and vehicle identification will be required to pass security at the gate at Eielson AFB.

Questions submitted at least two days prior to the proposal conference/site visit will be answered at the conference when feasible. Submit questions to June L. Wohlbach, via email (june.l.Wohlbach@poa02.usace.army.mil) or FAX (907) 753-2544. Minutes of the conference will be recorded and distributed to all contractors as an amendment to this RFP regardless of whether or not they attend the pre-proposal conference.

Prospective offerors are advised to visit the work site to ascertain the degree of difficulty expected in avoiding existing features and other factors affecting the work. Any difficulties arising during performance of work that would have been evident at such a prior inspection will not be considered to be a result of differing site conditions.

12. PRE-AWARD SURVEYS. The Government reserves the right to conduct a pre-award survey of any firm under consideration to confirm any part of the information furnished by the offeror, or to require other evidence of managerial, financial, technical, and other capabilities, the positive establishment of which is determined by the Government to be necessary for the successful performance of the contract.

PART I. WHO MAY SUBMIT:

A. Firms formally organized as design-build entities, design firms and construction contractors that have associated specifically for this project, or any other joint venture or sub-contractor. In the latter case, a single design firm or construction contractor may offer more than one proposal by entering into more than one such association. For the purposes of this solicitation, no distinction is made between formally organized design-build entities and project-specific design-build associations. Both are referred to as the design-build offeror (or simply “offeror”) or the design-build contractor (or simply “contractor”) after award of a contract.

B. Joint ventures are encouraged to apply. However, they must complete the following:

1. Obtain a Tax Identification Number (TIN) as a joint venture.
2. Prepare the Reps/Certs as a joint venture (For example, provide the TIN of the joint venture. Do not use a TIN from one of the parties of the joint venture. See Section 00600 of this solicitation)
3. All parties to the joint venture must sign the proposal.
4. Be registered in the Central Construction Registration (CCR) as a joint venture

C. All firms are advised that if they are the successful proposer, they must be registered in CCR. We advise that they begin this process when they prepare their proposal in order to ensure this registration is in place should they be selected for the award. "Lack of registration in the CCR database will make an offeror ineligible for award." (Reference Solicitation Clause 252.204-7004, Required Central Contractor Registration)

D. PARTICIPATION OF COMMERCIAL FIRM

The following firm may provide administrative support during the source selection process. This firm will be authorized access to only those portions of the proposal data and discussions that are necessary to enable them to perform their respective duties. The firm shall be expressly prohibited from competing on the subject acquisition and from proposal scoring, ranking, or recommending the selection of a source:

FIRM: PDC, Incorporated

Pursuant to Federal Acquisition Regulation (FAR) 9.505-4, individuals involved in this acquisition whose duties expose them to proprietary information generated in an offeror's proposal will be required to sign a nondisclosure agreement. This agreement states that, while performing their duties related to the source selection process, they will: (1) protect the offeror's information from unauthorized use or disclosure for as long as it remains proprietary, and (2) refrain from using the information for any purpose other than that for which it was furnished.

PART II. ONE-STEP REQUEST FOR PROPOSAL (RFP) PROCESS

a. The U.S. Army Engineer District, Alaska, intends to solicit this requirement using the source selection procedures in accordance with the provisions set forth in this Request for Proposal (RFP). A firm fixed price construction contract will be awarded to the offeror who submits a proposal determined to be the best value and is most advantageous to the Government, with price and other factors considered. The solicitation criterion relies upon industry standards, as much as possible, to allow the Offeror a degree of innovation and design flexibility while meeting certain specific project requirements.

b. The Government may award without discussions.

c. Limited exchanges with offerors may be conducted for clarifications. A competitive range may be established for conducting discussions.

d. The process used for this solicitation will be a one-step Request for Proposal (RFP) wherein offerors will be evaluated and selected from the following criteria:

- Experience to include prime contractor/design team and key subcontractors
- Past performance
- Team organization to include management plan, key personnel, and key subcontractors
- Technical Solution
- Subcontracting Plan
- Price

e. Each criterion will be evaluated as a discrete factor. The final determination as to the overall value of any proposal will reflect the combined effect of having considered all criteria as a whole.

PART III. GENERAL REQUIREMENTS

a. The intent of this RFP is to solicit proposals for the design and construction requirements needed to repair existing utilidors at Eielson AFB as outlined in this RFP. Offerors shall

perform sufficient design work prior to submitting proposals in order to verify quantities and costs. See section 00800 for additional information on Special Contract Requirements.

b. Submit your proposal packages to the U.S. Army Engineer District, Alaska at the address shown in Block 8 of Standard Form 1442.

c. The Government must receive your proposal no later than the time and date specified in Block 13 of Standard Form 1442.

d. Submit your proposal in three volumes. Volume 1 contains your organization's experience and capacity to perform this work. Volume 2 contains your technical solution. Volume 3 contains the required pricing and ProForma requirements. Drawings submitted for this project may be incorporated into Volume 2 or enclosed as a separate set with your proposal.

e. All contractors will receive written notice if they were or were not selected for contract award.

f. Proposal clarity, organization and cross-referencing is mandatory. The offerors shall sufficiently detail and clearly define all items addressed in this Section (00100) Proposal Submission Requirements.

g. Written portions shall be typewritten using not more than 6 vertical lines per inch in 8-1/2" x 11" format with three holes punched, inserted in three ring binders. Schedules may be presented on 11" x 17" sheets folded to 8-1/2" x 11". The offeror shall label and tab their proposal consistent with the solicitation format index below. The proposal shall have table of contents for each proposal criteria as established in this Section (00100). Each page of the proposal shall have the page number on the bottom of the page starting with the first page to the last.

h. Provide original and **two** (2) copies of all drawings and Volumes 1 and 2, and original and **one** (1) copy of Volume 3. Provide **one** (1) copy of all CADD files using AutoCad 2000 or later version on a Compact Disk.

i. Page limitations:

1. Volume 1 is not expected to exceed 35 (Tthirty-five) single-sided pages. Personnel resumes and performance evaluations located in Volume 1 are not counted in the page limits.
2. Volume 2 may contain as many pages as required. Use of original product information laser copied images is encouraged for clarity.
3. Volume 3 is not expected to exceed 35 (thirty-five) pages.

PART IV. SPECIFIC PROPOSAL REQUIREMENTS

VOLUME ONE – ORGANIZATIONAL CHARACTERISTICS

Volume one is an opportunity for you to provide information on your team's past experience and performance, your capacity to perform work for this project, and your approach to certain aspects of design and construction. Present the material sequentially under the following Tabs, A thru D, to facilitate evaluation.

TAB A: **EXPERIENCE**

Use the format specified in Part V, items 1, 2 and 3.

a. Team Experience: Provide up to five (5) examples of projects with recent and relevant experience in which the contractor and design firm have worked together. Identify any projects

that are similar to this project. Provide an explanation of how these projects are similar in scope to the work required in this RFP. Also, identify any design-build experience within and between your proposed team.

b. Contractor: Provide up to three (3) examples of projects, demonstrating relevant design/build experience that are similar to this project in scope. Provide an explanation of how these projects are similar in scope and magnitude to the work required in this RFP. Explain your experience with environmental compliance and permitting procedures with government agencies and the Corps of Engineers/Air Force team.

c. Design Firm(s): Provide up to three (3) examples of projects, demonstrating relevant design/build experience, that are similar in scope to this project. Examples provided should include the primary A/E and may also include principal subcontractors. Provide an explanation of how these projects are similar in scope to the work required in this RFP.

Relevant experience includes but is not limited to: experience with design/construction of utility distribution infrastructure to include steam and condensate return systems, sewer systems, water systems, petroleum pipelines, electrical and/or communication systems or other similar distribution systems.

TAB B: PAST PERFORMANCE

a. Contractor and Designer: Provide information for each project listed under Tab A to indicate past performance. Use the format specified in Part V, items 3 and 4. The Government may also contact sources outside those listed in the proposal.

b. Past Performance Evaluation Questionnaire: The offeror may use the Past Performance Evaluation Questionnaire included at the end of this section (00100) as a means to supplement the Past Performance requirement. This is especially useful if one or both parties has limited experience with Government projects or wishes to highlight specific civilian projects. The Government will review all available recent and relevant past performance data in its possession. The Offeror will be responsible for submitting the Past Performance Questionnaire to its customers in a timely manner.

- Compile responses from past customers and incorporate them into Volume one, Tab B of the proposal.

TAB C: ORGANIZATION AND MANAGEMENT

Fully describe your proposed organization, in terms of key positions identified in Part V, itmes 5 & 6 and others who manage and execute the design, construction, training, and warranty support. Provide this information in a narrative and in an organization chart. Resumes of key personnel should include experience commensurate with this type of project. Identify the Design/Build management team and describe the role of the Design Organization during construction. Identify your procedures for quality control throughout the design and construction process.

TAB D: SUBCONTRACTING PLAN AND SMALL BUSINESS PARTICIPATION (provided in Volume III)

Prepare a small business utilization plan per 252.219. Subcontracting plan may be submitted up to 24 hours after the proposal due date and time. Proposals shall address the following:

1. The anticipated utilization of small businesses. List each group and goals for each small disadvantaged business, woman owned, HUB-zone, veteran owned, and disabled veteran owned.

VOLUME TWO – TECHNICAL SOLUTION

Volume two is an opportunity for you to provide your team's solution for design and construction needed to accomplish requirements for the Phase IV Utilidor Repair. Present the material sequentially under the following Tabs A thru C to facilitate evaluation.

TAB A: DESIGN NARRATIVE AND DESIGN DRAWINGS

Part I – Narrative. Present a narrative of your design approach and your technical design solutions. The Offeror shall certify that his/her designs shall comply with the current regulations, standards and codes, or if he/she is deviating from the most recent, an explanation is required. The narrative shall include but not necessarily be limited to the following:

WATER, SEWER, AND STEAM SYSTEMS

Provide a description of your general design approach to each of the utility systems. Your description shall include basis of design, pipe support systems including construction materials, optimum racking of pipes in the utilidor to afford movement of maintenance workers, connection to the existing utilities at the project boundaries, describe the salient features of the proposed equipment to be used. Also include your concept plan for providing utility service to the facilities affected by the construction.

COMMUNICATION CABLE SUPPORT AND ELECTRICAL SYSTEMS

Provide a descriptive narrative of the communication cable supports and electrical systems required for this project. Your description shall include basis of design, construction materials, and optimum racking of cables in the utilidor to afford movement of maintenance workers and avoid conflict with other utility support systems. Also include the salient features of proposed equipment and materials to be used.

STRUCTURAL

Provide a general description of the utilidor upgrades including manhole expansion and upgrades to the fire hydrant and utilidor manholes.

HAZMAT ABATEMENT/DEMOLITION

Describe your procedures for handling hazardous materials abatement and demolition for this project. Explain how areas not affected by construction will be protected from demolition.

TEMPORARY UTILITIES
Describe your plan for laying out and phasing temporary utilities on this project and any disruption of utilities that may occur.

Part II - DESIGN DOCUMENTS

DRAWINGS

Include only those drawings required to show the following information. Prints of drawings shall be 1/2 size (12" x 18" or 15" x 21") for ease of review and handling. Provide an index sheet with these drawings.

Civil

1. Concept Utilidor Piping Plans: Show connection points, anchors, expansion joints, guides, and valves. Scale: 1" = 10'

2. Concept Manhole Plans: For each manhole, show 1-line piping, valves, anchors and expansion joints. Scale: 1/2" = 1'

3. Concept Temporary Utilities Layout Plan. 3 sheets.

Structural

1. Concept Manhole Plans for enlargements and modifications to any manholes. Scale: 1/2" = 1'

Electrical

1. Concept Manhole lighting and Power Layout Plans for each manhole. Scale: 1/4" = 1'

TAB B: PROPOSED EQUIPMENT & OUTLINE SPECIFICATIONS

Furnish manufacturer's catalog data on equipment and fixtures to indicate type of equipment, size or capacities, manufacturer, and model number to be used in this project. Originals of manufacturer's catalog should be submitted where photocopies may not be legible. Model or item to be utilized shall be clearly marked on the manufacturer's data sheet if it is provided. Material presented in this Tab will be one means of establishing the level of quality to be expected by the Government.

Outline specification for all divisions and sections anticipated, indicating adequate information to establish the level of quality to be expected by the Government.

TAB C: PRELIMINARY SCHEDULE

a. Capability: Provide a narrative describing your scheduling capability and planning organization. Address how you maintain, update and use your schedule. Describe the software you intend to use. The software must support the Corps of Engineers Standard Data Exchange Format in accordance with Section 01320. Cleary indicate the proposed contract completion date and duration in calendar days.

b. Schedule: Submit a proposed preliminary schedule for design and construction. This schedule shall clearly state how it compares to the number of days stated in SCR-1. Assume an NTP date of 10 Oct 2003. Offeror shall acknowledge that he/she understands that the total contract duration proposed in this schedule will become contractually binding should that offeror receive the award. In addition, the proposed schedule shall be used as the basis for development of the initial NAS as defined by SEC 01320. Schedules or diagrams may be provided separately in a size that is easily read, but shall be bound and clearly labeled. The schedules shall be task oriented, indicating the number of calendar days, after notice to proceed, by which milestones are to be achieved. Offeror may use the method of his/her choice; however, schedules shall be graphically represented. Give special attention to the following features.

1. Show the design phase, including events associated with coordinating the design submittals and the proper handling of the review comments.
2. Show the construction phase for each major feature of construction. The schedule shall indicate the offeror's understanding of the 1 May-15 September allowable construction period. Construction is not permitted and utilidors must be fully operational outside these dates.
3. Show O&M manual submission and required operator training.
4. Show turnover of the project. Identify any proposed phased Turnovers. Show turnover Inspections.
5. Show as-built submissions.
6. Constraints: Offeror must demonstrate the capability and flexibility to plan and schedule the complete project to meet the proposed contract completion date. Clearly identify any constraints on the schedules presented (e.g., labor or material availability, weather, interfaces with base utilities, etc.); indicate the anticipated

critical path on the schedule.

7. Permitting Milestones.

VOLUME THREE –PRICING

Organize the material sequentially under the following Tabs.

TAB A: SECTION 00600
Provide requirements of 00600 of this request for proposal. (Reps and Certs.)

TAB B: PRE-AWARD SURVEY BANK REFERENCE
Submit the Pre-Award Questionnaire form along with a letter from your financial institution confirming your firm's business and financial reputation, integrity, and ability to execute this contract. This letter must include information regarding any outstanding loans, past performance on loan payments, and general account information (for example, XYZ Corporation routinely maintains a checking balance in the six figures.).

TAB C: PRICE INFORMATION
The price information supporting the Technical Proposal shall be in the form of the proposal schedule contained in the front of this solicitation. The initial review of the Price Proposal will result in a determination as to reasonableness and affordability compared to the Independent Government Estimate (IGE).

TAB D: Subcontracting and Small Business Participation (Volume I Tab D)

TAB E: POINTS OF CONTACT
Cleary identify points of contact for both construction and design firms as appropriate. Note the following:

1) Firm
2) Address
3) Primary Point of Contact (POC)
4) Phone Number
5) Fax Number
6) Email for POC if available.

PART V. FORMAT REQUIREMENTS FOR VOLUME ONE TABS

1. <u>DESIGN / BUILD EXPERIENCE AS A TEAM</u>. Use separate sheets.

A. Name of Project:

B. Location of Project:

C. Owner with Point of Contact and telephone number:

D. General Scope of Construction Project:

E. Construction Cost:

F. Project Team members: Identify key designers and disciplines and construction team members and positions. Refer to Qualifications provided under Part V, Items 4 and 5.

G. Dates Construction Began / Completed:

H. Extent and Type of Work Subcontracted:

I. Were You Terminated or Assessed Liquidated Damages? (If either is "Yes," attach explanation)

2. CONSTRUCTION PRIME CONTRACTOR EXPERIENCE. Use separate sheets.

A. Firm's Name:

B. Name of Project:

C. Location of Project:

D. Owner with Point of Contact and telephone number:

E. General Scope of Construction Project:

F. Role (Prime, joint Venture, or Subcontractor, etc.) and Work Company Self Performed:

G. Construction Cost:

H. Extent and Type of Work Subcontracted:

I. Dates Construction Began/Completed:

J. Were You Terminated or Assessed Liquidated Damages? (If either is "Yes," attach explanation)

3 DESIGN CONTRACTOR EXPERIENCE. Use separate sheets.

A. Firm's Name:

B. Name of Project:

C. Location of Project:

D. Owner with Point of Contact and telephone number:

E. General Scope of Project:

F. Role (Prime, joint Venture, or Subcontractor, etc.) and Work Company Self Performed:

G. Construction Cost:

H. Extent and Type of Work Subcontracted:

I. Dates Construction Began/Completed:

J. Did you Provide Construction Phase Services?

K. Were You Terminated or Assessed A/E Liability? (If either is "Yes," attach explanation)

4. PRIME & DESIGN FIRM PAST PERFORMANCE. Use separate sheets.

A. Firm's Name:

B. Name of Project:

C. Location of Project:

D. Owner with Point of Contact and telephone number:

E. General Scope of Construction Project:

F. Summary of Role in Design of this Project:

G. Estimated Construction Cost:

H. Dates Construction Ended:

I. Performance Evaluations

5. DESIGN PERSONNEL. Use separate sheets

Provide the information listed below on separate sheets for each person showing qualifications of: Design Project Manager as a minimum, and as appropriate, the Civil Engineer, Landscape Architect, Geotechnical Engineer, Structural Engineer, Mechanical Engineer, Electrical Engineer, Design Quality Control Manager, Hazardous Materials Specialist, etc. Use continuation sheets, if needed.

A. Name and Title:

B. Assignment on this Project:

C. Name of Firm:

D. Number Of Years: With this Firm / With other firms:

E. Education: Degree(s)/Year/Specialization:

F. Active Registration: Number/State/Year:

G. Specific Experience and Qualifications Relevant to this Project:

6. CONSTRUCTION PERSONNEL. Use separate sheets

Provide the information listed below on separate sheets for each person showing qualifications of: Construction Project Manager, Construction Site Supervisor, Superintendent, Contractor Quality Control Manager and Safety Officer. Use continuation sheets, if needed.

A. Name and Title:

B. Assignment on this Project:

C. Name of Firm:

D. Number of Years: With this Firm / With other Firms:

E. Education and/or special credentials and training:

F. Specific Experience and Qualifications Relevant to this Project:

END OF SECTION 00100

SOLICITATION NO. DACA85-03-R-0002
FY03 Repair Utilidors - Phase IV, Eielson AFB, Alaska
OWNER/CLIENT PAST PERFORMANCE SURVEY

The U.S. Army, Corps of Engineers, is interested in your assessment of the named company's “past performance." The quoted term refers to the company's record of conforming to contract requirements and to standards of good workmanship; the firm's record of forecasting and controlling costs; the firm's adherence to contract schedules including the administrative aspects of performance; the firm's history of reasonable and cooperative behavior and commitment to customer satisfaction; and the firm's general business-like concern for the interest of the customer.

These questions relate to the work performed
by_____
(Name of Offeror)

at _____
(Name and Location of Project)

1. Is the information provided by the contractor in the Project Experience Form accurate and correct to the best of your knowledge and why? Yes / No. _____
Explanation:_____
_____

2. How would you rate the performance of this Contractor on the subject project?

a. The company's record of conforming to contract requirements and standards of good workmanship
Excellent Good Satisfactory Fair Unsatisfactory

b. The firm's adherence to contract schedules including the administrative aspects of performance
Excellent Good Satisfactory Fair Unsatisfactory

c. The firm's history of reasonable and cooperative behavior and commitment to customer satisfaction
Excellent Good Satisfactory Fair Unsatisfactory

d. The firm's general business-like concern for the interest of the customer
Excellent Good Satisfactory Fair Unsatisfactory

e. The firm’s price, in terms of initial price and control of changes or claims.
Excellent Good Satisfactory Fair Unsatisfactory

3. Comments._____
_____
_____
_____
_____

Name_____ Title _____ Telephone _____

Fax_____ E-Mail Address_____
Date _____

Return to: <Insert your firm’s Information>

SOLICITATION NO. DACA85-03-R-0002
FY03 Repair Utilidors - Phase IV, Eielson AFB, Alaska
PROJECT EXPERIENCE FORM

Provide a completed form for each project for which experience is being claimed. Submit only projects on which the offeror was the prime contractor or prime construction contractor.

Name of offeror_____
_____

Work performed by Offeror [ ]and [ ] or by key subcontractor _____ and [ ] or [ ] design firm _____ (enter firm name and check "and" or "or" as applicable)

Was the project design-build?_____

Name of Project:_____
_____

Location of Project:_____
_____

Was Project a firm fixed price contract (Y/N)?_____If No, what type was it_____

Brief Description of Project

_____
_____
_____
_____
_____
_____

Contract Amount at Award: _____Final Contract Amount or Estimated Cost at Completion: _____ Amount added by Modification: _____

Explanation of any Cost Growth
_____
_____
_____

Multiple Interim Schedule Milestones (to include scheduled start date):
_____
_____
_____

Original Contract Completion Date: _____Final Contract Completion Date: _____

Actual Completion Date : _____Time added by Modification: _____

Explanation of any Late Finish:

_____
_____
_____
_____

Was the project terminated early or were cure/show cause letters received? ___Yes___No

Explain early termination (default/convenience) or cure/show cause letters_____
_____
_____
_____
Safety record: ____Accidents, _____Incidents, ____Violations

List and explain any customer concerns or dissatisfaction. Explain how you responded.
_____
_____

What were the SDB, WOB and small business percent goals in the original contract?

SDB:_____ WOB:_____ Small Business:_____ HBCU:_____HUBZONE:_____MI:_____

What was the actual percent achieved at contract completion?

SDB:_____ WOB:_____ Small Business:_____ HBCU:_____HUBZONE:_____MI:_____

Extent and Types of Work Subcontracted.
_____
_____

Was the project owner an agency of the federal government?_____Yes_____No

Name, address, FAX and telephone number of the owner:
_____

Name and telephone number of a representative of your firm who is knowledgeable of this project and can readily be contacted:
_____
_____

Name, address, FAX and telephone number of a representative of the owner who is knowledgeable of this project and can be readily contacted:
_____
_____
Name, address, FAX and telephone number of the Contracting Officer if project was for federal government:
_____
_____

SUBCONTRACTING GOALS FY 2003
for the Alaska District Contracts
(THIS PLAN MAY BE SUBMITTED WITHIN
24 HOURS AFTER THE PROPOSAL DUE DATE)

Small Business	57.2%
Small Disadvantaged	8.9%
Woman-Owned Small Business	8.1%
Veteran-Owned Small Business	3.0%
Service Disabled Veteran-Owned Small Business	3.0%
HUB-Zone Small Business	3.0%

1. SUBMIT YOUR PLAN IN THE ATTACHED FORMAT. Please address each paragraph and DO NOT change the order or formant of the tables. An electronic (MS Word) document is available by emailing a request to June.L.Wohlbach@usace.army.mil

2. Subcontracting Plans will be evaluated in accordance with FAR Clause 52.219-9 Alternate II and AFARS Appendix DD.

SUBCONTRACTING PLAN

FIRM:_____Sol. No. DACA85-03-R-0002

_____Contract No. _____

_____

PROJECT TITLE _____

CONTRACT SPECIALIST RESPONSIBLE FOR PRE-AWARD

__Ms. June L. Wohlbach 907/753-5624

NAME OF OFFICE ADMINISTERING CONTRACT TO INCLUDE SUBCONTRACTING PLAN: (If more than one office, name all offices/responsible parties): _____

_____

I. Dollar Amounts (If possible, DO NOT include indirect costs):

SEE ATTACHED TABLE

II. Percentage goals (expressed in terms of percentage of total planned subcontracting dollars).

SEE ATTACHED TABLE

1. State your firm's policy statement or evidence of internal guidance to company buyers recognizing commitment to Pub. L. 99-661, Section 1207, and Pub.L. 100-180, Section 806. Describe special emphasis placed on subcontracting with SDBs. Describe corporate and management commitment to meeting your subcontracting plan. (HBCUs & MI are excluded from evaluation).

2. Describe your firm's efforts to broaden SB, SDB, WOSB , HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned small business active vendor base. Specifically describe your efforts in increasing subcontracts to SBs and SDBs for non-complex and general housekeeping supplies or services normally awarded to firms already in your firm's vendor base. Describe established plans to use competition restricted to SDBs and give details about how your firm will accomplish this. (HBCUs & MI are excluded from evaluation).

3. Describe your firm's "Outreach Efforts" to work with organizations to identify potential sources for items not traditionally awarded to SB, SDB, WOSB, HUBZone SB, Service Disabled Veteran Owned SB, and Veteran-Owned SB firms. And, your proposed plan to conduct reviews to determine the competence, ability, experience and capacity available in SB, SDB, WOSB, HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned SB firms and to provide them technical assistance. (HBCUs & MIs are excluded from evaluation).

4. Describe supplies and services to be subcontracted and planned for subcontracting to SBs, SDBs, WOSBs , HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned SB firms. Indicate intent to review major product/system components and key project elements of R&D, construction, service and spare parts contracts for subcontracting to each of the above elements. Specifically describe how your plan targets specific SBs, SDBs,

WOSBs, HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned SB for review to determine their competence, ability, experience and capacity and identifies specific components or major portions of the acquisition for consideration of the above elements. Describe your firm's intent to work with large business subcontractors for major subsystems or key project elements to ensure "flowdown" of this philosophy. (HBCUs & MIs are excluded from evaluation).

5. Describe your firm's efforts, based on results of efforts described in No. 3 and No. 4 above to ensure that opportunity to participate in acquisitions. Specifically, describe how the firm intends to evaluate its own SB, SDB, WOSB, HUBZone SB, Service Disabled Veteran-Owned SB and Veteran-Owned SB award performance and program effectiveness against the established goals, both company-wide and for individual plan being negotiated. Include SBs, SDBs, WOSBs, HUBZone SBs, Service Disabled Veteran-Owned SB and Veteran-Owned SB by name as members of original team for providing major service or performing a significant portion of the effort. Additionally, how does your firm plan to establish long-range relationships with the above elements? (HBCUs & MIs are excluded from evaluation).

6. Your firm's plan (in section I and II) will be evaluated on the development of percentage goals based on planned subcontracting which is challenging, yet realistic as stated in item # 6 of Appendix CC of the AFARS. (HBCUs & MIs are excluded from evaluation).

7. Past performance to the extent your firm has historically been successful in establishing realistic, yet challenging, goals and achieving them will be evaluated. In cases where there has been no previous defense contract history, your firm will not be penalized. (HBCUs & MIs are excluded from evaluation).

8. Regulatory and statutory requirements described in # 8 of Appendix CC must be included in your firm's subcontracting plan and will be evaluated accordingly. If any of the subject elements are not complied with, your plan will not be approved and will be returned to your office for revision before the contract can be awarded. Included in the appendix are the following elements to include WOSBs, HUBZone SBs, Service Disabled Veteran-Owned SB, and Veteran-Owned SB. (HBCUs & MIs are excluded from evaluation).

a) A separate goal for SB, SDB, WOSBs, HUBZone SB, Service Disabled Veteran-Owned SB and Veteran-Owned SB .

b) A separate goal for the basic contract and, if applicable, each option.

c) The name of the company employee responsible for administration of plan and employee's duties as follows:

The individual who will administer this firm's subcontracting program:

NAME_____ ADDRESS _____
_____
TELEPHONE _____ _____
_____

Describe Description of duties:

d) A statement affirming intent to comply with subcontracting "flowdown" provisions as follows:

This firm will include Clause 52.219-8 entitled, "Utilization of Small Business Concerns, Small Disadvantaged, Women-Owned Small Business Concerns," in all subcontracts which offer further subcontracting opportunities and will require all subcontractors (except small business concerns) who receive subcontracts in excess of $500,0000.00 to adopt and comply with a plan similar to the plan required by the clause at 52.219-9 Alternate II, "Small Business Subcontracting Plan." (HBCUs & MIs are excluded from evaluation).

e) A statement affirming willingness to cooperate in studies and to provide reports as follows:

This firm will submit such periodic reports and cooperate in any studies or surveys as may be required by the Corps of Engineers, Alaska District or the Small Business Administration in order to determine the extent of compliance by the company with the subcontracting plan as follows:

This firm will submit Standard Form (SF) 294, Subcontracting Report for Individual Contract, and SF 295, Summary Subcontract in accordance with the instructions on the forms. The name, address, and telephone number of the office responsible for preparation and submission of the reports is:

I, the undersigned, a designated officer of do hereby state that this firm agrees to carry out the Government's policy to provide the maximum practicable opportunity for small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals to participate in the performance of this contract consistent with its efficient performance.

f) A statement that indirect costs are either included or excluded from the proposed goals and, and if included, how they will be prorated.

g) Description of efforts to ensure that SBs, SDBs, WOSBs, HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned SBs have an equitable opportunity to participate in the acquisition: (HBCUs & MIs are excluded from evaluation).

h) A recitation of the types of records maintained to demonstrate procedures adopted to comply with the requirements and goals in the plan as follows:

This firm will maintain the following types of records to demonstrate procedures which have been adopted to comply with the requirements and goals set forth in the plan. (Set forth here are the records to be maintained. In order to be considered acceptable, the records shall include at the minimum the following:)

(1) SB, SDB, WOSB, HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned SB lists, guides, and other data identifying vendors.

(2) Organizations contacted or to be contacted for SB, SDB, WOSB , HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned SB sources.

(3) Record of all subcontract solicitations indicating on each solicitation (i) whether SB, SDB, WOSB, HUBZone SB and Veteran-Owned SBs were solicited, and if not, why not.

(4) Records to support other outreach efforts, to include the following: contact with minority and small business trade associations, contact with business development organizations, and attendance at small and minority business procurement conferences and trade fairs.

(5) Records to support internal activities to guide and encourage buyers to include the following: workshops, seminars, training programs, and monitoring activities to evaluate compliance.

(6) Records to support award data on a contract-by-contract basis submitted to the Government to include name, address, and business size of subcontractor.

FIRM'S REPRESENTATIVE:

SIGNATURE: _____

PRINTED/TYPED NAME: _____

TITLE: _____

GOVERNMENT REVIEW

CONTRACT SPECIALIST_____

DEPUTY FOR SMALL BUSINESS (DSB) REVIEW:

1. Received Date:_____ 2. Returned Date: _____

3. Recommendation Date: _____

CONTRACTING OFFICER _____ _____
Signature

NAME & TITLE_____ _____

DATE _____

TABLE 1: Subcontracting dollars
TABLE 2: Subcontracting goals

Solicitation No. DACA85-03-R-0002, Eielson AFB, AK
Design/Construct Utilidor Repair, Phase IV,

TABLE 1: Subcontracting dollars

	Base CLINS 1-4	All Options CLINS 5-10
a. Total amount of contract		
b. Total estimated amount of planned subcontracted dollars		
TOTAL DOLLARS PLANNED TO BE SUBCONTRACTED		
c. Small business (including d, e, f, & g below)		
d. Small disadvantaged businesses		
e. Woman-owned small businesses		
f. Veteran-owned small businesses		
g. Service disabled veteran-owned small businesses		
h. HUB-zone small businesses		

Solicitation No. DACA85-03-R-0002,
Design/Construct Utilidor Repair, Phase IV, Eielson AFB, AK

TABLE 2: Subcontracting goals

	Base (CLINS 1-4)	All Options (CLINS 5-10)
a. Percentage of contract to be subcontracted (1b divided by 1a)		
PERCENTAGE OF SUBCONTRACTING DOLLARS TO BE SUBCONTRACT TO		
b. Small business (1c divided by 1b)		
c. Small disadvantaged businesses (1d divided by 1b)		
d. Women-owned small businesses (1e divided by 1b)		
f. Veteran-owned small businesses (1f divided by 1b)		
g. Service disabled veteran-owned small businesses (1g divided by 1b)		
h. HUB-zone small businesses (1h divided by 1b)		

Section 00100 - Bidding Schedule/Instructions to Bidders

CLAUSES INCORPORATED BY FULL TEXT

52.204-6 DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (JUN 99)

(a) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation "DUNS" followed by the DUNS number that identifies the offeror's name and address exactly as stated in the offer.

(b) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one. A DUNS number will be provided immediately by telephone at no charge to the offeror. For information on obtaining a DUNS number, the offeror, if located within the United States, should call Dun and Bradstreet at 1-800-333-0505. The offeror should be prepared to provide the following information:

(1) Company name.

(2) Company address.

(3) Company telephone number.

(4) Line of business.

(5) Chief executive officer/key manager.

(6) Date the company was started.

(7) Number of people employed by the company.

(8) Company affiliation.

(c) Offerors located outside the United States may obtain the location and phone number of the local Dun and Bradstreet Information Services office from the Internet Home Page at http://www.customerservice@dnb.com. If an offeror is unable to locate a local service center, it may send an e-mail to Dun and Bradstreet at globalinfo@mail.dnb.com.

(End of provision)

52.211-14 NOTICE OF PRIORITY RATING FOR NATIONAL DEFENSE USE (SEP 1990)

Any contract awarded as a result of this solicitation will be DX rated order; c02 DO rated order certified for national defense use under the Defense Priorities and Allocations System (DPAS) (15 CFR 700), and the Contractor will be required to follow all of the requirements of this regulation.
(End of provision)

52.215-1 INSTRUCTIONS TO OFFERORS--COMPETITIVE ACQUISITION (MAY 2001)

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

"Discussions" are negotiations that occur after establishment of the competitive range that may, at the Contracting

Officer's discretion, result in the offeror being allowed to revise its proposal.

“In writing or written” means any worded or numbered expression which can be read, reproduced, and later communicated, and includes electronically transmitted and stored information.

“Proposal modification” is a change made to a proposal before the solicitation's closing date and time, or made in response to an amendment, or made to correct a mistake at any time before award.

“Proposal revision” is a change to a proposal made after the solicitation closing date, at the request of or as allowed by a Contracting Officer as the result of negotiations.

“Time”, if stated as a number of days, is calculated using calendar days, unless otherwise specified, and will include Saturdays, Sundays, and legal holidays. However, if the last day falls on a Saturday, Sunday, or legal holiday, then the period shall include the next working day.

(b) Amendments to solicitations. If this solicitation is amended, all terms and conditions that are not amended remain unchanged. Offerors shall acknowledge receipt of any amendment to this solicitation by the date and time specified in the amendment(s).

(c) Submission, modification, revision, and withdrawal of proposals. (1) Unless other methods (e.g., electronic commerce or facsimile) are permitted in the solicitation, proposals and modifications to proposals shall be submitted in paper media in sealed envelopes or packages (i) addressed to the office specified in the solicitation, and (ii) showing the time and date specified for receipt, the solicitation number, and the name and address of the offeror. Offerors using commercial carriers should ensure that the proposal is marked on the outermost wrapper with the information in paragraphs (c)(1)(i) and (c)(1)(ii) of this provision.

(2) The first page of the proposal must show--

(i) The solicitation number;

(ii) The name, address, and telephone and facsimile numbers of the offeror (and electronic address if available);

(iii) A statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation and agreement to furnish any or all items upon which prices are offered at the price set opposite each item;

(iv) Names, titles, and telephone and facsimile numbers (and electronic addresses if available) of persons authorized to negotiate on the offeror's behalf with the Government in connection with this solicitation; and

(v) Name, title, and signature of person authorized to sign the proposal. Proposals signed by an agent shall be accompanied by evidence of that agent's authority, unless that evidence has been previously furnished to the issuing office.

(3) Submission, modification, or revision, of proposals.

(i) Offerors are responsible for submitting proposals, and any modifications, or revisions, so as to reach the Government office designated in the solicitation by the time specified in the solicitation. If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that proposal or revision is due.

(ii)(A) Any proposal, modification, or revision received at the Government office designated in the solicitation after the exact time specified for receipt of offers is “late” and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the acquisition; and--

(1) If it was transmitted through an electronic commerce method authorized by the solicitation, 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 proposals; or

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

(3) It is the only proposal received.

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

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

(iv) If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the office designated for receipt of proposals by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation, the time specified for receipt of proposals 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.

(v) Proposals may be withdrawn by written notice received at any time before award. Oral proposals in response to oral solicitations may be withdrawn orally. If the solicitation authorizes facsimile proposals, proposals may be withdrawn via facsimile received at any time before award, subject to the conditions specified in the provision at 52.215-5, Facsimile Proposals. Proposals may be withdrawn in person by an offeror or an authorized representative, if the identity of the person requesting withdrawal is established and the person signs a receipt for the proposal before award.

(4) Unless otherwise specified in the solicitation, the offeror may propose to provide any item or combination of items.

(5) Offerors shall submit proposals in response to this solicitation in English, unless otherwise permitted by the solicitation, and in U.S. dollars, unless the provision at FAR 52.225-17, Evaluation of Foreign Currency Offers, is included in the solicitation.

(6) Offerors may submit modifications to their proposals at any time before the solicitation closing date and time, and may submit modifications in response to an amendment, or to correct a mistake at any time before award.

(7) Offerors may submit revised proposals only if requested or allowed by the Contracting Officer.

(8) Proposals may be withdrawn at any time before award. Withdrawals are effective upon receipt of notice by the Contracting Officer.

(d) Offer expiration date. Proposals in response to this solicitation will be valid for the number of days specified on the solicitation cover sheet (unless a different period is proposed by the offeror).

(e) Restriction on disclosure and use of data. Offerors that include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall--

(1) Mark the title page with the following legend: This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed--in whole or in part--for any purpose other than to

evaluate this proposal. If, however, a contract is awarded to this offeror as a result of--or in connection with-- the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]; and

(2) Mark each sheet of data it wishes to restrict with the following legend: Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

(f) Contract award. (1) The Government intends to award a contract or contracts resulting from this solicitation to the responsible offeror(s) whose proposal(s) represents the best value after evaluation in accordance with the factors and subfactors in the solicitation.

(2) The Government may reject any or all proposals if such action is in the Government's interest.

(3) The Government may waive informalities and minor irregularities in proposals received.

(4) The Government intends to evaluate proposals and award a contract without discussions with offerors (except clarifications as described in FAR 15.306(a)). Therefore, the offeror's initial proposal should contain the offeror's best terms from a cost or price and technical standpoint. The Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary. If the Contracting Officer determines that the number of proposals that would otherwise be in the competitive range exceeds the number at which an efficient competition can be conducted, the Contracting Officer may limit the number of proposals in the competitive range to the greatest number that will permit an efficient competition among the most highly rated proposals.

(5) The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit cost or prices offered, unless the offeror specifies otherwise in the
proposal.

(6) The Government reserves the right to make multiple awards if, after considering the additional administrative costs, it is in the Government's best interest to do so.

(7) Exchanges with offerors after receipt of a proposal do not constitute a rejection or counteroffer by the Government.

(8) The Government may determine that a proposal is unacceptable if the prices proposed are materially unbalanced between line items or subline items. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly overstated or understated as indicated by the application of cost or price analysis techniques. A proposal may be rejected if the Contracting Officer determines that the lack of balance poses an unacceptable risk to the Government.

(9) If a cost realism analysis is performed, cost realism may be considered by the source selection authority in evaluating performance or schedule risk.

(10) A written award or acceptance of proposal mailed or otherwise furnished to the successful offeror within the time specified in the proposal shall result in a binding contract without further action by either party.

(11) The Government may disclose the following information in postaward debriefings to other offerors:

(i) The overall evaluated cost or price and technical rating of the successful offeror;

(ii) The overall ranking of all offerors, when any ranking was developed by the agency during source selection;

(iii) A summary of the rationale for award; and

(iv) For acquisitions of commercial items, the make and model of the item to be delivered by the successful offeror.

(End of provision)

52.217-5 EVALUATION OF OPTIONS (JUL 1990)

(a) Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

(b) The Government may reject an offer as nonresponsive if it is materially unbalanced as to prices for the basic requirement and the option quantities. An offer is unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated for other work.

(End of provision)

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
[Insert Goals]	[Insert Goals]

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 [Contracting Officer shall insert description of the geographical areas where the contract is to be performed, giving the State, county, and city].

(End of provision)

52.222-24 PREAWARD ON-SITE EQUAL OPPORTUNITY COMPLIANCE EVALUATION (FEB 1999)

If a contract in the amount of $10 million or more will result from this solicitation, the prospective Contractor and its known first-tier subcontractors with anticipated subcontracts of $10 million or more shall be subject to a preaward compliance evaluation by the Office of Federal Contract Compliance Programs (OFCCP), unless, within the preceding 24 months, OFCCP has conducted an evaluation and found the prospective Contractor and subcontractors to be in compliance with Executive Order 11246.

(End of provision)

52.225-12 NOTICE OF BUY AMERICAN ACT REQUIREMENT-- CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (MAY 2002)

(a) Definitions. Construction material, designated country construction material, domestic construction material, foreign construction material, and NAFTA country construction material, as used in this provision, are defined in the clause of this solicitation entitled “Buy American Act--Construction Materials under Trade Agreements” (Federal Acquisition Regulation (FAR) clause 52.225-11).

(b) Requests for determination 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 FAR clause 52.225-11 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act or Balance of Payments Program 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 materials, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(4)(i) of FAR clause 52.225-11.

(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, other than designated country or NAFTA country construction material, that is not listed by the Government in this solicitation in paragraph (b)(3) of FAR clause 52.225-11, the offeror also may submit an alternate offer based on use of equivalent domestic, designated country, or NAFTA country 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 FAR clause 52.225-11 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 FAR clause 52.225-11 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic, designated country, or NAFTA country construction material, and the offeror shall be required to furnish such domestic, designated country, or NAFTA country 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)

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)

52.233-2 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 Chief, Contracting Division, US Army Engineer District-Alaska, 2204 Third Street, Elmendorf AFB, AK 99654.

(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)

SECTION 00120

EVALUATION FACTORS FOR AWARD

I. Initial Proposal Acceptability

The Government will award the contract to the offeror whose proposal represents the best overall value to the Government. Before a proposal will be considered for evaluation and subsequent award of contract, the offeror must assent to the terms and conditions in RFP Sections 00010 through 00800 without exception. The Government will exclude a proposal from further consideration if the offeror takes exception to any of the terms and conditions in RFP Sections 00010 through 00800.

II. Proposal Evaluation

The Government will evaluate the proposal from each offeror based on how well their proposal addresses each of the Factors listed below and described under the various Tabs (A, B, C, etc.) in Section 00100. The evaluation will determine the offeror's overall cohesive approach in assembling these various elements for each Factor into a comprehensive, consistent, and concise proposal that meets or exceeds the Government's minimum requirements.

The Government intends to award the contract without discussion. The proposal is therefore expected to be self-explanatory in addressing all of the required criteria.

III. Factors For Evaluation

Volume One:

- Experience (Tab A)
- Past Performance (Tab B)
- Organization And Management (Tabs C)
- Subcontracting Plan and Small Business Participation will be evaluated as a technical factor but shall be submitted in Volume III

Volume Two:

- Design Narrative & Design Drawings (Tab A)
- Proposed Equipment & Outline Specifications (Tab B)
- Preliminary Schedule (Tab C)

Volume Three

- Section 00600 (Tab A)
- Pre-Award Survey Bank Reference (Tab B)
- Price Information (Tab C)
- Subcontracting Plan and Small Business Participation (Tab D)
- Points of Contact (Tab E)
- HUBZone Preference Form (Tab F) if applicable

Volume One Factors

EXPERIENCE
The Government defines experience as learning by doing. The Government will evaluate the depth and breadth of an offeror's experience on the basis of the number of times it has performed projects that were similar in nature, scope, and complexity to the work that will be required under the contract for which offers are solicited by this RFP.

PAST PERFORMANCE
The Government will evaluate each offeror's past performance surveys to determine how well it satisfied its customers. The Government will contact some of each offeror's customers and others to determine whether the offeror: conforms to the terms and conditions of its contracts; obeys the law; is honest, reasonable, and cooperative; maintains good labor relations; manages its subcontractors effectively; and, is committed to customer satisfaction. The Government may contact sources outside those listed in the proposal.

ORGANIZATION AND MANAGEMENT

The Government will evaluate each offeror's ability to perform this work concurrent with other ongoing projects, how you organize personnel for this project, the experience and capability of those personnel, your approach to design coordination and review, and your approach to support during and after project turnover.

SUBCONTRACTING PLAN AND SMALL BUSINESS PARTICIPATION

The Government will evaluate each offeror's proposed subcontracting plan for the utilization of small businesses in accordance with AFARS Appendix DD.

Volume Two Factors

TECHNICAL SOLUTION

The Government will evaluate each offeror's understanding of the requirements described in this RFP based on the proposed technical data submitted. The government will review the sub-elements Design Narrative and Design Drawings for accuracy, completeness, and the offeror's overall cohesive approach in assembling the requirements of Section 01010 into a comprehensive, consistent proposal that meets or exceeds the Government's expectations.

PROPOSED EQUIPMENT & OUTLINE SPECIFICATIONS

For the factor of proposed equipment and outline specifications, the government will evaluate the overall level of quality that can be expected based on the salient features of proposed equipment, equipment quality and suitability of materials.

PRELIMINARY SCHEDULE
For the factor of Preliminary Schedule, the Government will evaluate the Schedule and Network Analysis or Gantt chart along with all additional required data showing the offeror's proposed schedule to ensure that the project can be completed within the specified time stated in SCR-1. The schedule shall be complete, reasonable, and realistic in order to evaluate the contractor's understanding of all construction requirements.

IV. Relative Importance of Individual Evaluation Factors

Volume One. For Volume one, the Government considers all the Factors to be of approximately equal importance. There are no sub-factors. See Section 00100

Volume Two. For Volume Two, all Factors are in descending order of importance and there are no sub-factors.

Volume Three. The Government will perform a price analysis comparing the proposed price to the Independent Government Estimate and prices of other offerors. Price shall be evaluated for reasonableness and affordability.

EVALUATION PREFERENCE: All HUBzone firms submitting a prime contractor will be provided a price evaluation adjustment by adding 10 percent adjustment to all Offerors except from other HUBzone firms that have not waived the evaluation adjustment or otherwise successful offers from small businesses. HUBzone firms must complete the Price Evaluation Preference form included previously and insert it in Volume III (Tab F) of their offer.

V. Relative Importance of overall Evaluation Factors The Government considers the complete evaluation factors for Volume One and Two (non-price) to be significantly more important than Volume Three (price). The offeror should note that, under this scenario, price is not the most important factor for award.

VI. The Determination of Best Overall Value

In order to determine which proposal represents the best overall value, the Government will compare proposals to one another in a series of paired comparisons, trading off offerors' values based on their overall performances on the non-price factors. In comparing two proposals, if one member of a pair has both the better overall non-price value and the lower price, then the Government will consider that proposal to be a better value.

If one member of a pair has the better overall non-price value, but a higher price than the other proposal, then the Government's Source Selection Authority will determine if the difference in non-price value is worth the difference in price.

If the Source Selection Authority decides that the overall non-price value is worth the higher price, then the Government will consider the proposal with the better non-price value and the higher price to be the better overall value.

If the Source Selection Authority decides that the overall value is not worth the higher price, then the Source Selection Authority will continue to make paired comparisons in this fashion until he or she has identified the proposal that represents the best overall value. The contract will be awarded to the offeror with the best overall value.

VII. EVALUATION OF OPTIONS

Except when it is determined in accordance with FAR17.206(b) not to be in the Government's best interest, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of option(s) will not obligate the Government to exercise the option(s).

END OF SECTION 00120

Section 00600 - Representations & Certifications

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.

(2) 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)

52.204-5 WOMEN-OWNED BUSINESS (OTHER THAN SMALL BUSINESS) (MAY 1999)

(a) Definition. Women-owned business concern, as used in this provision, means a concern 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 its stock is owned by one or more women; and whose management and daily business operations are controlled by one or mo re women.

(b) Representation. [Complete only if the offeror is a women-owned business concern and has not represented itself as a small business concern in paragraph (b)(1) of FAR 52.219-1, Small Business Program Representations, of this solicitation.] The offeror represents that it ( ) is a women-owned business concern.

(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 subdivision (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 (APR 2002) - ALTERNATE I (APR 2002)

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

(2) The small business size standard is ( ) (insert size standard).

(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 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)

52.219-2 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.

52.219-4 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

____ 17 million

(End of provision)

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)

52.222-22 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)

52.222-25 AFFIRMATIVE ACTION COMPLIANCE (APR 1984)

The offeror represents that

(a) [ ] it has developed and has on file, [ ] has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2), or

(b) [ ] has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(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 (OCT 2000)

(a) Submission of this certification is a prerequisite for making or entering into this contract imposed by Executive Order 12969, August 8, 1995.

(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 under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

( ) (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 Standard Industrial Classification Code (SIC) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; or

( ) (v) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

(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)

252.247-7022 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)

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Section 00700 - Contract Clauses

CLAUSES INCORPORATED BY FULL TEXT

52.202-1 DEFINITIONS (DEC 2001)

(a) Agency head or head of the agency means the Secretary (Attorney General, Administrator, Governor, Chairperson, or other chief official, as appropriate) of the agency, unless otherwise indicated, including any deputy or assistant chief official of the executive agency.

(b) Commercial component means any component that is a commercial item.

(c) Commercial item means--

(1) Any item, other than real property, that is of a type customarily used by the general public or by non-governmental entities for purposes other than governmental purposes, and that--

(i) Has been sold, leased, or licensed to the general public; or

(ii) Has been offered for sale, lease, or license to the general public;

(2) Any item that evolved from an item described in paragraph (c)(1) of this clause through advances in technology or performance and that is not yet available in the commercial marketplace, but will be available in the commercial marketplace in time to satisfy the delivery requirements under a Government solicitation;

(3) Any item that would satisfy a criterion expressed in paragraphs (c)(1) or (c)(2) of this clause, but for--

(i) Modifications of a type customarily available in the commercial marketplace; or

(ii) Minor modifications of a type not customarily available in the commercial marketplace made to meet Federal Government requirements. “Minor” mo difications means modifications that do not significantly alter the nongovernmental function or essential physical characteristics of an item or component, or change the purpose of a process. Factors to be considered in determining whether a modification is minor include the value and size of the modification and the comparative value and size of the final product. Dollar values and percentages may be used as guideposts, but are not conclusive evidence that a modification is minor;

(4) Any combination of items meeting the requirements of paragraphs (c)(1), (2), (3), or (5) of this clause that are of a type customarily combined and sold in combination to the general public;

(5) Installation services, maintenance services, repair services, training services, and other services if--

(i) Such services are procured for support of an item referred to in paragraph (c)(1), (2), (3), or (4) of this definition, regardless of whether such services are provided by the same source or at the same time as the item; and

(ii) The source of such services provides similar services contemporaneously to the general public under terms and conditions similar to those offered to the Federal Government;

(6) Services of a type offered and sold competitively in substantial quantities in the commercial marketplace based on established catalog or market prices for specific tasks performed under standard commercial terms and conditions. This does not include services that are sold based on hourly rates without an established catalog or market price for a specific service performed. For purposes of these services--

(i) Catalog price means a price included in a catalog, price list, schedule, or other form that is regularly maintained by the manufacturer or vendor, is either published or otherwise available for inspection by customers, and states prices at which sales are currently, or were last, made to a significant number of buyers constituting the general public; and

(ii) Market prices means current prices that are established in the course of ordinary trade between buyers and sellers free to bargain and that can be substantiated through competition or from sources independent of the offerors.

(7) Any item, combination of items, or service referred to in subparagraphs (c)(1) through (c)(6), notwithstanding the fact that the item, combination of items, or service is transferred between or among separate divisions, subsidiaries, or affiliates of a Contractor; or

(8) A nondevelopmental item, if the procuring agency determines the item was developed exclusively at private expense and sold in substantial quantities, on a competitive basis, to multiple State and local Governments.

(d) Component means any item supplied to the Government as part of an end item or of another component, except that for use in 52.225-9, and 52.225-11 see the definitions in 52.225-9(a) and 52.225-11(a).

(e) Contracting Officer means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.

(f) Nondevelopmental item means--

(1) Any previously developed item of supply used exclusively for governmental purposes by a Federal agency, a State or local government, or a foreign government with which the United States has a mutual defense cooperation agreement;

(2) Any item described in paragraph (f)(1) of this definition that requires only minor modification or modifications of a type customarily available in the commercial marketplace in order to meet the requirements of the procuring department or agency; or

(3) Any item of supply being produced that does not meet the requirements of paragraph (f)(1) or (f)(2) solely because the item is not yet in use.

(g) "Contracting Officer" means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.

(h) Except as otherwise provided in this contract, the term "subcontracts" includes, but is not limited to, purchase orders and changes and modifications to purchase orders under this contract.

(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 1997)

(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, the Commonwealth of Puerto Rico, a territory or possession 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)

52.204-4 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)

52.209-6 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)

52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

The Contractor shall be required to (a) commence work under this contract within (Contracting Officer insert number) calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than . * The time stated for completion shall include final cleanup of the premises.

*The Contracting Officer shall specify either a number of days after the date the contractor receives the notice to proceed, or a calendar date.

(End of clause)

52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (SEP 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of $ [Contracting Officer insert amount] for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of clause)

52.211-15 DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS (SEP 1990)

This is a rated order certified for national defense use, and the Contractor shall follow all the requirements of the Defense Priorities and Allocations System regulation (15 CFR 700).

(End of clause)

52.215-2 AUDIT AND RECORDS--NEGOTIATION (JUN 1999)

(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) Examination of costs. If this is a cost-reimbursement, incentive, time-and-materials, labor-hour, or price

redeterminable contract, or any combination of these, the Contractor shall maintain and the Contracting Officer, or an authorized representative of the Contracting Officer, shall have the right to examine and audit all records and other evidence sufficient to reflect properly all costs claimed to have been incurred or anticipated to be incurred directly or indirectly in performance of this contract. This right of examination shall include inspection at all reasonable times of the Contractor's plants, or parts of them, engaged in performing the contract.

(c) Cost or pricing data. If the Contractor has been required to submit cost or pricing data in connection with any pricing action relating 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 contract, subcontract, or modification;

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

(3) Pricing of the contract, subcontract, or modification; or

(4) Performance of the contract, subcontract or modification.

(d) Comptroller General--(1) The Comptroller General of the United States, or an authorized representative, shall have access to and the right to examine any of the Contractor's directly pertinent records involving transactions related to this contract or a subcontract hereunder.

(2) This paragraph may not be construed to require the Contractor or subcontractor to create or maintain any record that the Contractor or subcontractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e) Reports. If the Contractor is required to furnish cost, funding, or performance reports, the Contracting Officer or an authorized representative of the Contracting Officer shall have the right to examine and audit the supporting records and materials, for the purpose of evaluating (1) the effectiveness of the Contractor's policies and procedures to produce data compatible with the objectives of these reports and (2) the data reported.

(f) Availability. The Contractor shall make available at its office at all reasonable times the records, materials, and other evidence described in paragraphs (a), (b), (c), (d), and (e) of this clause, for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in Subpart 4.7, Contractor Records Retention, of the Federal Acquisition Regulation (FAR), or for any longer period required by statute or by other clauses of this contract. In addition--

(1) If this contract is completely or partially terminated, the Contractor shall make available the records relating to the work terminated until 3 years after any resulting final termination settlement; and

(2) The Contractor shall make available records relating to appeals under the Disputes clause or to litigation or the settlement of claims arising under or relating to this contract until such appeals, litigation, or claims are finally resolved.

(g) The Contractor shall insert a clause containing all the terms of this clause, including this paragraph (g), in all subcontracts under this contract that exceed the simplified acquisition threshold, and--

(1) That are cost-reimbursement, incentive, time-and-materials, labor-hour, or price-redeterminable type or any combination of these;

(2) For which cost or pricing data are required; or

(3) That require the subcontractor to furnish reports as discussed in paragraph (e) of this clause.

The clause may be altered only as necessary to identify properly the contracting parties and the Contracting Officer under the Government prime contract.

(End of clause)

52.215-10 PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA (OCT 1997)

(a) If any price, including profit or fee, negotiated in connection with this contract, or any cost reimbursable under this contract, 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 or cost shall be reduced accordingly and the contract shall be modified to reflect the reduction.

(b) Any reduction in the contract price under paragraph (a) of this clause 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.

(c)(1) If the Contracting Officer determines under paragraph (a) of this clause that a price or cost reduction should be made, 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.

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

(2)(i) Except as prohibited by subdivision (c)(2)(ii) of this clause, 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 “as of” date specified on its Certificate of Current Cost or Pricing Data, and that the data were not submitted before such date.

(ii) An offset shall not be allowed if--

(A) The understated data were known by the Contractor to be understated before the “as of” date specified on its Certificate of Current Cost or Pricing Data; 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 “as of” date specified on its Certificate of Current Cost or Pricing Data.

(d) 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

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

(End of clause)

52.215-11 PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA--MODIFICATIONS (OCT 1997)

(a) This clause shall become operative only for any modification to this contract involving a pricing adjustment expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4, except that this clause does not apply to any modification if an exception under FAR 15.403-1 applies.

(b) If any price, including profit or fee, negotiated in connection with any modification under this clause, or any cost reimbursable under this contract, 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 or cost 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) of this clause.

(c) Any reduction in the contract price under paragraph (b) of this clause 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)(1) If the Contracting Officer determines under paragraph (b) of this clause that a price or cost reduction should be made, 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.

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

(2)(i) Except as prohibited by subdivision (d)(2)(ii) of this clause, 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 “as of” date specified on its Certificate of Current Cost or Pricing Data, and that the data were not submitted before such date.

(ii) An offset shall not be allowed if--

(A) The understated data were known by the Contractor to be understated before the “as of” date specified on its Certificate of Current Cost or Pricing Data; 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 “as of” date specified on its Certificate of Current Cost or Pricing Data.

(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

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

(End of clause)

52.215-12 SUBCONTRACTOR COST OR PRICING DATA (OCT 1997)

(a) Before awarding any subcontract expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4, on the date of agreement on price or the date of award, whichever is later; or before pricing any subcontract modification involving a pricing adjustment expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4, 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 applies.

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

(c) In each subcontract that exceeds the threshold for submission of cost or pricing data at FAR 15.403-4, when entered into, the Contractor shall insert either--

(1) The substance of this clause, including this paragraph (c), if paragraph (a) of this clause requires submission of cost or pricing data for the subcontract; or

(2) The substance of the clause at FAR 52.215-13, Subcontractor Cost or Pricing Data--Modifications.

52.217-7 OPTION FOR INCREASED QUANTITY--SEPARATELY PRICED LINE ITEM (MAR 1989)

The Government may require the delivery of the numbered line item, identified in the Schedule as an option item, in the quantity and at the price stated in the Schedule. The Contracting Officer may exercise the option by written notice to the Contractor within 60 days. Delivery of added items shall continue at the same rate that like items are called for under the contract, unless the parties otherwise agree.

(End of clause)

52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (OCT 2000)

(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 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 (OCT 2000)

(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 offeror, upon request by the Contracting Officer, shall submit and negotiate a subcontracting plan, where applicable, that separately addresses subcontracting with small business, veteran-owned small business, HUBZone small business concerns, small disadvantaged business, and women-owned small business concerns. If the offeror is submitting an individual contract plan, the plan must separately address subcontracting with small business, 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 negotiated within the time specified by the Contracting Officer. Failure to submit and negotiate the subcontracting plan shall make the offeror ineligible for 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)

52.219-16 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)

52.222-3 CONVICT LABOR (AUG 1996)

The Contractor agrees not to employ in the performance of this contract any person undergoing a sentence of imprisonment which has been imposed by any court of a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or the Trust Territory of the Pacific Islands. This limitation, however, shall not prohibit the employment by the Contractor in the performance of this contract of persons on parole or probation to work at paid employment during the term of their sentence or persons who have been pardoned or who have served their terms. Nor shall it prohibit the employment by the Contractor in the performance of this contract of persons confined for violation of the laws of any of the States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or the Trust Territory of the Pacific Islands who are authorized to work at paid employment in the community under the laws of such jurisdiction, if--

(a)(1) The worker is paid or is in an approved work training program on a voluntary basis;

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

(3) 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; and

(4) 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

(b) 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.

(3) 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).

(c) 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)

52.222-26 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 AFFIRMATIVE ACTION FOR DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA (APR 1998)

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

All employment openings includes 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.

Appropriate office of the State employment service system means the local office of the Federal-State national system of public employment offices with assigned responsibility to serve the area where the employment opening is to be filled, including the District of Columbia, Guam, the Commonwealth of Puerto Rico, and the Virgin Islands.

Positions that will be filled from within the Contractor's organization means employment openings for which no consideration will be given to persons outside the Contractor's organization (including any affiliates, subsidiaries, and parent companies) and includes any openings that 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.

Veteran of the Vietnam era means a person who--

(1) Served on active duty for a period of more than 180 days, any part of which occurred between August 5, 1964, and May 7, 1975, and was discharged or released therefrom with other than a dishonorable discharge; or

(2) Was discharged or released from active duty for a service-connected disability if any part of such active duty was performed between August 5, 1964, and May 7, 1975.

(b) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against the individual because the individual is a disabled veteran or a veteran of the Vietnam era. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified disabled veterans and veterans of the Vietnam era without discrimination based upon their disability or veterans' status in all employment practices such as--

(i) Employment;

(ii) Upgrading;

(iii) Demotion or transfer;

(iv) Recruitment;

(v) Advertising;

(vi) Layoff or termination;

(vii) Rates of pay or other forms of compensation; and

(viii) Selection for training, including apprenticeship.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Vietnam Era Veterans' Readjustment Assistance Act of 1972 (the Act), as amended.

(c) Listing openings. (1) The Contractor agrees to list all employment openings existing at contract award or occurring during contract performance, at an appropriate office of the State employment service system in the locality where the opening occurs. These openings include those occurring at any Contractor facility, including one not connected with performing this contract. An independent corporate affiliate is exempt from this requirement.

(2) State and local government agencies holding Federal contracts of $10,000 or more shall also list all their employment openings with the appropriate office of the State employment service.

(3) The listing of employment openings with the State employment service system is required at least concurrently with using any other recruitment source or effort and involves the obligations of placing a bona fide job order, including accepting referrals of veterans and nonveterans. This listing 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.

(4) Whenever the Contractor becomes contractually bound to the listing terms of this clause, it shall advise the State employment service system, 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 system, it need not advise the State system of subsequent contracts. The Contractor may advise the State system 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, Guam, and the Virgin Islands.

(e) 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 disabled veterans and veterans of the Vietnam era, 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. They shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance Programs, Department of Labor (Deputy Assistant Secretary), and 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 the Act, and is committed to take affirmative action to employ, and advance in employment, qualified disabled veterans and veterans of the Vietnam Era.

(f) 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.

(g) 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. The Contractor shall act as specified by the Deputy Assistant Secretary 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 DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA (JAN 1999)

(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)

52.222-38 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 provis ion)

52.223-5 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (APR 1998)

(a) Executive Order 12856 of August 3, 1993, 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).

(b) The Contractor shall provide all information needed by the Federal facility to comply with the emergency planning reporting requirements of Section 302 of EPCRA; the emergency notice requirements of Section 304 of EPCRA; the list of Material Safety Data Sheets required by Section 311 of EPCRA; the emergency and hazardous chemical inventory forms of Section 312 of EPCRA; the toxic chemical release inventory of Section 313 of EPCRA, which includes the reduction and recycling information required by Section 6607 of PPA; and the toxic chemical reduction goals requirements of Section 3-302 of Executive Order 12856.

(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 (OCT 2000)

(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 under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

(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 Standard Industrial Classification Code (SIC) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; or

(5) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

(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)

52.225-11 BUY AMERICAN ACT--CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (JUL 2002)

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

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

Construction material means an article, material, or supply brought to the construction site by the Contractor or 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.

Designated country means any of the following countries: Aruba, Austria, Bangladesh, Belgium, Benin, Bhutan, Botswana, Burkina Faso, Burundi, Canada, Cape Verde, Central African Republic, Chad, Comoros, Denmark.

Djibouti, Equatorial Guinea, Finland, France, Gambia, Germany, Greece, Guinea, Guinea-Bissau, Haiti, Hong Kong, Ireland, Israel, Italy, Japan.

Kiribati, Korea, Republic of, Lesotho, Liechtenstein, Luxembourg, Malawi, Maldives, Mali, Mozambique, Nepal, Netherlands, Niger, Norway, Portugal, Rwanda.

Sao Tome and Principe, Sierra Leone, Singapore, Somalia, Spain, Sweden, Switzerland, Tanzania U.R., Togo, Tuvalu, Uganda, United Kingdom, Vanuatu, Western Samoa, Yemen.

Designated country construction material means a construction material that--

(1) Is wholly the growth, product, or manufacture of a designated country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a designated country into a new and different construction material distinct from the materials from which it was transformed.

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.

North American Free Trade Agreement country means Canada or Mexico.

North American Free Trade Agreement country construction material means a construction material that--

(1) Is wholly the growth, product, or manufacture of a North American Free Trade Agreement (NAFTA) country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a NAFTA country into a new and different construction material distinct from the materials from which it was transformed.

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

(b) Construction materials. (1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) and the Balance of Payments Program by providing a preference for domestic construction material. In addition, the Contracting Officer has determined that the Trade Agreements Act and the North American Free Trade Agreement (NAFTA) apply to this acquisition. Therefore, the Buy American Act restrictions are waived for designated country and NAFTA country construction materials.

(2) The Contractor shall use only domestic, designated country, or NAFTA country construction material in performing this contract, except as provided in paragraphs (b)(3) and (b)(4) of this clause.

(3) The requirement in paragraph (b)(2) of this clause does not apply to the construction materials or components listed by the Government as follows: None

(4) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(3) 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 restrictions 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)(4) 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)(4)(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...	.....	.....	.....

\1\ 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)

52.225-12 NOTICE OF BUY AMERICAN ACT REQUIREMENT-- CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (MAY 2002)

(a) Definitions. Construction material, designated country construction material, domestic construction material, foreign construction material, and NAFTA country construction material, as used in this provision, are defined in the clause of this solicitation entitled "Buy American Act--Construction Materials under Trade Agreements" (Federal Acquisition Regulation (FAR) clause 52.225-11).

(b) Requests for determination 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 FAR clause 52.225-11 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act or Balance of Payments Program 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 materials, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(4)(i) of FAR clause 52.225-11.

(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, other than designated country or NAFTA country construction material, that is not listed by the Government in this solicitation in paragraph (b)(3) of FAR clause 52.225-11, the offeror also may submit an alternate offer based on use of equivalent domestic, designated country, or NAFTA country 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 FAR clause 52.225-11 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 FAR clause 52.225-11 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic, designated country, or NAFTA country construction material, and the offeror shall be required to furnish such domestic, designated country, or NAFTA country 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)

52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (JUL 2000)

(a) The Contractor shall not acquire, for use in the performance of this contract, any supplies or services originating from sources within, or that were located in or transported from or through, countries whose products are banned from importation into the United States under regulations of the Office of Foreign Assets Control, Department of the Treasury. Those countries are Cuba, Iran, Iraq, Libya, North Korea, Sudan, the territory of Afghanistan controlled by the Taliban, and Serbia (excluding the territory of Kosovo).

(b) The Contractor shall not acquire for use in the performance of this contract any supplies or services from entities controlled by the government of Iraq.

(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)

52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (AUG 1996)

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed under this contract, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

(4) The Contractor agrees to include, and require inclusion of, this clause in all subcontracts at any tier for supplies or services (including construction and architect-engineer subcontracts and those for material, supplies, models, samples, or design or testing services) expected to exceed the simplified acquisition threshold at (FAR) 2.101.to exceed the dollar amount set forth in 13.000 of the Federal Acquisition Regulation (FAR).

(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)

52.228-1 BID GUARANTEE (SEP 1996)

(a) Failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

(b) The bidder shall furnish a bid guarantee in the form of a firm commitment, e.g., bid bond supported by good and sufficient surety or sureties acceptable to the Government, postal money order, certified check, cashier's check, irrevocable letter of credit, or, under Treasury Department regulations, certain bonds or notes of the United States. The Contracting Officer will return bid guarantees, other than bid bonds, (1) to unsuccessful bidders as soon as practicable after the opening of bids, and (2) to the successful bidder upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.-

(c) The amount of the bid guarantee shall be _20_ percent of the bid price or $3,000,000, whichever is less.-

(d) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.-

(e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

(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)

52.228-5 INSURANCE--WORK ON A GOVERNMENT INSTALLATION (JAN 1997)

(a) The Contractor shall, at its own expense, provide and maintain during the entire performance of this contract, at least the kinds and minimum amounts of insurance required in the Schedule or elsewhere in the contract.

(b) Before commencing work under this contract, the Contractor shall notify the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective (1) for such period as the laws of the State in which this contract is to be performed prescribe, or (2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.

(c) The Contractor shall insert the substance of this clause, including this paragraph (c), in subcontracts under this contract that require work on a Government installation and shall require subcontractors to provide and maintain the insurance required 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.

(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)

52.228-14 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 (JAN 1991)

(a) "Contract date," as used in this clause, 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," as used in this clause, 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," as used in this clause, 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," as used in this clause, 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.

(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 (MAY 1997)

(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) 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;

(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)

52.232-17 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)

52.232-18 AVAILABILITY OF FUNDS (APR 1984)

Funds are not presently available for this contract. The Government's obligation under this contract is contingent upon the availability of appropriated funds from which payment for contract purposes can be made. No legal liability on the part of the Government for any payment may arise until funds are made available to the Contracting Officer for this contract and until the Contractor receives notice of such availability, to be confirmed in writing by the Contracting Officer.

(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 (FEB 2002)

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 payment or that the Government has otherwise overpaid on an 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 (MAY 1999)

(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) Contractor EFT arrangements. If the Contractor has identified multiple payment receiving points (i.e., more than one remittance address and/or EFT information set) in the CCR database, and the Contractor has not notified the Govemment of the payment receiving point applicable to this contract, the Government shall make payment to the first payment receiving point (EFT information set or remittance address as applicable) listed in the CCR database.

(f) 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.

(g) 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.

(h) 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 in the CCR database and shall be paid by EFT in accordance with the terms of this clause. 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.

(i) 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.

(j) 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)

52.233-1 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)

52.236-1 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984)

The Contractor shall perform on the site, and with its own organization, work equivalent to at least [insert the appropriate number in words followed by numerals in parentheses] percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of 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 AREA S (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.

(5) 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)

52.236-22 DESIGN WITHIN FUNDING LIMITATIONS (APR 1984)

(a) The Contractor shall accomplish the design services required under this contract so as to permit the award of a contract, using standard Federal Acquisition Regulation procedures for the construction of the facilities designed at a price that does not exceed the estimated construction contract price as set forth in paragraph (c) below. When bids or proposals for the construction contract are received that exceed the estimated price, the contractor shall perform such redesign and other services as are necessary to permit contract award within the funding limitation. These additional services shall be performed at no increase in the price of this contract. However, the Contractor shall not be required to perform such additional services at no cost to the Government if the unfavorable bids or proposals are the result of conditions beyond its reasonable control.

(b) The Contractor will promptly advise the Contracting Officer if it finds that the project being designed will exceed or is likely to exceed the funding limitations and it is unable to design a usable facility within these limitations. Upon receipt of such information, the Contracting Officer will review the Contractor's revised estimate of construction cost. The Government may, if it determines that the estimated construction contract price set forth in this contract is so low that award of a construction contract not in excess of such estimate is improbable, authorize a change in scope or materials as required to reduce the estimated construction cost to an amount within the estimated construction contract price set forth in paragraph (c) below, or the Government may adjust such estimated construction contract price. When bids or proposals are not solicited or are unreasonably delayed, the Government shall prepare an estimate of constructing the design submitted and such estimate shall be used in lieu of bids or proposals to determine compliance with the funding limitation.

(c) The estimated construction contract price for the project described in this contract is $

(End of clause)

52.236-23 RESPONSIBILITY OF THE ARCHITECT-ENGINEER CONTRACTOR (APR 1984)

(a) The Contractor shall be responsible for the professional quality, technical accuracy, and the coordination of all designs, drawings, specifications, and other services furnished by the Contractor under this contract. The Contractor shall, without additional compensation, correct or revise any errors or deficiencies in its designs, drawings, specifications, and other services.

(b) Neither the Government's review, approval or acceptance of, nor payment for, the services required under this contract shall be construed to operate as a waiver of any rights under this contract or of any cause of action arising out of the performance of this contract, and the Contractor shall be and remain liable to the Government in accordance with applicable law for all damages to the Government caused by the Contractor's negligent performance of any of the services furnished under this contract.

(c) The rights and remedies of the Government provided for under this contract are in addition to any other rights and remedies provided by law.

(d) If the Contractor is comprised of more than one legal entity, each such entity shall be jointly and severally liable hereunder.

(End of clause)

52.236-25 REQUIREMENTS FOR REGISTRATION OF DESIGNERS (APR 1984)

The design of architectural, structural, mechanical, electrical, civil, or other engineering features of the work shall be accomplished or reviewed and approved by architects or engineers registered to practice in the particular professional field involved in a State or possession of the United States, in Puerto Rico, or in the District of Columbia.

(End of clause)

52.236-26 PRECONSTRUCTION CONFERENCE (FEB 1995)

If the Contracting Officer decides to conduct a preconstruction conference, the successful offeror will be notified and will be required to attend. The Contracting Officer's notification will include specific details regarding the date, time, and location of the conference, any need for attendance by subcontractors, and information regarding the items to be discussed.

(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)

52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS (MAY 2002)

(a) Definitions. As used this clause--

"Commercial item", has the meaning contained in the clause at 52.202-1, Definitions.

"Subcontract", includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c)(1) The Contractor shall insert the following clauses in subcontracts for commercial items:

(i) 52.219-8, Utilization of Small Business Concerns (OCT 2000) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds $500,000 ($1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (APR 2002) (E.O. 11246).

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212(a)).

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998) (29 U.S.C. 793).

(v) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (JUN 2000) (46 U.S.C. Appx 1241) (flowdown not required for subcontracts awarded beginning May 1, 1996).

(2) While not required, the Contractor may flow down to subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

(End of clause)

52.245-2 GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS) (DEC 1989)

(a) Government-furnished property. (1) The Government shall deliver to the Contractor, for use in connection with and under the terms of this contract, the Government-furnished property described in the Schedule or specifications together with any related data and information that the Contractor may request and is reasonably required for the intended use of the property (hereinafter referred to as "Government-furnished property").

(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) Final accounting and disposition of Government property. Upon completing this contract, or at such earlier dates as may be fixed by the Contracting Officer, the Contractor shall submit, in a form acceptable to the Contracting Officer, inventory schedules covering all items of Government property (including any resulting scrap) not consumed in performing this contract or delivered to the Government. The Contractor shall prepare for shipment, deliver f.o.b. origin, or dispose of the Government property as may be directed or authorized by the Contracting Officer. The net proceeds of any such disposal shall be credited to the contract price or shall be paid to the Government as the Contracting Officer directs.

(j) Abandonment and restoration of Contractor's premises. Unless otherwise provided herein, the Government--

(1) May abandon any Government property in place, at which time all obligations of the Government regarding such abandoned property shall cease; and

(2) Has no obligation to restore or rehabilitate the Contractor's premises under any circumstances (e.g., abandonment, disposition upon completion of need, or upon contract completion). However, if the Government-furnished property (listed in the Schedule or specifications) 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)

52.248-3 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)

52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (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 45.6 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)

52.249-10 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)

52.253-1 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.

(6) 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.

(7) 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)

252.204-7004 REQUIRED CENTRAL CONTRACTOR REGISTRATION (NOV 2001)

(a) Definitions.

As used in this clause--

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

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

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

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

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

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

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

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

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

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

(End of clause)

252.209-7000 ACQUISITION FROM SUBCONTRACTORS SUBJECT TO ONSITE INSPECTION UNDER THE INTERMEDIATE-RANGE NUCLEAR FORCES (INF) TREATY (NOV 1995)

(a) The Contractor shall not deny consideration for a subcontract award under this contract to a potential subcontractor subject to on-site inspection under the INF Treaty, or a similar treaty, solely or in part because of the actual or potential presence of Soviet inspectors at the subcontractor's facility, unless the decision is approved by the Contracting Officer.

(b) The Contractor shall incorporate this clause, including this paragraph (b), in all solicitations and contracts exceeding the simplified acquisition threshold in part 13 of the Federal Acquisition Regulation, except those for commercial items.

(End of clause)

252.215-7000 PRICING ADJUSTMENTS (DEC 1991)

The term "pricing adjustment," as used in paragraph (a) of the clauses entitled "Price Reduction for Defective Cost or Pricing Data - Modifications," "Subcontractor Cost or Pricing Data," and "Subcontractor Cost or Pricing Data - Modifications," means the aggregate increases and/or decreases in cost plus applicable profits.

(End of clause)

252.219-7003 SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS SUBCONTRACTING PLAN (DOD CONTRACTS) (APR. 1996)

This clause supplements the Federal Acquisition Regulation 52.219-9, Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan, clause of this contract.

(a) *Definitions. Historically black colleges and universities*, as used in this clause, means institutions determined by the Secretary of Education to meet the requirements of 34 CFR 608.2. The term also means any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

Minority institutions, as used in this clause, means institutions meeting the requirements of section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1135d-5(3)). The term also includes Hispanic-serving institutions as defined in section 316(b)(1) of such Act (20 U.S.C. 1059c(b)(1)).

(b) Except for company or division-wide commercial items subcontracting plans, the term *small disadvantaged business*, when used in the FAR 52.219-9 clause, includes historically black colleges and universities and minority institutions, in addition to small disadvantaged business concerns.

(c) Work under the contract or its subcontracts shall be credited toward meeting the small disadvantaged business concern goal required by paragraph (d) of the FAR 52.219-9 clause when:

(1) It is performed on Indian lands or in joint venture with an Indian tribe or a tribally-owned corporation, and

(2) It meets the requirements of 10 U.S.C. 2323a.

(d) Subcontracts awarded to workshops approved by the Committee for Purchase from People Who are Blind or Severely Disabled (41 U.S.C. 46-48), may be counted toward the Contractor's small business subcontracting goal.

(e) A mentor firm, under the Pilot Mentor-Protege Program established under Section 831 of Pub. L. 101-510, as amended, may count toward its small disadvantaged business goal, subcontracts awarded--

(f) The master plan approval referred to in paragraph (f) of the FAR 52.219-9 clause is approval by the Contractor's cognizant contract administration activity.

(g) In those subcontracting plans which specifically identify small, small disadvantaged, and women-owned small businesses, the Contractor shall notify the Administrative Contracting Officer of any substitutions of firms that are not small, small disadvantaged, or women-owned small businesses for the firms listed in the subcontracting plan. Notifications shall be in writing and shall occur within a reasonable period of time after award of the subcontract. Contractor-specified formats shall be acceptable.

(End of clause)

252.222-7000 RESTRICTIONS ON EMPLOYMENT OF PERSONNEL (MAR 2000)

(a) The Contractor shall employ, for the purpose of performing that portion of the contract work in Alaska, individuals who are residents thereof and who, in the case of any craft or trade, possess or would be able to acquire promptly the necessary skills to perform the contract.

(b) The Contractor shall insert the substance of this clause, including this paragraph (b), in each subcontract awarded under this contract.

(End of clause)

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)

252.223-7006 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-DoD Contracts (Sep 2001)

(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.

(b) The Contract shall use its best efforts to give Indian organizations and Indian-owned economic enterprises 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 or Indian-owned economic enterprise as to its eligibility, unless and 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 the 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. No incentive payment will be made--

(1) Within 59 working days of subcontract award;

(2) While a challenge is pending; or

(3) If a subcontractor is determined to be an ineligible participant.

(e)(1) The Contractor, on its own behalf or on behalf of a subcontractor at any tier, may request an adjustment under the Indian Incentive Program to the following:

(i) The estimated cost of cost-type contract.

(ii) The target cost of a cost-plus-incentive-fee contract.

(iii) The target cost and ceiling price of a fixed-price incentive contract.

(iv) The price of a firm-fixed-price contract.

(2) The amount of the adjustment that may be made to the contract is 5 percent of the estimated cost, target cost, or firm-fixed price included in the subcontract initially awarded to the Indian organization or Indian-owned economic enterprise.

(3) The Contractor has the burden of proving the amount claimed and must assert its request for an adjustment prior to completion of contract performance.

(4) 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 amount paid to the subcontractor.

(5) If the Contractor requests and receives an adjustment on behalf of a subcontractor, the Contractor is obligated to pay the subcontractor the adjustment.

(f) The Contractor shall insert the substance of this clause, including this paragraph (f), in all subcontracts that--

(1) Are for other than commercial items; and

(2) Are expected to exceed the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation.

(End of clause)

252.227-7022 GOVERNMENT RIGHTS (UNLIMITED) (MAR 1979)

The Government shall have unlimited rights, in all drawings, designs, specifications, notes and other works developed in the performance of this contract, including the right to use same on any other Government design or construction without additional compensation to the Contractor. The Contractor hereby grants to the Government a paid-up license throughout the world to all such works to which he may assert or establish any claim under design patent or copyright laws. The Contractor for a period of three (3) years after completion of the project agrees to furnish the original or copies of all such works on the request of the Contracting Officer.

(End of clause)

252.227-7024 NOTICE AND APPROVAL OF RESTRICTED DESIGNS (APR 1984)

In the performance of this contract, the Contractor shall, to the extent practicable, make maximum use of structures, machines, products, materials, construction methods, and equipment that are readily available through Government or competitive commercial channels, or through standard or proven production techniques, methods, and processes. Unless approved by the Contracting Officer, the Contractor shall not produce a design or specification that requires in this construction work the use of structures, products, materials, construction equipment, or processes that are known by the Contractor to be available only from a sole source. The Contractor shall promptly report any such design or specification to the Contracting Officer and give the reason why it is considered necessary to so restrict the design or specification.

(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.

252.231-7000 SUPPLEMENTAL COST PRINCIPLES (DEC 1991)

When the allowability of costs under this contract is determined in accordance with part 31 of the Federal Acquisition Regulation (FAR), allowability shall also be determined in accordance with part 231 of the Defense FAR Supplement, in effect on the date of this contract.

(End of clause)

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.

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

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

(b) The Contractor shall--

(1) Check all drawings furnished immediately upon receipt;

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

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

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

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

(c) In general--

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

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

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

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

Title File Drawing No.

(End of clause)

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.

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

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

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

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

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

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

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

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

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

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

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

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

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

(i) This contract is a construction contract; or

(ii) The supplies being transported are--

(A) Noncommercial items; or

(B) Commercial items that--

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

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

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

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

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

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

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

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

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

(2) Required shipping date;

(3) Special handling and discharge requirements;

(4) Loading and discharge points;

(5) Name of shipper and consignee;

(6) Prime contract number; and

(7) A documented description of efforts made to secure U.S.-flag vessels, including points of contact (with names

and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.

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

(1) Prime contract number;

(2) Name of vessel;

(3) Vessel flag of registry;

(4) Date of loading;

(5) Port of loading;

(6) Port of final discharge;

(7) Description of commodity;

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

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

(10) Name of the steamship company.

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

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

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

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

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

ITEM DESCRIPTION	CONTRACT LINE ITEMS	QUANTITY
TOTAL		

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

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

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

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

(End of clause)

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

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

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

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

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

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

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

(i) Noncommercial items; or

(ii) Commercial items that--

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

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

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

(End of clause)

SECTION 00700a

General Wage Decision AK030001
(Dated (06/13/2003)
Modification Record:

No.	Publication Date
0	03/01/2002

General Wage Decision AK030006
(Dated (06/13/2003)
Modification Record:

No.	Publication Date
0	03/01/2002

BRS Document Viewer
General Decision Number AK030001

General Decision Number AK030001
Superseded General Decision No. AK020001
State: Alaska Construction Type:
BUILDING
HEAVY
County(ies):
STATEWIDE
BUILDING AND HEAVY 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

COUNTY(ies):
STATEWIDE

ASBE0097A 01/01/2003

	Rates	Fringes
ASBESTOS WORKERS/INSULATORS (includes application of all insulating materials protective coverings, coatings and finishings to all types of mechanical systems)	27.83	7.12

ASBE0097B 04/01/2002

	Rates	Fringes
HAZARDOUS MATERIAL HANDLER (includes preparation, wetting, stripping, removal scrapping, vacuming, bagging, and disposing of all insulation materials, whether they contain asbestos or not, from mechanical systems)	24.30	8.11

BOIL0502A 10/01/2002

	Rates	Fringes
BOILERMAKERS	34.35	13.55

BRAK0001A 07/01/2002

	Rates	Fringes
BRICKLAYERS, BLOCKLAYERS, STONEMASON, MARBLE MASON, TILE SETTER & TERRAZZO WORKER	28.91	11.80
TILE & TERRAZZO FINISHERS	23.48	11.80

CARP1243A 07/01/2002

	Rates	Fringes
NORTH OF THE 63RD PARALLEL CARPENTERS/LATHER/DRYWALL APPLICATOR	30.80	11.60
DEWALT OR SIMILAR TYPE SAW OPERATORS; SAW FILERS; NAILING MACHINE OPERATORS; POWER-ACTUATED TOOL OPERATOR; MARLITE AND ACOUSTICAL APPLICATOR		

FLOOR WORKERS; FIRE OR FLOOD		
REPAIR WORK	31.37	11.60
MILLWRIGHTS	31.75	11.60

CARP1281A 07/01/2002		
	Rates	Fringes
SOUTH OF 63RD PARALLEL		
CARPENTERS & DRYWALLERS	28.10	12.20
ACOUSTICAL APPLICATOR AND		
LATHERS	28.10	12.20
MILLWRIGHTS	28.80	12.20

CARP2520A 08/01/2002		
	Rates	Fringes
DIVERS:		
WORKING	61.94	12.20
STAND-BY	30.97	12.20
TENDER	29.97	12.20
PILEDRIVERS:		
WELDER	28.40	12.20
CARPENTER	27.80	12.20
SHEET PILE STABBER	27.64	12.20
PILEDRIVER; SKIFF OPERATOR		
AND RIGGER	26.64	12.20

ELEC1547A 05/05/2003		
	Rates	Fringes
ELECTRICIANS; TECHNICIANS	32.42	3%+11.35
CABLE SPLICERS	34.17	3%+11.35

ELEC1547B 01/01/2003		
	Rates	Fringes
LINEMEN; EQUIPMENT OPERATORS;		
TECHNICIAN	34.10	3%+14.05
CABLE SPLICER	32.10	3%+14.05
POWDERMAN	35.85	3%+14.05
TREE TRIMMER	22.90	3%+14.05

ELEV0019A 01/01/2003		
	Rates	Fringes
ELEVATOR MECHANICS	36.105	9.355+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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ENGI0302L 07/01/2002		
	Rates	Fringes
POWER EQUIPMENT OPERATORS:		
GROUP 1	31.71	10.01
GROUP 1A	33.25	10.01
GROUP 2	31.04	10.01
GROUP 3	30.41	10.01
GROUP 4	24.99	10.01

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Asphalt Roller; Back Filler; Barrier Machine (Zipper); Batch Plant Operator: Batch and Mixer over 200 yds.; Beltcrete with power pack and similar conveyors; Bending Machine; Boat Coxwains; Bulldozers; Cableways, Highlines and Cablecars; Cleaning Machine; Coating Machine; Concrete Hydro Blaster; Cranes-45 tons and under or 150 foot boom and under (including jib and attachments): (a) Shovels, Backhoes, Draglines, Clamshells; Gradalls-3 yards and under; (b) Hydralifts or Transporters, all track or truck type,(c) Derricks; Crushers; Deck Winches-Double Drum; Ditching or Trenching Machine (16 inch or over); Drilling Machines, core, cable, rotary and exploration; Finishing Machine Operator, concrete paving, Laser Screed, sidewalk, curb and gutter machine; Helicopters; Hover Craft, Flex Craft, Loadmaster, Air Cushion, All Terrain Vehicle, Rollagon, Bargecable, Nodwell Sno Cat; Hydro Ax: Feller Buncher and similar; Loaders: Forklifts with power boom and swing attachment, Overhead and front end, 2 1/2 yards through 5 yards, Loaders with forks or pipe clamps, Loaders, elevating belt type, Euclid and similar types; Mechanics, Bodyman; Micro Tunneling Machine; Mixers: Mobile type w/hoist combination; Motor Patrol Grader; Mucking Machines: Mole, Tunnel Drill, Horizontal/Directional Drill Operator, and/or Shield; Operator on Dredges; Piledriver Engineers, L. B. Foster, Puller or similar Paving Breaker; Power Plant, Turbine Operator, 200 k.w. and over (power plants or combination of power units over 300 k.w.); Sauerman-Bagley; Scrapers-through 40 yards; Service Oiler/Service Engineer; Sidebooms-under 45 tons; Shot Blast Machine; Spreaders, Blaw Knox, Cedarapids, Barber Greene, Slurry Machine; Sub-grader (Gurries, C.M.I. and C.M.I. Roto Mills and similar types); Tack tractor; Truck mounted Concrete Pumps, Conveyor, Creter; Water Kote Machine; Unlicensed off road hauler

GROUP 1A: Cranes-over 45 tons or 150 foot (including jib and attachments): (a) Shovels, backhoes, draglines, clamshells-over 3 yards, (b) Tower cranes; Loaders over 5 yds.; Motor Patrol Grader (finish: when finishing to final graders and/or to hubs, or for asphalt); Power Plants: 1000 k.w. and over; Quad; Screed; Sidebooms over 45 tons; Slip Form Paver C.M.I. and similar types; Scrapers over 40 yards

GROUP 2: Batch Plant Operators: Batch and Mixer 200 yds. per hour and under; Boiler-fireman; Cement Hog and Concrete Pump Operator; Conveyors (except as listed in group 1); Hoist on steel erection; Towermobiles and Air Tuggers; Horizontal/Directional Drill Locator; Loaders, Elevating Grader, Dumor and similar; Locomotives: rod and geared engines; Mixers; Screening, Washing Plant; Sideboom (cradling rock drill regardless of size); Skidder; Trencing Machine under 16 inches.

GROUP 3: "A" Frame Trucks, Deck Winches: single power drum; Bombardier (tack or tow rig); Boring Machine; Brooms-power; Bump Cutter; Compressor; Farm tractor; Forklift, industrial type; Gin Truck or Winch Truck with poles when used for hoisting; Grade Checker and Stake Hopper; Hoist, Air Tuggers, Elevators; Loaders: (a) Elevating-Athey, Barber Green and similar types

(b) Forklifts or Lumber Carrier (on construction job site)

(c) Forklifts with Tower

(d) Overhead and Front-end, under 2 1/2 yds.

Locomotives:Dinkey (air, steam, gas and electric) Speeders;

Mechanics (light duty); Mixers: Concrete Mixers and Batch 200 yds. per hour and under; Oil, Blower Distribution; Post Hole Diggers, mechanical; Pot Fireman (power agitated); Power Plant, Turbine Operator, under 300 k.w.; Pumps-water; Rig oiler/assistant engineer, over 45 ton, over 3 yards or over 150 foot boom; Roller-other than Plantmix; Saws, concrete; Straightening Machine; Tow Tractor

GROUP 4: Rig Oiler/Assistant Engineer (Advances to Group III if over 45 tons or 3 yards or 150 ft. boom); Swamper (on trenching machines or shovel type equipment); Spotter; Steam Cleaner

FOOTNOTE: Groups 1-4 receive 10% premium while performing tunnel or underground work.

IRON0751A 08/01/2002

	Rates	Fringes
IRONWORKERS:		
BRIDGE, STRUCTURAL, ORNAMENTAL, REINFORCING MACHINERY MOVER, RIGGER, SHEETER, STAGE RIGGER, BENDER OPERATOR	27.50	13.60
GUARDRAIL LAYOUT MAN	24.74	13.35
FENCE, BARRIER AND GUARDRAIL INSTALLERS	24.00	13.35
HELICOPTER, TOWER	28.50	13.60

LABO0341A 09/01/2002

	Rates	Fringes
LABORERS:		
GROUP 1	24.49	11.50
GROUP 2	25.24	11.50
GROUP 3	25.89	11.50
GROUP 3A	27.49	11.50
GROUP 4	16.84	11.50

LABORERS CLASSIFICATIONS

GROUP 1: Asphalt Workers (shovelman, plant crew); Brush Cutters; Camp Maintenance Laborer; Carpenter Tenders; Choke Setters, Hook Tender, Rigger, Signalman; Concrete Laborer(curb and gutter, chute handler, grouting, curing, screeding); Crusher Plant Laborer; Demolition Laborer; Ditch Diggers; Dump Man; Environmental Laborer (asbestos (limited to nonmechanical systems), hazardous and toxic waste, oil spill); Fence Installer; Fire Watch Laborer; Flagman; Form Strippers; General Laborer; Guardrail Laborer, Bridge Rail Installers; Hydro-Seeder Nozzleman; Laborers (building); Landscape or Planter; Material Handlers; Pneumatic or Power Tools; Portable or Chemical Toilet Serviceman; Pump Man or Mixer Man; Railroad Track Laborer; Sandblast, Pot Tender; Saw Tenders; Scaffold Building and Erecting; Slurry Work; Stake Hopper; Steam Point or Water Jet Operator; Steam Cleaner Operator; Tank Cleaning; Utiliwalk and Utilidor Laborer; Watchman (construction projects); Window Cleaner

GROUP 2: Burning and Cutting Torch; Cement or Lime Dumper or Handler (sack or bulk); Choker Splicer; Chucktender (wagon, airtrack and hydraulic drills); Concrete Laborers (power buggy, concrete saws, pumpcrete nozzleman, vibratorman); Environmental Laborer (marine work); Foam Gun or Foam Machine Operator; Green

Cutter (dam work); Guardrail Machine Operator; Gunnite Operator; Hod Carriers; Jackhammer or Pavement Breakers (more than 45 pounds); Mason Tender and Mud Mixer (sewer work); Plasterer, Bricklayer and Cement Finisher Tenders; Power Saw Operator; Railroad Switch Layout Laborer; Sandblaster; Sewer Caulkers; Sewer Plant Maintenance Man; Thermal Plastic Applicator; Timber Faller, chain saw operator, filer; Timberman

GROUP 3: Bit Grinder; Drill Doctor (in the field); Drillers (including, but not limited to, wagon drills, air track drills; hydraulic drills); High Rigger and tree topper; Higher Scaler; Pioneer Drilling and Drilling Off Tugger (all type drills); Powderman; Slurry Seal Squeegee Man

GROUP 3A: Asphalt Raker, Asphalt Belly dump lay down; Grade checker (setting or transfering of grade marks, line and grade); Pipelayers

GROUP 4: Final Building Cleanup

TUNNELS, SHAFTS, AND RAISES

GROUP 1	26.94	11.50
GROUP 2	27.76	11.50
GROUP 3	28.48	11.50
GROUP 3A	30.24	11.50

TUNNELS, SHAFTS, AND RAISES CLASSIFICATIONS

GROUP 1: Brakeman; Muckers; Nippers; Topman and Bull Gang; Tunnel Track Laborer

GROUP 2: Burning and Cutting Torch; Concrete Laborers; Jackhammers; Laser Instrument Operators; Nozzleman, Pumpcrete or Shotcrete; Pipelayers.

GROUP 3: Miner; Miner; Retimberman

GROUP 3A: Powderman

Tunnel shaft and raise rates only apply to workers regularly employed inside a tunnel portal or shaft collar.

PAIN1140C 09/01/2002

	Rates	Fringes
SOUTH OF THE 63RD PARALLEL		
PAINTERS		
Brush, Roller, Sign	22.61	10.37
Paper and Vinyl, Swing Stage, Taper/Drywall, Structural Steel	23.01	10.37
Spray-Sand/Blast, Epoxy and Tar Applicator	23.61	10.37
Steeple Jack & Tower	24.61	10.37

PAIN1140E 09/01/2002

	Rates	Fringes
SOFT FLOOR LAYERS	24.80	7.85

PAIN1140F 01/01/2003

	Rates	Fringes
SOUTH OF THE 63RD PARALLEL		
GLAZIERS	26.60	10.00

PAIN1555C 04/01/2003

	Rates	Fringes
NORTH OF THE 63RD PARALLEL		
PAINTERS:		

BRUSH, BUFFER OPERATOR, FLOOR-COVERER, POT TENDER, ROLL SPRAY, WALLCOVERER	27.00	10.97
HAZARDOUS MATERIAL APPLICATOR, LEAD BASED PAINT ABATEMENT, RADON MITIGATION, SANDBLAST, STRUCTURAL STEEL, TAPING, TEXTURING	27.50	10.97

PAIN1555E 01/01/2003

	Rates	Fringes
NORTH OF THE 63RD PARALLEL		
GLAZIERS	26.62	10.05

PLAS0867A 02/01/2003

	Rates	Fringes
NORTH OF THE 63RD PARALLEL:		
CEMENT MASONS	29.26	9.95
PLASTERERS	30.74	9.95
SOUTH OF THE 63RD PARALLEL		
CEMENT MASONS	29.01	9.95
PLASTERERS	30.49	9.95

PLUM0262C 01/01/2003

	Rates	Fringes
East of the 141st Meridian		
PLUMBERS; STEAMFITTERS	28.59	10.55

PLUM0367B 07/01/2002

	Rates	Fringes
South of the 63rd Parallel		
PLUMBERS; STEAMFITTERS	30.30	11.15

PLUM0375A 07/01/2002

	Rates	Fringes
North of the 63rd Parallel		
PLUMBERS; STEAMFITTERS	33.51	11.15

PLUM0669A 04/01/2003

	Rates	Fringes
SPRINKLER FITTER	36.60	8.60

ROOF0190A 09/27/2002

	Rates	Fringes
NORTH OF THE 63RD PARALLEL:		
ROOFERS	29.43	10.92
SOUTH OF THE 63RD PARALLEL		
ROOFERS	27.43	10.92

SHEE0023A 01/01/2003

	Rates	Fringes
South of the 63rd Parallel:		
SHEET METAL WORKERS	30.55	11.24

SHEE0023B 04/01/2003

	Rates	Fringes
North of the 63rd Parallel:		

SHEET METAL WORKERS	33.39	12.14

TEAM0959A 09/01/2002

	Rates	Fringes
TRUCK DRIVERS:		
GROUP 1	31.40	9.57
GROUP 1A	32.45	9.57
GROUP 2	30.35	9.57
GROUP 3	29.67	9.57
GROUP 4	29.20	9.57
GROUP 5	28.56	9.57

GROUP 1: Semi with Double Box Mixer; Dump Trucks (including rockbuggy and trucks with pups) over 40 yards up to and including 60 yards; Deltas, Commanders, Rollogans and similar equipment when pulling sleds, trailers or similar equipment; Boat Coxswain; Lowboys including attached trailers and jeeps, up to and including 12 axles; Ready-mix over 12 yards up to and including 15 yards)

GROUP 1A: Dump Trucks (including Rockbuggy and Trucks with pups) over 60 yards up to and including 100 yards

GROUP 2: Turn-O-Wagon or DW-10 not self-loading; All Deltas, Commanders, Rollogans, and similar equipment; Mechanics; Tireman, heavy duty; Dump Trucks (including Rockbuggy and Trucks with pups) over 20 yards up to and including 40 yards; Lowboys including attached trailers and jeeps up to and including 8 axles; Super vac truck/cacasco truck/heat stress truck; Ready-mix over 7 yards up to and including 12 yards

GROUP 3: Dump Trucks (including Rockbuggy and Trucks with pups) over 10 yards up to and including 20 yards; batch trucks 8 yards and up; Oil distributor drivers; Greaser;Water Wagon (when pulled by Euclid or similar type equipment);Partsman

GROUP 4: Buggymobile; Semi or Truck and trailer; Dumpster; Tireman (light duty); Dump Trucks (including Rockbuggy and Truck with pups) up to and including 10 yards; Track Truck Equipment; Stringing Truck; Fuel Truck; Fuel Handler with truck; Grease Truck; Flat Beds, dual rear axle; Hyster Operators (handling bulk aggregate); Lumber Carrier; Water Wagon, semi; Water Wagon, dual axle; Gin Pole Truck, Winch Truck, Wrecker, Truck Mounted "A" Frame manufactured rating over 5 tons; Bull Lifts and Fork Lifts with Power Boom and Swing attachments, over 5 tons; Front End Loader with Forks; Bus Operator over 30 passengers; All Terrain Vehicles; Boom Truck/Knuckle Truck over 5 tons; Foam Distributor Truck/dual axle; Hydro-seeders, dual axle; Vacuum Trucks, Truck Vacuum Sweepers; Vacuum Trucks, Truck Vacuum Sweepers; Loadmaster (air and water); Air Cushion or similar type vehicle; Fire Truck; Combination Truck-fuel and grease; Compactor (when pulled by rubber tired equipment); Rigger (air/water/oilfield); Ready Mix, up to and including 7 yards

GROUP 5: Gravel Spreader Box Operator on Truck; Flat Beds, single rear axle; Boom Truck/Knuckle Truck up to and including 5 tons; Pickups (Pilot Cars and all light duty vehicles); Water Wagon, single axle; Gin Pole Truck, Winch Truck, Wrecker, Truck Mounted "A" Frame, manufactured rating 5 tons and under; Bull Lifts and Fork Lifts (fork lifts with power broom and swing attachments up to and including 5 tons); Buffer Truck; Tack Truck; Bus Operators (up to 30 passengers); Farm type Rubber Tired Tractor (when material handling or pulling wagons on a

construction project); Foam Distributor, single axle; Hydro-Seeders, single axle; Team Drivers (horses, mules and similar equipment); Rigger (warehouse operation); Fuel Handler (station/bulk attendant); Batch Truck, up to and including 7 yards

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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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 (29 CFR 5.5(a)(1)(ii)).

In the listing above, the "SU" designation means that rates listed under that 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, D. C. 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, D. C. 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, D. C. 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

General Decision Number AK030006
Superseded General Decision No. AK020006
State: Alaska Construction Type:
HIGHWAY
County(ies):

ALEUTIAN ISLAND	KOBUK	SEWART
ANCHORAGE	KODIAK ISLAND	VALDEZ-CORDOVA
BETHEL	KUSKOKWIM	WADE HAMPTON
BRISTOL BAY	MATANUSKA-SUSIT	WHITTIER
DILLINGHAM	NOME	YUKON-KOYUKUK
FAIRBANKS NORTH	NORTH SLOPE	
KENAI PENSULIA	SE FAIRBANKS	

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	06/13/2003

COUNTY(ies):

ALEUTIAN ISLAND	KOBUK	SEWART
ANCHORAGE	KODIAK ISLAND	VALDEZ-CORDOVA
BETHEL	KUSKOKWIM	WADE HAMPTON
BRISTOL BAY	MATANUSKA-SUSIT	WHITTIER
DILLINGHAM	NOME	YUKON-KOYUKUK
FAIRBANKS NORTH	NORTH SLOPE	
KENAI PENSULIA	SE FAIRBANKS	

CARP1243B 07/01/2002

	Rates	Fringes
NORTH OF THE 63RD PARALLEL		
CARPENTERS	30.80	11.60
DEWALT OR SIMILAR TYPE SAW OPERATORS; SAW FILERS; NAILING MACHINE OPERATORS; POWER-ACTUATED TOOL OPERATOR	31.37	11.60

CARP1281C 07/01/2002

	Rates	Fringes
SOUTH OF 63RD PARALLEL		
CARPENTERS	28.10	12.20

CARP2520B 08/01/2002

	Rates	Fringes
PILEDRIVERMEN:		
WELDER	28.40	12.20
CARPENTER	27.80	12.20
SHEET PILE STABBER	27.64	12.20
PILEDRIVERMAN; SKIFF OPERATOR AND RIGGER	26.64	12.20

ELEC1547A 05/05/2003

	Rates	Fringes
ELECTRICIANS; TECHNICIANS	32.42	3%+11.35
CABLE SPLICERS	34.17	3%+11.35

ELEC1547B 01/01/2003

	Rates	Fringes
LINEMEN; EQUIPMENT OPERATORS;		
TECHNICIAN	34.10	3%+14.05
CABLE SPLICER	32.10	3%+14.05
POWDERMAN	35.85	3%+14.05
TREE TRIMMER	22.90	3%+14.05

ENGI0302L 07/01/2002

	Rates	Fringes
POWER EQUIPMENT OPERATORS:		
GROUP 1	31.71	10.01
GROUP 1A	33.25	10.01
GROUP 2	31.04	10.01
GROUP 3	30.41	10.01
GROUP 4	24.99	10.01

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Asphalt Roller; Back Filler; Barrier Machine (Zipper); Batch Plant Operator: Batch and Mixer over 200 yds.; Beltcrete with power pack and similar conveyors; Bending Machine; Boat Coxwains; Bulldozers; Cableways, Highlines and Cablecars; Cleaning Machine; Coating Machine; Concrete Hydro Blaster; Cranes-45 tons and under or 150 foot boom and under (including jib and attachments): (a) Shovels, Backhoes, Draglines, Clamshells; Gradalls-3 yards and under; (b) Hydralifts or Transporters, all track or truck type,(c) Derricks; Crushers; Deck Winches-Double Drum; Ditching or Trenching Machine (16 inch or over); Drilling Machines, core, cable, rotary and exploration; Finishing Machine Operator, concrete paving, Laser Screed, sidewalk, curb and gutter machine; Helicopters; Hover Craft, Flex Craft, Loadmaster, Air Cushion, All Terrain Vehicle, Rollagon, Bargecable, Nodwell Sno Cat; Hydro Ax: Feller Buncher and similar; Loaders: Forklifts with power boom and swing attachment, Overhead and front end, 2 1/2 yards through 5 yards, Loaders with forks or pipe clamps, Loaders, elevating belt type, Euclid and similar types; Mechanics, Bodyman; Micro Tunneling Machine; Mixers: Mobile type w/hoist combination; Motor Patrol Grader; Mucking Machines: Mole, Tunnel Drill, Horizontal/Directional Drill Operator, and/or Shield; Operator on Dredges; Piledriver Engineers, L. B. Foster, Puller or similar Paving Breaker; Power Plant, Turbine Operator, 200 k.w. and over (power plants or combination of power units over 300 k.w.); Sauerman-Bagley; Scrapers-through 40 yards; Service Oiler/Service Engineer; Sidebooms-under 45 tons; Shot Blast Machine; Spreaders, Blaw Knox, Cedarapids, Barber Greene, Slurry Machine; Sub-grader (Gurries, C.M.I. and C.M.I. Roto Mills and similar types); Tack tractor; Truck mounted Concrete Pumps, Conveyor, Creter; Water Kote Machine; Unlicensed off road hauler

GROUP 1A: Cranes-over 45 tons or 150 foot (including jib and attachments): (a) Shovels, backhoes, draglines, clamshells-over 3 yards, (b) Tower cranes; Loaders over 5 yds.; Motor Patrol Grader (finish: when finishing to final graders and/or to hubs, or for asphalt); Power Plants: 1000 k.w. and over; Quad; Screed; Sidebooms over 45 tons; Slip Form Paver C.M.I. and similar types; Scrapers over 40 yards

GROUP 2: Batch Plant Operators: Batch and Mixer 200 yds. per hour and under; Boiler-fireman; Cement Hog and Concrete Pump Operator; Conveyors (except as listed in group 1); Hoist on

steel erection; Towermobiles and Air Tuggers; Horizontal/Directional Drill Locator; Loaders, Elevating Grader, Dumor and similar; Locomotives: rod and geared engines; Mixers; Screening, Washing Plant; Sideboom (cradling rock drill regardless of size); Skidder; Trencing Machine under 16 inches.

GROUP 3: "A" Frame Trucks, Deck Winches: single power drum; Bombardier (tack or tow rig); Boring Machine; Brooms-power; Bump Cutter; Compressor; Farm tractor; Forklift, industrial type; Gin Truck or Winch Truck with poles when used for hoisting; Grade Checker and Stake Hopper; Hoist, Air Tuggers, Elevators; Loaders: (a) Elevating-Athey, Barber Green and similar types
(b) Forklifts or Lumber Carrier (on construction job site)
(c) Forklifts with Tower
(d) Overhead and Front-end, under 2 1/2 yds.
Locomotives:Dinkey (air, steam, gas and electric) Speeders; Mechanics (light duty); Mixers: Concrete Mixers and Batch 200 yds. per hour and under; Oil, Blower Distribution; Post Hole Diggers, mechanical; Pot Fireman (power agitated); Power Plant, Turbine Operator, under 300 k.w.; Pumps-water; Rig oiler/assistant engineer, over 45 ton, over 3 yards or over 150 foot boom; Roller-other than Plantmix; Saws, concrete; Straightening Machine; Tow Tractor

GROUP 4: Rig Oiler/Assistant Engineer (Advances to Group III if over 45 tons or 3 yards or 150 ft. boom); Swamper (on trenching machines or shovel type equipment); Spotter; Steam Cleaner

FOOTNOTE: Groups 1-4 receive 10% premium while performing tunnel or underground work.

IRON0751A 08/01/2002

	Rates	Fringes
IRONWORKERS:		
BRIDGE, STRUCTURAL, ORNAMENTAL, REINFORCING MACHINERY MOVER, RIGGER, SHEETER, STAGE RIGGER, BENDER OPERATOR	27.50	13.60
GUARDRAIL LAYOUT MAN	24.74	13.35
FENCE, BARRIER AND GUARDRAIL INSTALLERS	24.00	13.35
HELICOPTER, TOWER	28.50	13.60

LABO0341D 09/01/2002

	Rates	Fringes
LABORERS:		
GROUP 1	24.49	11.50
GROUP 2	25.24	11.50
GROUP 3	25.89	11.50
GROUP 3A	27.49	11.50
GROUP 4	16.84	11.50

LABORERS CLASSIFICATIONS

GROUP 1: Asphalt Workers (shovelman, plant crew); Brush Cutters; Camp Maintenance Laborer; Carpenter Tenders; Choke Setters, Hook Tender, Rigger, Signalman; Concrete Laborer(curb and gutter, chute handler, grouting, curing, screeding); Crusher Plant Laborer; Demolition Laborer; Ditch Diggers; Dump Man; Environmental Laborer (asbestos (limited to nonmechanical systems), hazardous and toxic waste, oil spill); Fence Installer;

Fire Watch Laborer; Flagman; Form Strippers; General Laborer; Guardrail Laborer, Bridge Rail Installers; Hydro-Seeder Nozzleman; Laborers (building); Landscape or Planter; Material Handlers; Pneumatic or Power Tools; Portable or Chemical Toilet Serviceman; Pump Man or Mixer Man; Railroad Track Laborer; Sandblast, Pot Tender; Saw Tenders; Scaffold Building and Erecting; Slurry Work; Stake Hopper; Steam Point or Water Jet Operator; Steam Cleaner Operator; Tank Cleaning; Utiliwalk and Utilidor Laborer; Watchman (construction projects); Window Cleaner

GROUP 2: Burning and Cutting Torch; Cement or Lime Dumper or Handler (sack or bulk); Choker Splicer; Chucktender (wagon, airtrack and hydraulic drills); Concrete Laborers (power buggy, concrete saws, pumpcrete nozzleman, vibratorman); Environmental Laborer (marine work); Foam Gun or Foam Machine Operator; Green Cutter (dam work); Guardrail Machine Operator; Gunnite Operator; Hod Carriers; Jackhammer or Pavement Breakers (more than 45 pounds); Mason Tender and Mud Mixer (sewer work); Plasterer, Bricklayer and Cement Finisher Tenders; Power Saw Operator; Railroad Switch Layout Laborer; Sandblaster; Sewer Caulkers; Sewer Plant Maintenance Man; Thermal Plastic Applicator; Timber Faller, chain saw operator, filer; Timberman

GROUP 3: Bit Grinder; Drill Doctor (in the field); Drillers (including, but not limited to, wagon drills, air track drills; hydraulic drills); High Rigger and tree topper; Higher Scaler; Pioneer Drilling and Drilling Off Tugger (all type drills); Powderman; Slurry Seal Squeegee Man

GROUP 3A: Asphalt Raker, Asphalt Belly dump lay down; Grade checker (setting or transfering of grade marks, line and grade); Pipelayers

GROUP 4: Final Building Cleanup

TUNNELS, SHAFTS, AND RAISES

GROUP 1	26.94	11.50
GROUP 2	27.76	11.50
GROUP 3	28.48	11.50
GROUP 3A	30.24	11.50

TUNNELS, SHAFTS, AND RAISES CLASSIFICATIONS

GROUP 1: Brakeman; Muckers; Nippers; Topman and Bull Gang; Tunnel Track Laborer

GROUP 2: Burning and Cutting Torch; Concrete Laborers; Jackhammers; Laser Instrument Operators; Nozzleman, Pumpcrete or Shotcrete; Pipelayers.

GROUP 3: Miner; Retimberman

GROUP 3A: Powderman

Tunnel shaft and raise rates only apply to workers regularly employed inside a tunnel portal or shaft collar.

PLAS0867E 02/01/2003

	Rates	Fringes
NORTH OF THE 63RD PARALLEL:		
CEMENT MASONS	29.26	9.95
SOUTH OF THE 63RD PARALLEL		
CEMENT MASONS	29.01	9.95

TEAM0959A 09/01/2002

	Rates	Fringes
TRUCK DRIVERS:		

GROUP 1	31.40	9.57
GROUP 1A	32.45	9.57
GROUP 2	30.35	9.57
GROUP 3	29.67	9.57
GROUP 4	29.20	9.57
GROUP 5	28.56	9.57

GROUP 1: Semi with Double Box Mixer; Dump Trucks (including rockbuggy and trucks with pups) over 40 yards up to and including 60 yards; Deltas, Commanders, Rollogans and similar equipment when pulling sleds, trailers or similar equipment; Boat Coxswain; Lowboys including attached trailers and jeeps, up to and including 12 axles; Ready-mix over 12 yards up to and including 15 yards)

GROUP 1A: Dump Trucks (including Rockbuggy and Trucks with pups) over 60 yards up to and including 100 yards

GROUP 2: Turn-O-Wagon or DW-10 not self-loading; All Deltas, Commanders, Rollogans, and similar equipment; Mechanics; Tireman, heavy duty; Dump Trucks (including Rockbuggy and Trucks with pups) over 20 yards up to and including 40 yards; Lowboys including attached trailers and jeeps up to and including 8 axles; Super vac truck/cacasco truck/heat stress truck; Ready-mix over 7 yards up to and including 12 yards

GROUP 3: Dump Trucks (including Rockbuggy and Trucks with pups) over 10 yards up to and including 20 yards; batch trucks 8 yards and up; Oil distributor drivers; Greaser;Water Wagon (when pulled by Euclid or similar type equipment);Partsman

GROUP 4: Buggymobile; Semi or Truck and trailer; Dumpster; Tireman (light duty); Dump Trucks (including Rockbuggy and Truck with pups) up to and including 10 yards; Track Truck Equipment; Stringing Truck; Fuel Truck; Fuel Handler with truck; Grease Truck; Flat Beds, dual rear axle; Hyster Operators (handling bulk aggregate); Lumber Carrier; Water Wagon, semi; Water Wagon, dual axle; Gin Pole Truck, Winch Truck, Wrecker, Truck Mounted "A" Frame manufactured rating over 5 tons; Bull Lifts and Fork Lifts with Power Boom and Swing attachments, over 5 tons; Front End Loader with Forks; Bus Operator over 30 passengers; All Terrain Vehicles; Boom Truck/Knuckle Truck over 5 tons; Foam Distributor Truck/dual axle; Hydro-seeders, dual axle; Vacuum Trucks, Truck Vacuum Sweepers; Vacuum Trucks, Truck Vacuum Sweepers; Loadmaster (air and water); Air Cushion or similar type vehicle; Fire Truck; Combination Truck-fuel and grease; Compactor (when pulled by rubber tired equipment); Rigger (air/water/oilfield); Ready Mix, up to and including 7 yards

GROUP 5: Gravel Spreader Box Operator on Truck; Flat Beds, single rear axle; Boom Truck/Knuckle Truck up to and including 5 tons; Pickups (Pilot Cars and all light duty vehicles); Water Wagon, single axle; Gin Pole Truck, Winch Truck, Wrecker, Truck Mounted "A" Frame, manufactured rating 5 tons and under; Bull Lifts and Fork Lifts (fork lifts with power broom and swing attachments up to and including 5 tons); Buffer Truck; Tack Truck; Bus Operators (up to 30 passengers); Farm type Rubber Tired Tractor (when material handling or pulling wagons on a construction project); Foam Distributor, single axle; Hydro-Seeders, single axle; Team Drivers (horses, mules and similar equipment); Rigger (warehouse operation); Fuel Handler (station/bulk attendant); Batch Truck, up to and including 7 yards

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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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 (29 CFR 5.5(a)(1)(ii)).

In the listing above, the "SU" designation means that rates listed under that 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, D. C. 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, D. C. 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, D. C. 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

SECTION 00800
SPECIAL CONTRACT REQUIREMENTS

DACA85-03-R-0002
REPAIR UTILIDOR PHASE IV
EIELSON AFB, AK

I-N-D-E-X

SECTION 00800
SPECIAL CONTRACT REQUIREMENTS

SCR-1 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 (NTP), (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 365 calendar days after the date the Contractor receives the Notice to Proceed, except the work for planting, including landscaping, shall be completed not later than 635 after the date the Contractor receives notice to Proceed. The time stated for completion shall include final cleanup of the premises.

SCR-2 NOT USED

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

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of $1383.00 for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

SCR-4 NOT USED

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

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

(b) The Contractor shall --

(1) Check all the drawings furnished immediately upon receipt;

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

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

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

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

(c) In general –

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

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

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

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

Drawing No.	Sheet No.	Title	Rev. No.	Date
		GENERAL		
None	None	Cover Sheet	None	4/11/2003
AF 71-10-309	"	Sheet Index	"	"
AF 16-06-4277	1	Location and Vicinity Maps	"	"
AF 71-10-309	1	Legend, Abbreviations, and General Notes	"	"
AF 71-10-309	2	General Notes and Schedules	None	"
"	3	Schedule 4A, 4B and 5A	"	"
"	4	Schedule 5B	"	"
"	5	Corridor Topography Key Sheet	"	"
"	6	Corridor Topography (1 of 5)	"	"
"	7	Corridor Topography (2 of 5)	"	"
"	8	Corridor Topography (3 of 5)	"	"
"	9	Corridor Topography (4 of 5)	"	"
"	10	Corridor Topography (5 of 5)	"	"

Drawing No.	Sheet No.	Title	Rev. No.	Date
		CIVIL		
AF 71-10-309	11	Flightline Ave. (North) Site Plan	None	"
"	12	Broadway Ave. Site Plan	"	"
"	13	Flightline (North) and Broadway site plan photos	"	"
"	14	Flightline ave. (North) and Broadway Ave. Site Plan and Photos and Detail	"	"
"	15	Flightline Ave. (South) Site Plan		
"	16	Flightline Ave. (South) Site Plan Photos and Detail	"	"
"	17	Existing Manhole, MH 111 (1 of 2)	"	"
"	18	Existing Manhole, MH 111 (2 of 2)	"	"
"	19	Existing Manholes, MH 111-1	"	"
"	20	Comm and Electrical Cables, Main Utilidor Sta. 19+40	"	"
"	21	Existing Manhole, MH 112 (1 of 2)	"	"
"	22	Existing Manhole, MH 112 (2 of 2)	"	"
"	23	Existing Manhole, MH 113 (1 of 2)	"	"
"	24	Existing Manhole, MH 113 (2 of 2)	"	"
"	25	Existing Manhole, MH 201 (1 of 2)	"	"
"	26	Existing Manhole, MH 201	"	"

		(2 of 2)		
Drawing No.	Sheet No.	Title	Rev. No.	Date
AF 71-10-309	27	Existing Manholes, MH 202/202-1 (1 of 2)	None	"
"	28	Existing Manholes, MH 202/202-1 (2 of 2)	"	"
"	29	Existing Manhole, MH 203 (1 of 2)	"	"
"	30	Existing Manhole, MH 203 (2 of 2)	"	"
"	31	Existing Manholes, MH 204/205 (1 of 2)	"	"
"	32	Existing Manholes, MH 204/205 (2 of 2)	"	"
"	33	Existing Manhole, MH 211 (1 of 2)	"	"
"	34	Existing Manhole, MH 211 (2 of 2)	"	"
"	35	Existing Manhole, MH 218	"	"
"	36	Existing Manhole, MH 219-1		
"	37	Existing Manhole, MH 507 and Lift Station (1 of 3)	"	"
"	38	Existing Manhole, MH 507 and Lift Station (2 of 3)	"	"
"	39	Existing Manhole, MH 507 and Lift Station (3 of 3)	"	"
"	40	Existing Manhole, MH 145	"	"
"	41	Existing Manhole, MH 140 (1 of 2)	"	"
"	42	Existing Manhole, MH 140 (2 of 2)	"	"
"	43	Existing Manhole, MH 506	"	"

Drawing No.	Sheet No.	Title	Rev. No.	Date
AF 71-10-309	44	Existing Manhole, MH 506-A	"	"
"	45	Existing Manhole, MH 505 (1 of 2)	None	"
"	46	Existing Manhole, MH 505 (2 of 2)	"	"
"	47	Existing Manhole, MH 504	"	"
"	48	Existing Manhole, MH 503	"	"
"	49	Existing Manhole, MH 502	"	"
"	50	Existing Manhole, MH 501-2	"	"
"	51	Existing Manhole, MH 501-1 (1 of 2)	"	"
"	52	Existing Manhole, MH 501-1 (2 of 2)	"	"
"	53	Existing Manhole, MH 701	"	"
"	54	Existing Manhole, MH 705 (1 of 2)	"	"
"	55	Existing Manhole, MH 705 (2 of 2)	"	"
"	56	Existing Manhole, MH 704	"	"
"	57	Existing Manhole, MH 212/212-2 (2 of 2)	"	"
"	58	Buildings 1140 South, 1142, 3112 West, and 3112 East Services	"	"
"	59	Buildings 3301 and 3343 Services	"	"
"	60	Buildings 1201 and 3242 Services and Cits Manholes	"	"
"	61	Buildings 3242, 1206, and 3240 Services	"	"

"	62	Building 3240 and 1209 Service	"	"
Drawing No.	Sheet No.	Title	Rev. No.	Date
AF 71-10-309	63	Bldg 1209 Service	"	"
	64	Existing Fire Hydrants (1 of 4)	None	"
"	65	Existing Fire Hydrants (2 of 4)	"	"
"	66	Existing Fire Hydrants (3 of 4)	"	"
"	67	Existing Fire Hydrants (4 of 4)	"	"
"	68	Site Work Typical Details	"	"
"	69	Water Systems Details (1 of 2)	"	"
"	70	Water Systems Details (2 of 2)	"	"
"	71	Sewer System Typical Details	"	"
"	72	Manhole Details (1 of 2)	"	"
"	73	Manhole Details (2 of 2)	"	"
"	74	Main Utilidor Pipe Layout	"	"
"	75	Service Utilidor Pipe Layout		
"	76	Steam and Condensate Typical Details	"	"
		ELECTRICAL		
"	77	Symbol Legend and Cable Schedules	"	"
"	78	East Project Area Site Plan	"	"
"	79	Flightline/Broadway	"	
"	80	Equipment and Connection	"	

		Schedules		
Drawing No.	Sheet No.	Title	Rev. No.	Date
"AF 71-10-309	81	Service Details	"	"
"	82	Misc. Details	"	"

SCR-6 NOT USED

SCR-7 CERTIFICATES OF COMPLIANCE:

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

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

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

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

SCR-9 NOT USED

SCR-10 EIELSON AFB PHYSICAL DATA (APR 1984):

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

a. The indications of physical conditions on the drawings and in the specifications are the result of site investigation.

b. Location: Eielson AFB is located on the Richardson Highway approximately 26 miles southeast of Fairbanks, Alaska.

c. Transportation:

(1) Water: Commercial docking facilities are available at Anchorage, Alaska.

(2) Highway: Eielson AFB is connected to the State of Alaska Highway System.

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

d. Communications: Telephone communications and services are under the jurisdiction of the Communications Officer. The Contractor shall make all arrangements for required communication service directly with the Communications Office. The Government does not guarantee the adequacy or efficiency of the service or the number of telephones that can be assigned to the Contractor.

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

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

(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.

SCR-12 IDENTIFICATION OF EMPLOYEES AND MILITARY REGULATIONS:

(a) The Contractor shall be responsible for compliance with all regulations and orders of the Commanding Officer of the Military Installation, respecting identification of employees, movements on

installation, parking, truck entry, and all other military regulations that may affect the work.

(b) The work under this contract is to be performed at an operating Military Installation with consequent restrictions on entry and movement of non-military personnel and equipment.

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

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

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

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

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

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

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

(b) Before commencing the work under this contract, the Contractor shall notify the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective (1) for such period as the laws of the State in which this contract is to be performed prescribe, or (2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.

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

SCR-14 SPECIAL SAFETY REQUIREMENTS:

The Safety and Health Requirements Manual referenced in paragraph Accident Prevention of the Contract Clauses is amended as indicated below. Copies of

the manual can be ordered from the Superintendent of Documents, Government Printing Office, Washington DC, phone 202-512-1800, FAX 202-512-2250.

a. Not used.

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

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

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

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

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

d. Not used.

SCR-15 NOT USED

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

The Contractor shall lay out its work from Government established base lines and benchmarks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due the Contractor.

SCR-17 THRU SCR-20 NOT USED

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

The Contractor shall perform on the site, and with its own organization, work equivalent to at least twenty (20) percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

SCR-22 SALVAGE MATERIALS AND EQUIPMENT (JAN 1965):

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 its negligence, or while in its care.

SCR-23 AND SCR-24 NOT USED

SCR-25 COMMUNICATION SECURITY:

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

SCR-26 THRU SCR-28 NOT USED

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

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

(b) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a Contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the Contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the Contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule, Region IX. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the Contracting Officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply. (Individual copies of the regional schedules are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Any schedule can be ordered by telephoning (202) 512-1800 or via the internet at

http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/ep1110-1-8(vol9)/toc.htm. The cost is $33.00 each. Vol. 9 is stock no. 008-022-00292-8.)

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

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

SCR-30 THRU SCR-32 NOT USED

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

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

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

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

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

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

SCR-34 AND SCR-35 NOT USED

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

1. This provision specifies the procedure for determination of time extensions for

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

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

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

2. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

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

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
22	20	21	0	0	1	6	1	0	10	21	22

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

SCR-37 NOT USED

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

In accordance with FAR 39.106, the Contractor shall ensure that with respect to any design, construction, goods, or services under this contract as well as any subsequent task/delivery orders issued under this contract (if applicable), all information technology contained therein shall be Year 2000 compliant. Specifically, the Contractor shall:

(1) Perform, maintain, and provide an inventory of all major components to include structures, equipment, items, parts, and furnishings under this contract and each task/delivery order which may be affected by the Year 2000 compliance requirement.

(2) Indicate whether each component is currently Year 2000 compliant or requires an upgrade for compliance prior to Government acceptance.

SCR-39 NOT USED

SCR-40 KEY PERSONNEL:

During the performance of this contract, no substitutions shall be made for individuals specifically identified in the Contractor's accepted proposal to perform key functions in the work, unless determined necessary by the Contracting Officer and approved in writing. Proposed substitutes shall have qualifications comparable to those of the persons being replaced.

SCR-41 DESIGN-BUILD CONTRACT - ORDER OF PRECEDENCE:

(a) The contract includes the standard contract clauses and schedules current at the time of the contract award. It entails (1) the solicitation in its entirety, including all drawings, cuts, illustrations, and any amendments, and (2) the successful offeror's accepted proposal. The contract constitutes and defines the entire agreement between the Contractor and the Government. No documentation shall be omitted which in any way bears upon the terms of that agreement.

(b) In the event of conflict or inconsistency between any of the provisions of this contract, precedence shall be given in the following order:

1) The provisions of the solicitation. (See also Contract Clause: SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION.)

2) All other provisions of the accepted proposal.

3) Any design products including, but not limited to, plans, specifications, engineering studies and analyses, shop drawings, equipment installation drawings, etc.. These are "deliverables" under the contract and are not part of the contract itself. Design products must conform with all provisions of the contract, in the order of precedence herein.

SCR-42 NOT USED

SCR-43 SEQUENCE OF DESIGN-CONSTRUCTION:

(a) After receipt of Notice to Proceed (NTP), the Contractor shall initiate design, comply with all design submission requirements as covered under Division 01 General Requirements, and obtain Government review of each submission. No construction may be started until the Government has reviewed the Final Design submission and determined it satisfactory for purposes of beginning construction, except that site clearing, etc. may be initiated with the permission of the Contracting Officer. The Contracting Officer will notify the Contractor when the design is cleared for construction. The Government will not grant any time extension for any design resubmittal required when, in the opinion of the Contracting Officer, the initial submission failed to meet the minimum quality requirements as set forth in the contract.

SCR-44 RESPONSIBILITY OF THE CONTRACTOR FOR DESIGN:

(a) The Contractor shall be responsible for the professional quality, technical accuracy, and the coordination of all designs, drawings, specifications, and any other non-construction services furnished by the Contractor under this contract. The Contractor shall, without additional

compensation, correct or revise any errors or deficiency in its designs, drawings, specifications, and other non-construction services.

(b) Neither the Government's review, approval or acceptance of, nor payment for, the services required under this contract shall be construed to operate as a waiver of any rights under this contract, or of any cause of action arising out of the performance of this contract, and the Contractor shall be and remain liable to the Government in accordance with applicable law for all damages to the Government caused by the Contractor's negligent performance of any of the services described in paragraph (a) furnished under this contract.

(c) The rights and remedies of the Government provided for under this contract are in addition to any other rights and remedies provided by law.

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

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

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

SCR-46 THRU SCR-111 NOT USED

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

(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	Goals for Female Participation
8.7 (Anchorage, AK)	6.9 (Alaska)
15.1 (Locations outside city of Anchorage)	

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 $10,000.00 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 Alaska.

ATTACHMENT: CLIMATOLOGICAL SUMMARY

CLIMATOLOGICAL SUMMARY

EIELSON (Period of record exceeds 25 years)

MEANS AND EXTREMES FOR PERIOD OF RECORD

Temperature		Mean Annual	25.2° F
		Highest Recorded	93° F
		Lowest Recorded	-64° F
		Maximum Freezing Index	6724° Days (1955-56)
		Maximum Thawing Index	3848° Days 1951
Precipitation		Mean Annual	13.6"
		Mean Annual Snowfall	74.6"
		Maximum Monthly	7.47"
		Maximum Monthly Mean	2.51" July
		Maximum Rainfall During 24 hr Period	3.61" July 1967
		Maximum Snowfall During 24 hr Period	14.2" Feb 1966
		Maximum Monthly Snowfall	47.1" Dec 1949
		Greatest Depth Snow on Ground	54.0" Feb
Wind		Mean Hourly Speed	3.5 mph
		Prevailing Direction	W
		Maximum Velocity	74 mph
		Direction Maximum Velocity	SW
Annual Mean Number of Days	Sunrise to Sunset	Clear	83
		Partly Cloudy	71
		Cloudy	211
		Precipitation 0.01 inch or more	106
		Snow, Sleet, or Hail 1.0 inch or more	55
		Heavy Fog	12
		Thunderstorms	2 per year
	Max Temp	≥ 70°	43
		≤ 32°	154
	Min Temp	≤ 32°	229
		≤ Zero	124

NPA Form 3
AUG 1958

--END OF SPECIAL CONTRACT REQUIREMENTS--

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DIVISION 01 - GENERAL REQUIREMENTS

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SECTION 01010

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DESIGN REQUIREMENTS

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SECTION 01010

DESIGN REQUIREMENTS

PART 1 GENERAL

1.1 PROJECT DESCRIPTION/STATEMENT OF WORK

1.1.1 General

This project is to repair and upgrade existing utilities in the utilidors serving Eielson AFB, Alaska. Eielson AFB is located 26 miles southeast of Fairbanks, Alaska. This project addresses utilidors along Broadway Avenue and Flightline Avenue. The utilidors are below ground and vary in size and configuration. The utility systems in the utilidors are water, sewer, steam heat, and communications.

Except for communications, the existing utility piping and appurtenances in the utilidors shall be demolished. The utilities shall be replaced with modern materials and appurtenances per the requirements of this Design Build/Request for Proposal (DB/RFP). The replacement water, sewer, steam, and condensate pipe shall have the same nominal diameter as the existing pipe except for specific locations called out on the plans. Utilidor structure modifications are limited to repair or replacement of specific manholes. Existing facilities and concept plans and details for the utilidor repairs are shown in the DB/RFP plans.

1.1.2 Detailed Statement of Basic Work

Complete design and construction of utility systems within the utilidors shown on the plans is to include water, sewer, steam, and condensate piping and appurtenances. Also, provide for new fire hydrants and support for communication cables in the utilidors. The plans attached to this DB/RFP describe the project area, existing utilidor facilities, and conceptual design for the improvements.

1.1.2.1 Temporary Utilities Plan

Temporary utilities shall be maintained by the Contractor to Base facilities during construction according to Government requirements and an approved temporary utilities plan. The Contractor shall submit a temporary utilities plan. Temporary services shall be provided to all facilities outside project area with utilities affected by project work. A schedule of facilities within the project area affected by this project and the required utility service during construction is located in the plans on Sheet G1.4.

The temporary utilities plan shall include but is not limited to scheduling of utility switch-over and outages, materials and equipment description, water line disinfection procedures, providing and operating temporary sump pumps, enclosure of temporary steam lines, sediment control measures in water lines, etc. Provide sediment control measures such as a Y pattern sediment strainer where temporary water piping connects with existing water distribution and building plumbing. In the plan describe contingency if an existing valve used to isolate a utility does not close properly. Coordinate demolition and repair in order to keep the existing utilities operational for as long as possible can minimize the outlay of materials and labor.

The temporary utilities set-up can be reused providing the water lines are disinfected following the American Water Works Association (AWWA) C651 requirements for waterline disinfecting. Materials used for temporary water lines shall meet National Sanitation Foundation (NSF) Standard 61, DRINKING WATER SYSTEM COMPONENTS.

1.1.2.2 ADEC Approval to Construct and Operate

The Contractor shall obtain, including payment of fees, the State of Alaska Department of Environmental Conservation (ADEC) Approval to Construct and Approval to Operate for the water distribution and wastewater collection system. The Contractor shall copy the Contracting Officer on all correspondence. In their request for Approval to Construct, the Contractor needs to specify a long enough time period for the Interim Approval to Operate to allow all sections of the repairs to be completed and as-builts drawn up.

1.1.2.3 Demolition and Government Salvage Items

Demolition shall include removing all existing water, sewer, steam, and condensate piping systems from the utilidor structure. Remove all steel pipe anchors, piping supports, and expansion joints. The existing concrete utilidor structure shall be protected from damage, and demolished only if required for modifications. Cast in place concrete water line anchors may remain if the Contractor incorporates them as pipe support or anchors within the new pipe support system. Do not reuse existing sewer line concrete pipe supports. The existing communication cables and grounding wires shall be protected from damage, remain operational and in place. Specific Government salvage items are called out on Sheet G1.2. On-Base disposal sites are available for debris disposal. Locations and waste disposal planning requirements are located in Appendix D of the DB/RFP Design Requirements.

1.1.2.4 Asbestos Abatement

Asbestos abatement shall be done for all the utilidor spaces receiving new utilities. Almost all the steam and condensate piping in the project utilidors is insulated with friable asbestos-containing insulation and most other insulation is contaminated with asbestos. In addition, the majority of the sewer pipe in the utilidors is cement asbestos pipe (Transite). Loose asbestos debris has been spread throughout the utilidor system. The walls and floors of the utilidor will require cleaning before unprotected workers are allowed to begin installing new piping. Utilidor lids and joints are sealed with asbestos-containing mastics and gaskets. The Contractor will be required to remove and dispose of all asbestos from the utilidors and branches as part of this project. See Section 13280, HAZARDOUS MATERIALS ABATEMENT and Appendix F, HAZARDOUS MATERIALS SURVEY REPORTS.

On-base disposal of asbestos material is available. Locations of disposal sites and waste disposal planning requirements are in Appendix D, EIELSON AFB WASTE DISPOSAL AND BORROW PIT PLAN.

1.1.2.5 Earthwork and Site Work

Earthwork will be required to remove the utilidor lids to access the interior utilities. Where the utilidor crosses under a street, the lids may remain on and the work proceeds from opened utilidor on each side of the roadway embankment. Specific sections of service utilidors in the plans are required to be exposed for waterproofing. The Contractor shall restore landscaping, signs, sidewalk, curb and gutter, roadway pavement and embankment, and

replace any lids damaged during removal or found to be defective. Experience from recent utilidor repair work found less than 5% of the lids are damaged or found to be defective during removal operations and need replacement. Above grade utilities shall be kept in operation and protected from damage. The exterior of utilidors exposed by earthwork shall be insulated.

On-base sources of classified fill are available. Pit locations and planning requirements are described in Appendix D, EIELSON AFB WASTE DISPOSAL AND BORROW PIT PLAN.

1.1.2.6 Manhole Upgrades

Manhole upgrades shall include major reconstruction at specific manholes, new hatches, access ladders, frost lids, modified fire hydrant shafts, repair of spalled concrete on the above grade portion of the manhole shafts, replace damaged vent shrouds, and redesigned sump alarm posts. All fire hydrants shall be replaced. As indicated on the plans, vents shall be constructed at manholes. Vent openings shall allow attachment of the 354th CES/CEOWD Utilidor Maintenance Shop's portable blower to allow mechanical ventilation. New sumps with submersible electric pumps shall be installed at the manhole replacement and relocations shown in Schedule 1, Sheet G1.3 of the DB/RFP plans.

Paint all above ground concrete and metal surfaces except architectural, split faced, concrete masonry units and access hatches.

1.1.2.7 Utilidor Cleaning and Crack Grouting

Utilidor and manhole interiors shall be cleaned to remove accumulation of surface debris and allow examination of the concrete for spot repairs and identify seepage. Seepage areas shall be sealed using chemical grout. An estimated length of cracks for grouting is given in Scope of Work, Sheet G1.2.

Surface debris includes fine soil carried by seepage, gravel accumulation through lid breaches, and insulation from pipe. The vast majority of pipe insulation remains on the pipe. Estimate a total volume of fine soil accumulation using one-eighth (1/8) inch uniform depth over the length of the utilidor floor being cleaned. Volume of pipe insulation is to be estimated using pipe diameters, lengths, and insulation thickness given in the plans. Pipe diameters and insulation thickness are reported on a Schedule in Sheet G1.4 and G1.5.

1.1.2.8 Piping System

Piping anchor, support, and expansion systems shall be replaced within the utilidors and manholes. Valves, anchors, and expansion joints shall be located in manholes whenever possible. Piping support systems shall be designed and constructed in all the utilidors and manholes within this project. System shall be designed to not degrade the performance of adjoining utilidor and manhole piping systems that are not included in this project and are scheduled to remain.

1.1.2.9 Communication System

Communication cable supports and electrical upgrades shall also be designed and constructed. The communications cables presently in the utilidors are to

be consolidated into a rack system. The cables shall remain in operation during construction. Lighting and service power shall be provided at each of the project manholes.

Provide infrastructure for a future (Not in Contract) Utilities Monitoring System as described in Design Requirement 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS, Paragraph 2.2.5, Utilities Monitoring System Infrastructure.

1.1.2.10 Soil and Groundwater

There is substantial existing soil and groundwater information available from the Government for the Contractor's use. There is a record of contaminated sites adjacent to the project area. A summary of the Eielson soil, groundwater, and adjacent known contaminated sites is in Appendix A, GEOTECHNICAL SUMMARY. Design Requirement Section 02280, CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING describes the work associated with contaminated soil and groundwater if it is encountered. Contaminated soil only within the excavation required for the project work is subject to removal. See Section 02280, CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING, Paragraph 1.3, DESCRIPTION OF WORK for estimated contaminated soil volume.

1.1.2.11 Health and Safety

Health and safety issues to be addressed by the Contractor's Health and Safety Plan include, but are not limited to, confined space entry, energized utilities, enclosure of temporary steam lines, power pole shoring, dust suppression, safety fencing, and safety of the public using facilities adjacent to the project work. The Contractor is advised to exercise caution while working in confined spaces that may contain hazardous atmospheres. Utilities may or may not be energized during construction. Caution should be exercised while working in and around these utilities.

1.1.2.12 Landscaping

The landscaping shall follow the landscape design requirements found in Appendix B, ESTABLISHING VEGETATION. The Contractor shall replace all fences, pavement, trees, shrubs, and ground cover to original or better condition with new materials. The project area along North Street is a residential area with significant landscaping that will be disturbed by utilidor work. Existing trees and shrubs shall be salvaged.

The Contractor shall develop specifications for plant digging, handling, and storage. Transplanting existing trees with a trunk diameter greater than 1 inch shall not be attempted. Replace existing trees and shrubs with like species and in the same layout as exists prior to construction activity. Trees with a trunk diameter greater than 1 inch shall be replaced with the same species at the rate of two (2) trees for the first 2 inches in diameter and one (1) tree for each additional 2 inches of trunk diameter. Measure trunk diameter 36 inches above the ground surface. Round up when the trunk diameter is an odd inch. For example, a trunk diameter of 2.75 inches would round to 4 inches and be replaced with three (3) trees. Transplanted plant material shall be guaranteed to be in vigorous growing condition for a period of 12 months. A plant shall be replaced one time under this guarantee.

Trunk guards shall be installed around all new and transplanted trees. Guards must be AborGard+ by Ben Meadows Company, Barkgard by Easy Gardener, or equivalent.

1.2 INTENT

The Government seeks a complete and usable upgrade of the water, sewer, and steam utilities in their utilidors. It shall be free of defects and compatible with the surrounding built and natural environment. Innovation and creativity are encouraged in developing the overall design and construction for this project.

This project shall be designed and constructed with quality materials and workmanship throughout and in accordance with all applicable codes, regulations, standards, and local ordinances. Choice of materials and methods of construction shall not compromise the safety of maintenance workers and shall optimize quality, economy, maintainability, and life cycle costs.

The design criteria stated in this RFP, is the minimum quality acceptable for proposals and project submittals. The Proposer is encouraged to exceed these minimums within allowable funds. Refer to Section 00100, PROPOSAL SUBMISSION REQUIREMENTS and Section 00120, EVALUATION FACTORS.

1.3 CODES AND REFERENCES

Industry standard references such as ASTM, AWWA, and ANSI/ASME and some references readily available on the Internet are not attached with this RFP. Each Proposer shall be responsible for obtaining any documents not attached as part of this RFP, but referenced as criteria for this project. Requirements contained in this RFP may revise, add to, or substitute for criteria contained in the referenced documents. This RFP shall be deemed the controlling authority wherever such differences exist.

PART 2 MINIMUM DESIGN REQUIREMENTS

2.1 INTRODUCTION

The following list of Sections constitute the Minimum Design Requirements:

DIVISION 2 - SITE WORK
02280 CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING
02300 EARTHWORK
02509 UTILIDOR STRUCTURE
02510 WATER DISTRIBUTION SYSTEM
02531 SANITARY SEWERS
02559 STEAM DISTRIBUTION SYSTEM
02741 ROADWAY
02770 CONCRETE SIDEWALKS AND CURBS AND GUTTERS

DIVISION 13 – SPECIAL CONSTRUCTION
13280 HAZARDOUS MATERIALS ABATEMENT

DIVISION 16 – ELECTRICAL
16000 UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

2.2 ATTACHMENTS

1. SECTION 02280
2. SECTION 02300
3. SECTION 02509
4. SECTION 02510
5. SECTION 02531
6. SECTION 02559
7. SECTION 02741
8. SECTION 02770
9. SECTION 13280
10. SECTION 16000

2.3 APPENDICES

APPENDIX A GEOTECHNICAL SUMMARY
APPENDIX B ESTABLISHING VEGETATION
APPENDIX C EIELSON AFB EXAMPLE OUTLINE FOR THE CONSTRUCTION PROJECT ENVIRONMENTAL PROTECTION/BORROW PIT PLAN
APPENDIX D EIELSON AFB WASTE DISPOSAL AND BORROW PIT PLAN
APPENDIX E STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION GENERAL WASTEWATER PERMITS
APPENDIX F HAZARDOUS MATERIALS SURVEY REPORTS
APPENDIX G JANUARY 2002 EIELSON UTILIDOR DESIGN GUIDE

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DIVISION 02 - SITE WORK

SECTION 02280

CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING

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SECTION 02280

CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING

PART 1 GENERAL

1.1 REFERENCES

The current edition of 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 D 2488	Description and Identification of Soils (Visual-Manual Procedure)

CORPS OF ENGINEERS (COE)

EM 385-1-1	US ARMY Corps of Engineers Safety and Health Requirements Manual
ER 1110-1-263	Chemical Data Quality Management for Hazardous Waste Remedial Activities, w/ Appendices

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA SW-846	Test Methods for Evaluating Solid Waste (Vol. IA, IB, IC, and II)
EPA 540/G-89/004	Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (Interim Final)

STATE OF ALASKA ADMINISTRATIVE CODES (AAC) AND STATUTES (AS)

18 AAC 75	Oil and Hazardous Substances Pollution Control
18 AAC 78	Underground Storage Tanks(As amended through December 20, 2000)

STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (ADEC) PUBLICATIONS

ADEC-01	Guidance on Cleanup Standards Equations & Input Parameters, July 28, 1999

ADEC-02	Technical Guidance Document on Determination of Background concentrations, September 17, 1998
ADEC-03	Risk Assessment Procedures Manual, June 8, 2000
ADEC-04	Guidance on Decision Documentation Under the site cleanup Rules (18 AAC 75.325 --18 AAC 75.390) July 1999
ADEC-05	Underground Storage Tank Procedures Manual, December 1, 1999
AK 101	Method AK 101 for Determination of Gasoline Range Organics
AK 102	Method AK 102 for Determination of Diesel Range Organics
AK 103	Method AK 103 for Determination of Residual Range Organics

1.2 DEFINITIONS

1.2.1 Clean Closure

Clean closure has been obtained when observations or investigations for the excavation site, as required by 18 AAC 75, indicate that a release has not occurred or that further removal or investigation is not required.

1.3 DESCRIPTION OF WORK

Contaminated soils shall be removed as necessary to perform the utility installation work under this contract and disposed of as specified. The risk of encountering contaminated soil typically increases when excavating soil near the water table. Excavation approaching the groundwater table is not anticipated. Immediately notify the Contracting Officer followed by the 354th Environmental Flight when contaminated soil is discovered.

The objective is facility installation and not obtaining an ADEC clean closure. The Contractor shall not excavate beyond what is necessary for the utility work and MH foundation construction. No payment will be made for over-excavation or work related thereto, unless specifically directed in writing by the Contracting Officer. This section applies to all site excavations for new work.

Known contamination within the project area is described in Appendix A, GEOTECHNICAL SUMMARY of the DB/RFP.

Contaminated soil shall be placed back in the excavation it originated from only if it meets gradation requirements for the soil location. Contaminated soil used as backfill material shall be covered with at least 24 inches of uncontaminated soil. Excess contaminated soil shall be

treated offsite as described in the following paragraphs.

The estimated volume of contaminated soil is 50 cubic yards measured in place. The estimated volume of soil to be field screened is 60 cubic yards excavated. The estimated number of laboratory samples for stockpiled soil is 3. This does not include QA/QC samples. Laboratory testing includes GRO, DRO, RRO, and BTEX for all samples. Additionally, two samples and tests will be required for both TCLP metals and TCLP volatile organic chemicals for stockpiled contaminated soil.

The Contractor shall provide all stockpile cover and liner materials. The Eielson AFB long-term contaminated soil stockpile area will not be available for temporary soil stockpiling.

The Contractor shall provide sampling and analysis of Lift Station D excavation, in the event contamination is discovered, following the Contractor's Sampling and Analysis Plan (SAP). See Paragraph 1.7, Sampling and Analysis Plan (SAP).

The Contractor shall transport the soil to an offsite thermal desorption facility capable of processing the soil contamination. The facility shall meet the requirements of 18 AAC 75.365, and have the required Federal, State, and local permits to operate and process the petroleum contaminated soil.

1.3.1 Worker Protection

The Contractor shall provide personal protective equipment and other tools required for worker protection as appropriate for work conditions and as required by the latest edition of EM 385-1-1

1.3.2 Inspection

Federal, State, or local agencies may require their representative(s) to be present to inspect operations. The Contractor shall comply with all such inspection requirements.

1.3.3 Compliance

Work shall meet or exceed the minimum requirements established by the State of Alaska in applicable statutes and administrative codes. These documents are under constant revision. The Contractor shall be responsible for compliance with the most recent revisions to the regulations throughout the duration of work on the project. The Contractor shall also be responsible for compliance with all applicable Federal and local regulations. Any instances where compliance would exceed the scope of work or specific requirements of the contract, and any conflicts between various regulations or between any regulation and the contract specifications, shall be brought to the immediate attention of the Contracting Officer for resolution.

1.4 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. Submit the following in accordance with Section 01012, DESIGN AFTER AWARD.

SD-01 Preconstruction Submittals

Sampling and Analysis Plan;

Work Plan;

Qualifications;

Correspondence;

Disposal of Contaminated Soil; G.

Certificate of Thermal Remediation; G.

SD-06 Test Reports

Site Assessment Report;

1.5 QUALIFICATIONS

1.5.1 Contractor Consultant

The Contractor shall provide an experienced and qualified consultant. The Consultant may be employed by either the Contractor or the commercial testing laboratory. The Consultant shall meet the requirements specified in 18 AAC 75 and ADEC-05. The consultant's qualifications shall be submitted. Acceptability will be determined on the basis of education, training, experience, and past performance. The Consultant shall be experienced in all phases of the required work and be on-site for all work with contaminated soils. The Consultant shall have experience in and knowledge of EPA methods for collecting environmental and hazardous waste samples; experience in operation of field screening equipment; and meet the definition of "qualified person" in 18 AAC 75.990.

1.5.2 Contractor Laboratory

Except as otherwise specified, all testing shall be performed at no additional cost to the Government by a Contractor-retained, commercial testing laboratory which is currently validated by the U.S. Army Corps of Engineers. Point of contact for Corps of Engineers validation is the Alaska District, Geotechnical Branch, (907) 753-2695 or -2681. Copies of the laboratory's validation letters shall be included in the work plan. The laboratory must also be approved by ADEC under 18 AAC 78.800 - 18 AAC 78.815.

1.5.3 Support Staff

The Contractor shall identify all staff involved for the various components, including personnel collecting and shipping samples. The qualifications of these staff members shall be detailed by the Contractor.

1.6 WORK PLAN

The Work Plan (WP) shall incorporate the elements specified in EPA 540/G-89/004. The WP shall include the Contaminated Soil Stockpile Design and Operation Plan.

Include the Work Plan (WP), composed of the Contaminated Soil Stockpile Design and Operation Plan; and the Sampling and Analysis Plan (SAP), composed of the Field Sampling Plan (FSP) and the Quality Assurance Program Plan (QAPP). See Paragraph 1.7, Sampling and Analysis Plan (SAP).

Submittals will be screened by the Contracting Officer prior to review or transmittal to ADEC for comment. The Contractor shall correct and resubmit items, which are unacceptable for detailed review.

1.7 SAMPLING AND ANALYSIS PLAN (SAP)

The plan shall include an executive summary. The SAP shall reflect the degree of complexity of the project. The SAP shall be composed of a Field Sampling Plan (FSP) and a Quality Assurance Program Plan (QAPP). The SAP shall be in accordance with EPA 540/G-89/004; EPA SW-846, Volume II; ER 1110-1-263; 18 AAC 75; ADEC-01; and ADEC-02. In the event of conflicts, the more stringent requirements shall be followed. The plans shall include methods to be used for field screening, frequency of sampling, required number of samples for project work, quality control, and Government quality assurance purposes; and incorporate the Government Quality Assurance (QA) procedures identified in ER 1110-1-263 as a confirmation of the Quality Control (QC) activity, including a discussion of limits of data acceptability, resolution of inconsistencies of data, and procedures for initiating corrective action.

Seven (7) copies of the SAP shall be submitted for approval at least 30 days prior to start of work at the site. The Contractor shall make corrections indicated by comments and identify any items considered to be in conflict with, or a change to, the contract. Excavation shall not begin prior to approval of the SAP by the Contracting Officer.

The Contractor shall correct and resubmit items, which are unacceptable for detailed review. The 30-day period specified above will not begin until the Contracting Officer receives all corrected items.

1.8 Correspondence

Copies of all correspondence with other Government agencies shall be furnished immediately upon issue or receipt. All Contractor correspondence with ADEC shall be through the Contracting Officer. Cover letters shall be appropriately addressed with "TO:" and "THROUGH:" headings.

The Contractor shall provide the Contracting Officer with copies of all truck weight station tickets and certificates of soil treatment results.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL

3.1.1 Consultant Responsibilities

The Contractor Consultant shall be on site during all excavation, stockpiling, and all other operations involving contaminated soil. The Consultant shall perform all field screening and collect all on-site samples. The Consultant shall review and update the SAP, review test results, and provide recommendations for the Contractor's testing program.

3.1.2 Work Plan Implementation

The Contractor shall continuously maintain, update, and implement the Work Plan. The Work Plan shall be continuously updated to reflect the conditions and work at the site. A copy of the Work Plan shall be kept at the Work Site at all times and be available to all workers.

3.1.3 Protection of Existing Structures and Utilities

The Contractor shall take all necessary precautions to avoid damage to existing structures, their appurtenances, or utilities that may be affected by work activities. Any damage resulting from the Contractor's operations shall be repaired at no expense to the Government. The Contractor shall coordinate with the installation to locate underground utilities prior to beginning construction. Utilities encountered which were not previously shown or otherwise located shall not be disturbed without approval from the Contracting Officer.

3.1.4 Leaks, Spills, and Releases

Whenever the Contractor suspects or has knowledge of a leak, spill, or release of oil, hazardous substances, or regulated substance not previously identified in the contract documents, the Contractor shall immediately notify the Installation Environmental Office at (907)377-SPIL (7745). The Contractor shall also prepare an ADEC Oil and Hazardous Materials Incident Report Form in accordance with ADEC regulations. The Contractor shall hand-deliver or FAX the completed form to the Contracting Officer and the Installation Environmental Office. The Installation Environmental Office will be responsible for providing notification to ADEC. The Contractor shall reevaluate the SHP as appropriate and await direction from the Contracting Officer before proceeding. In accordance with 18 AAC 75.310, the Contractor shall be responsible for cleanup of all leaks, spills, and releases of oil, hazardous substances, or regulated substances caused by the Contractor during this project.

3.2 CONTAMINATED SOIL IDENTIFICATION

Contaminated soils shall be identified by commercial laboratory testing, with confirmation by Contractor quality control and Government quality assurance samples. Visual inspection and field screening shall be used as appropriate in the FSP. The Contractor shall perform a general site inspection as outlined below. Paragraph 3.3.3.1, Number of Samples, summarizes purposes and types of testing required.

3.2.1 General Site Inspection

The inspection shall include:

a. Checking for obvious leaks and spills.

b. Checking for any obvious soil or water contamination caused by a release or leakage.

c. Determining from contract documents, on-site personnel, and any required sampling and testing, the general nature of the contamination, and estimated depth to groundwater.

d. Classifying the soil strata according to ASTM D 2488 from visual observations of the site and any required excavation. (Note: sieve analyses are not required; excavation is not required solely for soil strata classification)

e. Recording local climatological conditions during inspection.

3.2.2 Field Screening Soils

The Contractor shall exercise a high degree of control over field screening, sampling, and testing in conjunction with construction in order to minimize the amount of excavated material requiring temporary stockpiling, prevent dilution of contaminated soils with clean soils, and insure completion of work within the limited construction season. The Contractor shall obtain timely and accurate chemical sampling and test data. All samples taken each day shall be tested with a maximum 14-day turnaround.

3.3 SOIL CLASSIFICATION, TESTING, AND ANALYSIS

3.3.1 Classification of Soil Contamination

a. Clean. No visible stains, no smell of fuels or volatiles, no field screening test results above background.

b. Suspected Contaminated. Suspect visible stains, odor of fuel or volatiles, field screening test results above background.

c. Contaminated. Obviously and highly stained soil, heavy odor of fuel or volatiles, field screening test results above background.

3.3.2 Field Screening Tests

The Contractor's Qualified Person shall use an hydrocarbon vapor (HV) test or other appropriate field test to qualitatively check for the presence or absence of soil contamination in all project excavation areas. The Contractor shall incorporate field screening into the SAP to insure adequate and economical selection of samples for laboratory testing. Field screening shall be utilized according to ADEC requirements and prudent,

professional judgment. The type of field screening instruments to be used on site shall depend upon the type of contamination indicated. The Contractor shall include in the SAP a description of the type of instruments selected, limits, action levels, procedures for testing, to include, number of test to be taken and coordination/verification with the commercial testing laboratory tests, and the Qualified Person's training to use the instruments and interpret the data. The Contractor shall prepare a table of field screening results to be updated as work proceeds. A final copy, including explanatory narrative and sample location, shall be part of the field report.

3.3.3 Sampling and Testing

Analysis for petroleum contamination must follow the Alaska methods for petroleum hydrocarbons referred to in Table 1 of ADEC-05, adopted by reference. Sampling and testing shall be in accordance with the methods identified below (Type Test/Method or Procedure):

a. Gasoline Range Organics (GRO)/State of Alaska Method AK 101.

b. Diesel Range Organics (DRO)/State of Alaska Method AK 102.

c. Residual Range Organics (RRO)/State of Alaska Method AK 103.

d. Benzene, Toluene, Ethyl benzene, Xylenes (BTEX)/EPA SW-846, Test Method 8021B. BTEX samples shall be preserved in accordance with AK 101 method SMK.

e. TCLP Metals and TCLP Volatile Organic Chemicals Test Method SW846-1311 shall be taken from the contaminated stock pile.

3.3.3.1 Number of Samples

The minimum number of soil samples collected from excavations shall be as identified in 18 AAC 78 (including guidance manuals). The Contractor is responsible for preparing the proposed sampling scheme and determining the analyses to be performed on the samples, and shall include this information in the Sampling and Analysis Plan (SAP).

a. Stockpiles. Samples shall be taken each day that excavation or stockpiling operations occur. The following numbers of samples, as a minimum, shall be collected and tested in accordance with the approved SAP.

b. Temporary Stockpiles and all Excavated Materials: Sample as required to segregate excavated materials into classification specified, i.e., clean, suspected contaminated, and contaminated.

c. QC and Government QA samples shall be taken as specified in paragraphs: Quality Control (QC) Samples, and Government Quality Assurance (QA) Samples.

3.3.3.2 Number of Tests

The tests specified shall be performed on each sample taken, except two TCLP tests (2 each TCLP metals and TCLP volatile organic chemicals) shall be done from the entire contaminated soil excavation. The number of tests shall be sufficient to perform the work specified as described in the SAP.

3.3.4 Quality Control (QC) Samples

In addition to the samples and tests as specified above, ten percent (10%) (minimum of one) of the samples collected for each test method shall be collected as split/duplicate samples for analysis in the Contractor's commercial testing laboratory. Samples for volatile analyses shall be collected as triplicates, others shall be splits of homogenized samples. The SAP shall include information regarding the quantities and types of these samples to be collected. QC and QA samples shall be taken simultaneously as triplicate splits. Other Contractor QC Samples (trip blanks, decontamination blanks, etc.) and other samples shall be taken as required by the ADEC GUIDANCE MANUAL (ADEC-01, ADEC-02, ADEC-03, ADEC-04, ADEC-05) the SAP and the Internal Quality Control Reporting requirements below.

3.3.5 Government Quality Assurance (QA) Samples (apply to soil samples only)

Quality Assurance Samples: In addition to the blind field duplicate QC samples, ten percent (10%) (minimum of one) of the samples collected for each test method shall be collected as split/duplicate samples for shipment to the Government QA laboratory as an external check on the laboratory analysis. QC and QA samples shall be taken simultaneously as triplicate splits. Samples for volatile analyses shall be collected as triplicates, others shall be splits of homogenized samples. This QA testing is in addition to, and separate from, the Contractor's commercial testing laboratory internal QA testing. The SAP shall include information regarding the quantities and types of these samples to be collected. This confirmational quality assurance analysis will be performed at a laboratory to be designated by the Contracting Officer.

3.3.5.1 Submittals To The Government QA Laboratory

The Contractor shall submit to the Contracting Officer a list of required analyses, estimate of the number of tests, approximate sampling dates, and requested completion date for QA testing at least 20 days prior to shipping initial samples so that the work can be scheduled. The Contracting Officer shall be notified immediately of any changes. The Contractor shall provide all labor and field supplies, including sample containers and shipping coolers, for collecting and shipping samples for Government QA testing. Government QA laboratory charges will be paid by the Government. The Contractor shall, in the presence of the Contracting Officer, properly collect, label, and package the duplicate QA samples, fill out all chain-of-custody forms, and ship the samples by one-day delivery service to the designated laboratory for analysis. The Contractor shall notify the Contracting Officer when all sampling is completed and shall clearly mark the chain-of-custody form accompanying the final shipment "FINAL" in 3 inch high lettering. A Summary Report shall be provided to the Contracting Officer within 7 days after the Contractor receives the project sample

laboratory data. The report shall include a site plan and section showing the sample locations. The Summary Report shall also include the following:

(1) Sample Key/Sample ID's: The Contractor shall prepare a tabular presentation which shall: match contract laboratory sample aids to QA laboratory sample aids; identify all Field Duplicates; identify all Field Blanks (including rinsates and trip blanks); match all rinsates with their corresponding field samples; and match each trip blank with the samples that accompanied it during shipment. The table shall include all relevant sample numbers, the date each was collected, the matrix of each, the analytical method(s) requested for each, and any other applicable information.

(2) Sample Receipt: The Contractor's laboratory shall complete and report a "Cooler Receipt Form" for all shipments for purposes of noting problems in sample packaging, chain-of-custody, and sample preservation. The form shall also document the cooler's interior temperature upon opening by the laboratory.

(3) Copies of all chain-of-custody forms.

(4) General Organic and Inorganic Reporting: For each analytical method run, the Contractor shall report all analytes for each sample as a detected concentration or as less than the specific limits of quantization. Generally, all samples with out-of-control spike recoveries being attributed on matrix interferences shall be designated as such. All soil/sediment and solid waste samples shall be reported on a dry-weight basis with percent moisture and percent solids reported. The Contractor shall also report dilution factors for each sample as well as the date of extraction (if applicable) and date of analysis. All appropriate data quality flags shall be reported. Report time and date each sample was received at the laboratory, time and date each sample was extracted (if applicable), time and date each sample was analyzed, and holding times, sample storage and preservation.

(5) Internal Quality Control Reporting: (At a minimum, internal quality control samples shall be analyzed at rates specified in the specific methods.

(a) Laboratory Blanks (Method Blanks and Instrument Blanks): All analytes shall be reported for each laboratory blank. All non-blank sample results shall be designated as corresponding to a particular laboratory blank in terms of analytical batch processing.

(b) Surrogate Spike Samples: Surrogate Spike Recoveries shall be reported with all organic method reports where appropriate (i.e., when the method requires surrogate spikes). The report shall also specify the control limits for surrogate spike results as well as the spiking concentration. Any out-of-control recoveries (as defined in the specified method) shall result in the sample being rerun (both sets of data shall be reported) or data being flagged.

(c) Matrix Spike Samples: Matrix Spike Recoveries shall be

reported for all organic and inorganic analyses. All general sample results shall be designated as corresponding to a particular matrix spike sample. The report shall indicate what field sample was spiked. The report shall also specify the control limits for matrix spike results for each method for each matrix.

(d) Laboratory Duplicates and/or Matrix Spike Duplicate Pairs: Relative Percent Difference shall be reported for all duplicate pairs as well as analyte/matrix specific control limits.

(e) Controls: When run for internal quality control, Laboratory Control Standards results shall be reported with the corresponding field sample data. Control limits for LCSs shall also be specified.

(6) Field Duplicates and Field Blanks: These samples shall be identified as such by the Contractor and reported as any other field sample. Field duplicates shall be reported alongside of the corresponding project sample result. Percent Relative Standard Deviation shall be reported for all field duplicate pairs. Field blanks shall be analyzed for the same parameters as the samples.

(7) Proof of Checking: Proof that the data have been checked by the laboratory manager or QA officer.

(8) Chromatograms: Chromatograms for all fuel identification and/or quantization methods, including GRO, DRO, etc.

3.3.5.2 Data Validation

The Government laboratory will perform data validation. The product of this review is the Chemical Quality Assurance Report. Review will include all Quality Control parameters such as holding times, detection limits, method blanks, surrogate recoveries, matrix spikes and duplicates, and inter-laboratory and intra-laboratory data comparisons.

3.3.5.3 Acceptance and Final Disposition

The Contractor shall allow 60 calendar days for laboratory analysis of QA samples and data review. The elapsed time shall begin when the Contractor's last sample arrives at the designated laboratory, provided that the Contractor's completed Summary Report is received within 30 calendar days thereafter. Otherwise, the Contractor shall allow 30 calendar days from the date the completed summary report is received at the laboratory. The Contractor may, at his option, continue activities based on initial sampling and QC results, prior to receipt of Government QA test results. Where Government QA results are unacceptable due to Contractor negligence (improper sample collection and/or handling by the Contractor), or where Government QA results conflict with the Contractor's QC results, further sampling and testing shall be performed as directed by the Contracting Officer. All costs for such additional sampling and testing due to Contractor negligence, including both QC and Government QA testing and analysis, and for any required remedial actions in the work, shall be

borne by the Contractor. No payment will be made for laboratory sampling and testing prior to receipt and acceptance by the Government of the QA samples and the completed Contractor Summary Report, properly formulated in accordance with these specifications.

3.3.5.4 Additional Sampling

If unsuitable (contaminated) soil conditions, in the opinion of the Contracting Officer, are encountered at the excavation lines specified, or elsewhere within the site boundaries, he/she may direct that sampling and testing beyond that outlined in the SAP be performed. If contamination is suspected or obvious, the Contractor shall recommend any further sampling and testing to ensure representative sampling of the contamination. The Contractor's recommendations shall be based on professional, prudent judgment. The Contractor shall perform such additional sampling and testing only when so directed in writing. Sampling and testing shall include quality control and Government quality assurance sampling, as required. An equitable modification of the contract will be made for any directed additional sampling and testing.

3.4 EXCAVATION AND DISPOSAL REQUIREMENTS

3.4.1 Excavation

The Contractor shall conduct field screen testing prior to excavation to determine the approximate boundaries of any soil contamination and throughout the duration of excavation activities to identify any contaminated soils. Excavation shall be performed in a manner that will prevent contaminated soil from becoming mixed with previously uncontaminated soil. All excavated material shall be field screened per Paragraph Field Screening Tests. Other sampling and testing shall be as specified. Contaminated and uncontaminated soil shall be segregated in separate temporary stockpiles. Open excavations and stockpile areas shall be secured while awaiting verification test results. Surface water shall be diverted to prevent direct entry into the excavation. The excavation shall not be backfilled without approval from the Contracting Officer.

The Contractor shall attempt to achieve clean closure at each excavation site but shall not excavated beyond that required to complete the utilidor and building earthwork without written direction from the Contracting Officer. Any evidence that contamination extends beyond excavation required for the project's earthwork shall be reported on the same day it is discovered, to the Installation's Environmental Coordinator, and the Contracting Officer.

3.4.2 Temporary On-Site Stockpiles

Uncontaminated excavated soil shall be temporarily stockpiled and used for backfill within the requirements of these specifications. Contaminated soil shall be stockpiled for sampling. Uncontaminated soil shall be stockpiled separately from the contaminated soil, a safe distance away from, but adjacent to, the excavation. Contaminated soil shall be placed on an impermeable geomembrane meeting the minimum requirements in 18 AAC 75.370 for short term storage, and covered with a sheet of geomembrane

meeting the minimum requirements in 18 AAC 75.370. Top covers for stockpiles shall be held in place with concrete pavers or sandbags.

3.4.3 Disposal of Contaminated Soil

The Contractor shall provide treatment of the contaminated soil at an offsite thermal desorption facility capable of processing the soil contaminant. The facility shall meet the requirements of 18 AAC 75.365, Offsite or Portable Treatment Facilities and shall have the required Federal, State, and local permits to operate and process the petroleum contaminated soil. The Contractor shall provide for an off-site final disposal site for the treated soil. The Contractor shall provide the location of the disposal site to the Contracting Officer. The disposal site and method shall be in compliance with all Federal, State, and local regulations regarding fill and backfilling existing land features and, limitations on the use of the treated soil. Contractor shall provide Certificates of Thermal Remediation to the Contracting Officer.

3.4.4 Disposal of Contaminated Water

The occurrence of contaminated sites is discussed in Appendix A, GEOTECHNICAL SUMMARY. The Contractor shall obtain a Notice of Disposal as defined under ADEC Wastewater General Permit No. 0240-DB001 for disposal of contaminated water. The Contractor shall provide all sampling, analysis, treatment, and reporting as required by this permit. A copy of the permit is in Appendix E, STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION WASTEWATER GENERAL PERMITS.

3.4.5 Transportation of Wastes

Transportation shall be provided in accordance with Department of Transportation (DOT) Hazardous Material Regulations and State and local requirements, including obtaining all necessary permits, licenses, and approvals.

3.4.5.1 Hauling of Contaminated Soils

All truckloads of contaminated materials shall be covered during transport. If wet materials are transported, trucks shall be lined to preclude spillage of contaminated materials. The Contractor shall take precautions to prevent particulate matter from becoming airborne. Any spills during transport shall be promptly picked up and the affected area cleaned. All spills shall be reported to the ADEC through the Installation Environmental Office (see paragraph, SPILLS). The Contractor shall take all necessary precautions to prevent any cross contamination between contaminated and non-contaminated soils.

3.4.6 Investigative Derived Waste (IDW)

a. The Contractor shall provide drums for any IDW generated as part of this work. The drums shall be labeled with a Contractor point of contact and phone number, project name and number, and description of contents. The drums shall be stored at the Eielson

Hazardous Waste Facility. The Contractor is responsible for sampling drum contents. The Government will treat the waste if it is POL contaminated. The Contractor shall dispose of waste contaminated with hazardous compounds which are not POL.

b. The Government will provide a facility for the decontamination of heavy equipment, if necessary.

3.5 BACKFILLING

Excavations shall be backfilled as required to complete the utility work on schedule. The Contractor shall not wait for the soil sampling results prior to beginning backfill. The excavation shall be dewatered if necessary at no expense to the Government.

3.6 CONTAMINATED SOIL STOCKPILES

Long-Term soil stockpiles shall not be constructed for this work. The contaminated soil shall be transported to the off-site contaminated soil treatment facility within the 180-day time frame allowed by the ADEC for temporary, Short-Term soil stockpiles. A site on Base shall be coordinated with the Contracting Officer for Short-Term soil stockpiling. The Contractor shall include a plan for Short-Term soil stockpiling. This plan shall include diagram of the footprint, section, scheduling, placement, and maintenance of the stockpile area. The bottom membrane, cover, cover anchors, and all other materials and labor for the Short-Term stockpiles shall be provided by the Contractor. The materials and stockpile operation shall meet the requirements of 18 AAC 75.370.

3.7 SITE ASSESSMENT REPORT (SA)

The Contractor shall prepare and submit a draft and final SA report for each excavation or site. All copies, except one final SA report, shall be bound, including all photographs/slides. The Contractor shall make an assessment of the site based on the fieldwork and analysis required by this contract. As-built drawings shall accompany the SA Report and be listed in the Report's Table of Contents. As a minimum, each SA report shall include the following:

a. The Owner's Name and Address.

b. The Operator's Name and Address (if different from the owner).

c. Location of the Excavation.

d. Any historical information regarding a previous release, repair, spill or cleanup, which becomes known during the project.

e. Data report required by ADEC GUIDANCE MANUAL.

f. Name and business address of each person who supervised the SA.

g. A narrative description of activities conducted at the site and dates the activities occurred.

h. A scaled Site Sketch that shows the following:

(1) The location and configuration of any tanks, piping, containers, and contamination found (if applicable);

(2) The locations of any samples taken, including depth;

(3) the proximity to buildings;

(4) any release sites (if applicable);

(5) any free product sites (if applicable);

(6) any debris sites;

(7) a bar scale and north arrow; and

(8) any other pertinent information.

i. A Photographic History. A photographic history and description of the contract work to include pre- and post-construction photographs. Each print shall show the following information in typewritten format:

(1) Location;
(2) Contract No.;
(3) Contractor/Photographer;
(4) Date/Time;
(5) Photograph No.;
(6) Description; and
(7) Direction of View.

j. Local Climatological Conditions During the Site Work

k. Documentation of Materials Handling to include:

(1) information on all "regulated" and "hazardous" materials;

(2) quantities removed;

(3) procedures utilized;

(4) disposition;

(5) copies of "Complete Manifest Packages"; and

(6) copies of all "Transportation and Disposal Tracking Forms".

l. Data Presentation. All test results shall be submitted. Results shall be presented as the reports were received from the laboratories and cross-referenced to summary sheets showing the date, time, location of the sample collected, and the name of person who collected the samples. The summary sheets shall

include all project sample results, QC sample results, and QA sample results in a side-by-side format. (This is in addition to the Summary Report and test results. See paragraph Submittals to the Government QA Laboratory.) A summary of the sampling results and findings shall be included.

m. The Government Quality Assurance Report. The Government QA report shall be attached as an appendix; the SA Report will not be accepted without the QA Report. Payment will be withheld until the SA Report, including QA Report, is submitted. The Contractor shall attach a cover letter report to the QA report addressing comments on incomplete data, incorrect procedures, incorrect QA and QC procedures, poor holding times, etc.

n. Field Notes. The Contractor shall maintain field notes in a bound book. Field notes shall be written in ink. Erasures will not be allowed. The Contractor shall document all field activities and any visibly contaminated soil. The Contractor shall include a copy of the field notes as part of the draft Field Report. The original field notes shall be submitted as part of the final Field Report.

o. ADEC Forms.

3.7.1 SA Report Schedule

The Contractor shall submit the draft SA report within 21 calendar days of completion of excavation. The Contracting Officer will provide comments on the draft report to the Contractor within 30 calendar days after the draft report has been submitted. The Contractor shall incorporate all Government comments in the final report. The Contractor shall submit the final report within 14 calendar days or receipt of comments.

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 02 - SITE WORK

SECTION 02300

EARTHWORK

-- End of Section Table of Contents --

SECTION 02300

EARTHWORK

PART 1 GENERAL

1.1 REFERENCES

The current edition of 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 117	Standard Test Method for Materials Finer than 75mm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D 75	(1992) Sampling Aggregates
ASTM D 422	Standard Test Method for Particle-Size Analysis of Soils
ASTM D 1557	Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3(2,700 kN-m/m3))
ASTM D 2487	Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System)

1.1.1 Existing Soil, Groundwater, and Contaminated Site Information

Numerous existing geotechnical and contaminated site reports for the Base are available. Details of known contaminated sites in the vicinity of project work are presented in Appendix A, GEOTECHNICAL SUMMARY. In addition, the results of existing and extensive Base-wide soil and groundwater investigations are presented.

1.2 SUMMARY

1.2.1 Section Includes

This section includes requirements for the provision of site earthwork. This section includes all excavation and backfill for work under this contract.

1.2.2 Components Included

(1) Classified material.
(2) Unclassified material.
(3) Structural fill.

1.2.3 Components Excluded

Items forming a part of another system:

(1) Demolition including asbestos abatement.
(2) Utilidor structural system.
(3) Water distribution system.
(4) Steam distribution system.
(5) Power distribution, lighting, and communication systems.
(6) Roadway and sidewalk repair and replacement.

1.2.4 Related Sections

Section 01012, DESIGN AFTER AWARD.
Section 01355, ENVIRONMENTAL PROTECTION
Section 02280, CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING.
Section 02509, UTILIDOR STRUCTURE
Section 02531, SANITARY SEWERS
Section 02741, ROADWAY
Section 02770, CONCRETE SIDEWALKS AND CURBS AND GUTTERS
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.3 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.

SD-01 Preconstruction Submittals

Design Drawings; G.

Submit design drawings in accordance with Section 01012, DESIGN AFTER AWARD.

Specifications; G.

Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed earthwork in accordance with Section 01012, DESIGN AFTER AWARD. The appropriate Division 02 SITEWORK specification(s) shall be properly edited for this project and submitted.

Design Analysis; G.

Submit a design analysis in accordance with Section 01012, DESIGN AFTER AWARD. The basis of design shall establish conformance to applicable referenced codes and the suitability of the fill and backfill requirements for this project.

Strucutural Fill Sieve Analysis;

PART 2 PRODUCTS

2.1 PERFORMANCE

All earthwork recommendations shall be based upon the recommendations of a Contractor engaged registered Professional Engineer who is experienced in the geotechnical issues related to this project. Recommendations and design shall be fully illustrated and specified in Design Drawings, Design Analysis, and Specifications submitted by the designer of record in accordance with Specification section 01012 DESIGN AFTER AWARD.

Materials shall be classified in accordance with ASTM D 2487, Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System). Compaction efforts shall be specified by ASTM standards.

2.1.1 Classified Fill and Backfill

Classified fill and backfill shall be approved, well-graded non-frost susceptible (NFS) materials consisting of sand, gravel, hard, durable fragments of stone or gravel, and containing not more than 60 percent by weight passing the No. 4 sieve. All material shall be free of frozen lumps. Material shall not exceed a size equaling 2/3 of the specified maximum lift thickness.

NFS is inorganic soil containing less than three percent by weight of grains finer than 0.02 mm. The methods of test shall be ASTM C 117, ASTM C 136, and ASTM D 422. Sample collection for testing shall follow ASTM D 75.

2.1.2 Unclassified Fill and Backfill

Unclassified fill and backfill shall be approved materials consisting of sand, gravel, or other materials, and shall be free of organic materials, frozen lumps, trash, lumber, or other debris. The material may be frost susceptible. Acceptable materials as classified under ASTM D 2487 are GW, GP, SW, GM, SM, SP, SC, and ML.

Stripped vegetation such as grass sod shall not be used as backfill. If it is not salvaged for reinstallation, sod shall be wasted.

2.1.3 Structural Fill and Backfill

Structural fill and backfill shall consist of unfrozen, NFS gravel that meets the following gradation limits:

U.S. Standard Sieve Size	Percentage Passing
4-inch	100
2-inch	85-100
1/4-inch	Less than 70
No. 200	Less than 5
	(based on the 3/4-inch minus fraction)

Provide a Strucutural Fill Sieve Analysis eport for material being imported for structural fill prior to construction

2.1.4 Granular Fill and Backfill

Granular fill and backfill shall be uniform or gap graded, free draining, 2-inch to No. 4 sieve in diameter.

PART 3 EXECUTION

3.1 EARTHWORK

Soil compaction shall be achieved with equipment appropriate for the soil location and type. Materials being compacted shall be moistened or aerated as necessary to provide the moisture content that will readily facilitate obtaining the required compaction. Each layer of material shall be compacted, to not less than the percentage of maximum density required. Excavated clean material in excess of that required for backfill may be disposed of on base upon approval of an Environmental Protection/borrow Pit Plan.

3.2 WASTE DISPOSAL AND BORROW SOURCE

A preliminary Eielson AFB Waste Disposal and Borrow Pit Plan for this project can be found in Appendix D. To request authorization to use Base waste disposal and borrow pit areas the Contractor shall submit Page 1 and 2 of the Eielson AFB Waste Disposal/Borrow Pit Coordination Review which is found in Appendix A of the Preliminary Plan to 354 CES/CEVN (377-5182) no later than the 65% design stage for this project. The 354 CES/CEVN will prepare a final Eielson AFB Waste Disposal and Borrow Pit Plan for this project. The Final Plan may differ from it and will supercede the Preliminary Plan. The Contractor shall comply with the Final Plan. Using the Final Plan, the Contractor must then prepare an Environmental Protection/Borrow Pit Plan following the example outline in Appendix C of the RFP. It shall be submitted through the Contracting Officer to 354 CES/CEVN for approval. The 354 CES/CEVN and CEVQ must approve the Contractor prepared Environmental Protection/Borrow Pit Plan prior to the commencement of any work.

The Contractor's Environmental Protection/Borrow Pit Plan shall also include the Contractor's procedure for handling petroleum or other hazardous material leaking from equipment.

3.3 DEWATERING

The Contractor is responsible for obtaining site specific dewatering

permits. Dewatering, as required during construction, shall be in accordance with General Permit 9940-DB002 and 0240-DB001. See Appendix E of the RFP documents for a copy of these permits. The first Permit, 9940-DB002, is for water without hydrocarbon contamination while the second Permit, 0240-DB001, is for hydrocarbon-contaminated water. See also Section 02280, CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING, Paragraph 3.4.4, Disposal of Contaminated Water.

Copies of all site specific dewatering permits shall be sent through the Contracting Officer to the 354th Environmental Flight.

3.4 CONTAMINATED SOILS

Contaminated soils encountered during construction shall be reported immediately to the Contracting Officer and concurrently to 354th CES Environmental Flight, 377-1645. Field screening, testing, and disposal shall be in accordance with Section 02280, CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING.

3.5 COMPACTION TESTING

A Government approved testing laboratory shall accomplish all testing.

3.5.1 Type and Frequency

Particle size analysis for soils shall be in accordance with ASTM D 422. Moisture density relations shall be in accordance with ASTM D 1557. At a minimum one particle size analysis and one moisture density test shall be performed on each different type of material placed as bedding or backfill.

3.5.1.1 Compaction Test

The following density tests are required beneath structures with on-grade concrete floor slabs. The number of tests shall apply to each layer of material placed.

(1) Bedding Layers under Utilities (Direct Bury): One test per 100 feet of trench or a minimum of two tests, whichever is greater.

(2) Bedding Layers under Utilidors: One test per 75 feet of Utilidor trench or a minimum of two tests, whichever is greater.

(3) Compacted Area under Manholes: A minimum of two tests per manhole or every 25 square feet, whichever is greater.

(4) Trench Backfill in Graded Areas: Minimum of two tests per layer or one test per layer for each 100 feet of trench, whichever provides the greatest number of tests.

(5) Trench Backfill in Traffic Areas: Minimum of two tests per layer or one test per layer for each 50 feet of trench, whichever provides the greatest number of tests.

3.5.1.2 Gradation and Non-frost Susceptibility Tests

Tests shall be conducted on structural soil materials for manholes, utilidors, roadways, driveways, and parking areas. In-place structural soil materials shall be sampled and tested for gradation and non-frost susceptibility (NFS) requirements at least once for every 50 compacted-cubic yards or portion thereof. For NFS determination soil shall be analyzed in accordance with Paragraph 2.1.1, Classified Fill and Backfill.

-- End of Section --

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DIVISION 02 - SITE WORK

SECTION 02509

UTILIDOR STRUCTURE

-- End of Section Table of Contents --

SECTION 02509

UTILIDOR STRUCTURE

PART 1 GENERAL

1.1 REFERENCES

The current editon of 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 CONCRETE INSTITUTE (ACI)

ACI 301	Structural Concrete
ACI 302.1R	Concrete Floor and Slab Construction
ACI 304R	Measuring, Mixing, Transporting, and Placing Concrete
ACI 305R	(2000) Hot Weather Concreting
ACI 306R	(1997) Cold Weather concreting
ACI 315	Details and Detailing of Concrete Reinforcement
ACI 318	Building Code Requirements for Structural Concrete
ACI 347R	Guide to Formwork for Concrete

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 123	(2000) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 780	Standard Practice for the Repair of Damaged and Uncoated Areas of Hot-Dipped Galvanized Coatings
ASTM C 31	Making and Curing Concrete Test Specimens in the Field
ASTM C 39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C 42	Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
ASTM C 90	(1998) Loadbearing Concrete Masonry Units
ASTM C 94	Standard Specification for Ready-Mixed Concrete

ASTM C 143	Standard Test Method for Slump of Hydraulic Cement Concrete
ASTM C 172	Sampling Freshly Mixed Concrete
ASTM C 173	Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C 231	Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C 578	Rigid, Cellular Polystyrene Thermal Insulation
ASTM D 4258	(1999) Standard Practice for Surface Cleaning Concrete for Coating.

FEDERAL SPECIFICATION (FS)

FS TT-E-2784	Enamel (Acrylic-Emulsion, Exterior Gloss and Semigloss)

PRECAST PRESTRESSED CONCRETE INSTITUTE (PCI)

PCI MNL-116	Quality Control for Plants and Production of Precast and Prestressed Concrete Products (Third Edition)

THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC PA 1	Shop, Field, and Maintenance Painting
SSPC Paint 25	Red Iron Oxide, Zinc Oxide, Raw Linseed Oil and Alkyd Primer (Without Lead and Chromate Pigments)
SSPC SP 1	Solvent Cleaning
SSPC SP 2	Hand Tool Cleaning
SSPC SP 3	Power Tool Cleaning
SSPC SP 7	Brush-Off Blast Cleaning

1.2 SUMMARY

1.2.1 Section Includes

This section includes requirements for the provision of utilidor structures to insure adequate design and protection of integral utility systems. Actual utilidor and manhole modifications shall be in accordance with the RFP plans.

1.2.2 Components Included

(1) Utilidor floor, walls, and lids.
(2) Manholes.
(3) Ladders and hatches.
(4) Reinforcement, utility pipe anchors and support, ties,

joints, fasteners, miscellaneous rough hardware items and accessories that form a part of the utilidor structural system.
(5) Components necessary to accommodate other utilidor systems.
(6) Sumps.

1.2.3 Components Excluded

Items forming a part of another system:

(1) Site earthwork including excavation, filling, backfilling, and compaction.
(2) Demolition including asbestos abatement.
(3) Water distribution.
(4) Sanitary sewer collection system.
(5) Steam distribution system.
(6) Power distribution, lighting, and communication systems.
(7) Roadway and sidewalk repair and replacement.

1.2.4 Related Sections

Section 01012, DESIGN AFTER AWARD.
Section 01355, ENVIRONMENTAL PROTECTION
Section 02280, CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING.
Section 02300, EARTHWORK.

Section 02510, WATER DISTRIBUTION SYSTEM
Section 02531, SANITARY SEWERS
Section 02559, STEAM DISTRIBUTION SYSTEM
Section 02741, ROADWAY
Section 02770, CONCRETE
Section 13280, HAZARDOUS MATERIALS ABATEMENT
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.3 Design and Construction

The design and construction shall comply with the latest editions of the following guides, standards, and codes. In the case of discrepancies between the following guides, standards, and codes, and the RFP Design Requirements, the more stringent shall apply.

(1) International Building Code (IBC) 2000
(2) Code of Federal Regulations (CFR) 29 Part 1910
(3) Occupational Safety and Health Administration (OSHA)
(4) TM 5-852-6 Arctic and Subarctic Construction: Calculation Methods for Determination of Depths of Freeze and Thaw in Soils
(5) TM 5-852-5 Arctic and Subarctic Construction Utilities
(6) Code of Federal Regulations (CFR)
(7) Occupational Safety and Health Administration (OSHA)
(8) January 2002 Eielson Utilidor Design Guide

1.4 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.Submit the following in

accordance with Section 01012, DESIGN AFTER AWARD, Part 2 and 3.

SD-01 Preconstruction Submittals

Design Drawings; G.

Submit design drawings in accordance with Section 01012, DESIGN AFTER AWARD.

Specifications; G.

Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed utilidor structural system in accordance with Section 01012, DESIGN AFTER AWARD. U.S. Army Corps of Engineers Alaska District Guide Specification Section 2560, UTILIDOR SYSTEM and the appropriate Division 03 CONCRETE specification section(s) shall be properly edited by the Contractor for this project and submitted.

Design Analysis; G.

Submit a design analysis. The basis of design shall establish conformance to applicable referenced codes, and the suitability of the utilidor design.

The Geotechnical Summary report in Appendix A includes seismic loading criteria for structural design.

SD-03 Product Data

Manhole Ladders;
Corrosion Protection;
Insulation;
Waterproofing and Dampproofing;
Chemical Grouting;
Access Hatch;
Exterior Paint for Above Grade Structure;
Concrete Masonry Units (CMU) for Facade and Planter Replacement;
Pipe Support System;

1.5 QUALITY CONTROL

1.5.1 Precast Concrete

Precast concrete members shall be the products of a manufacturer specializing in the production of precast concrete units. Factory fabrication, sampling and testing of precast units shall conform to PCI MNL-116. At the precast manufacturer's option, in lieu of core samples, ACI 318, full-scale load tests may be performed on randomly selected units, as directed by the Contracting Officer.

1.6 DELIVERY, STORAGE AND HANDLING

1.6.1 Delivery of Products

Deliver materials to the site in an undamaged condition. Deliver proprietary items in manufacturers' original unopened and undamaged containers or packages with manufacturer's name and brand and other

pertinent data such as specification number, type and class, date of manufacture, and shelf life clearly labeled. Schedule delivery of materials to coincide with scheduled installation.

1.6.2 Storage and Handling

Carefully store materials off the ground to provide proper ventilation, drainage, and protection against weather and dampness. Protect materials from marring, staining, rust, damage, and overload and from contaminants such as grease, oil, and dirt. Store materials at temperatures recommended by the manufacturer. Ensure that materials can be accurately identified after removal from containers or after removal of identification tags. Handle materials to avoid damage such as chipping and breaking. Replace damaged material.

PART 2 PRODUCTS

2.1 SYSTEM PERFORMANCE

The utilidor shall be modified as required to accommodate different piping arrangements and upgrades as detailed in the RFP plans. All utilidors have and shall continue to have removable concrete lids. The completed utilidor system shall meet or exceed all recognized standards of the construction for subsurface structures.

2.2 COMPONENT PERFORMANCE

Design of all system components shall be based upon the recommendations of a Contractor engaged registered Professional Engineer who is experienced in Utilidor and subsurface structures design.

2.2.1 Precast Utilidor Lids

Precast utilidor lids shall be designed and constructed in accordance with the requirements as specified herein. Utilidor tops shall be designed to accommodate the imparted live and dead loads placed on the structure and shall not be more than 3'-0" wide (measured perpendicular to the utilidor span). Each panel shall contain non-deformed lifting loops (3-inches high and 4-inches long) or eyes of stainless steel. Pipe support hangers and equipment anchors shall not be supported from the utilidor lids.

2.2.2 Utilidor Lid Seal

Provide sealing compound, preformed hydrophilic butyl rubber waterstop, between utilidor walls and lid. Typical waterstop product is Earth Shield Type 20 as manufactured by JP Specialties, www.earthshield.com. At the joint between utilidor lids and outer edge of wall/lid joint, seal the joint with expanding polyurethane field foam insulation. Apply an elastomeric surface seal only on the insulation surface facing the soil.

Compliance with the requirements for the replacement of utilidor tops will be determined by a review of the drawings, specifications, and design analysis submitted at design completion in accordance with Section 01012, DESIGN AFTER AWARD.

2.2.3 Poured in Place Concrete

Concrete shall be in accordance with ACI 318, with a minimum 28-day compressive strength (f'c) equal to 4000 psi. The reinforcing of concrete

walls shall be continuous, and therefore, typical details showing the arrangement of reinforcing at corners and intersections of these members shall be shown on the design drawings submitted in accordance with Section 01012, DESIGN AFTER AWARD. Reinforcing steel drawings shall be submitted in accordance with ACI 315 Manual of Standard Practice.

2.2.4 Manholes

Manholes shall be modified as detailed in the RFP plans. Manhole modifications shall be of the reinforced concrete type and they shall be watertight. Manhole sidewalls shall be constructed by one monolithic pour.

2.2.5 Manhole Ladders

Ladders shall be designed and constructed in accordance with IBC 2000, CFR 29 Part 1910 and shall be OSHA approved. Rungs shall have slip resistant, ribbed surface

2.2.6 Pipe Support SystemAnchor and Thrust Support

The Contractor shall submit design calculations as part of the Design Analysis, Design Drawings, and Specifications in accordance with Section 01012, DESIGN AFTER AWARD showing the adequacy of the pipe support system. The pipe support system shall be constructed from tubular steel. Supports shall be slotted to prevent the accumulation of liquid. The maximum spacing between pipe supports for straight runs shall be as recommended by the pipe and/or coupling manufacturer. No hangers or supports shall be suspended from top of manhole or utilidor lids.

Pipe support racks in accessible utilidor shall be designed to maximize clear passage. Where two support systems occur, stagger vertical supports to maximize passage width.

Thrust blocks, anchors, hangers, inserts, and other supports shall be adequate to support the fully charged pipe in service.

Support for expansion joints must locate the blowdown on the bottom of the pipe and allow unimpeded blowdown operation.

Design for all pipe support systems, including sanitary sewer, shall include anchors for seismic loading.

For steam and condensate wall anchors, the bolts shall extend all the way through the wall. Anchors shall consist of welded steel plates, channels, and wide flange sections as required. Channel sections that extend between concrete walls with steel base plates bolted to the wall are acceptable. Likewise channel sections extending between floor and ceiling in a manhole chamber, bolted in place with steel base plates, are acceptable.

Floor anchors must be approved by the 354 CES/CEOWD, Utilidor Maintenance Shop.

2.2.7 Corrosion Protection

All steel shall be corrosion protected. After fabrication, all steel shall be hot-dipped galvanized, per ASTM A 123. Repair damaged hot-dipped galvanizing per ASTM A 780 with cold galvanizing compounds as manufactured by ZRC Products or approved equal. All joints, bolted or welded, shall be cold galvanized. The cold galvanizing compound shall be applied following

the manufacturer's instructions to a minimum dry film thickness of 3 mils.

All steel within 18 inches of the utilidor floor shall be coated with 6 to 8 mils dry thickness of hydrocarbon resin modified epoxy polyamide. Devoe DEVTAR 5A is a typical product. All other metal surfaces to be primed and painted.

The primer and paint shall be suitable for the substrate (e.g. steel), and service temperature and high humidity found in the utilidor. Sheet metal shall be cleaned in accordance with SSPC SP 1 prior to painting. Apply paint in accordance with SSPC PA 1.

2.2.8 Insulation

Utilidor board insulation shall be of the rigid extruded polystyrene type and shall conform to ASTM C 578. Expanded polystyrene shall not be substituted.

2.2.9 Waterproofing and Dampproofing

Waterproofing and dampproofing systems for concrete surfaces shall consist of a rubber-based primer and composite sheet applied over the primer. The sheet shall be suitable for the low temperature conditions and consist of rubberized asphalt and cross-laminated, high-density polyethylene film. Grace Construction Products Bituthene P-3000 Primer and Low Temperature Waterproofing Membrane is a typical product.

2.2.10 Chemical Grouting

The chemical grouting material used shall be an acrylic base gel, acrylate base gel or urethane base gel.

2.2.11 Access Hatch

Access Hatch frames and covers shall be of the solid lid type and shall:

a. Have a minimum concrete contact of three inches overlap.
b. Be constructed of aluminum alloy.
c. Have a clear access as indicated on the drawings.
d. Have hatches covered with one or two lids.
e. Have external (non-recessed) butt-type hinges securely attached to the frame that shall not work loose under repeated opening and closing of the lids.
f. Have fixed protruding handles (non-recessed) with a minimum clear hand opening of 5 inches by 2-1/2 inches.
g. Have chains or other positive means to prevent lids from slamming open and loosening hinges.
h. Padlock lugs.
i. Stainless steel slam lock with removable key.
j. Insulate the underside of the lid with 2-inch urethane foam insulation. Encapsulate the insulation face with 10 to 20 mils of 2-part urethane coating: Polyshield, Permax, or equal.

Frames and covers shall be proof-load tested for 1,000 pounds. Frames and covers shall be as manufactured by Halliday Products, Nystrom, Bilco, or equal and as modified above.

2.2.12 Exterior Paint for Above Grade Structure

Concrete shall be allowed to cure at least 30 days before painting. Surfaces shall be cleaned in accordance with ASTM D 4258. Glaze, efflorescence, laitance, peeling paint, dirt, grease, oil, and other foreign matter shall be removed prior to painting.

Ferrous surfaces including those that have been shop coated shall be solvent cleaned or detergent washed in accordance with SSPC SP 1. Surfaces that contain loose rust, mill scale, and other foreign substances shall be cleaned mechanically using hand tools according to SSPC SP 2, power tools according to SSPC SP 3 or by sandblasting according to SSPC SP 7. Shop coated surfaces shall be protected from corrosion by treating and touching up corroded areas immediately upon detection.

Paint color for both concrete and metal surfaces is to be equivalent to Sherman Williams color No. 11 TH9 Sapling.

For exterior ferrous surfaces paint the first coat shall meet SSPC Paint 25. The second and third coat shall be FS TT-E-2784, Type I.

For exterior concrete surfaces the first and second coat shall meet FS TT-E-2784, Type III.

2.2.13 Concrete Masonry Units (CMU) for Facade and Planter Replacement

Hollow concrete masonry units shall conform to ASTM C 90, Type I. Cement shall have low alkali content and be of one brand. Units shall have patterned face shell. Face shell shall be split faced. Units shall be integrally colored during manufacture. Color shall match Air Force Base standards for structure location. Style and color of split face CMU being replaced shall also be used to determine new CMU style and color. Patterned face shell shall be properly aligned in the completed wall.

PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Verification of Conditions

Coordinate the utilidor structural system work with the work of other trades at the job site to ensure that components, which are to be incorporated into the structural system, are available to prevent delays or interruptions as the work progresses. Prior to installation, verify that utilidor system components are undamaged. Damaged utilidor system components shall be repaired or removed and replaced with new components. Repairs to damaged utilidor system components shall be done in accordance with the applicable industry standard, the manufacturer's recommendations and/or good construction practice. All repairs to damaged utilidor system components shall be done so as not to void the warranty of the component. If the damaged component warranty cannot be sustained after repair, the component shall be replaced with a new one. Coordinate all construction activities with adjacent projects in the same area so as to ensure no schedule conflicts.

3.2 INSTALLATION/APPLICATION/ERECTION

3.2.1 General Requirements

Install all work in accordance with the approved submittals, the industry standard publications referenced and the respective manufacturer's

recommendations and instructions to assure compliance with the requirements specified herein. In the event of conflict between technical specification of the contract and the specified building code, the more stringent requirements shall apply. A Government approved laboratory shall accomplish all testing.

3.2.2 Concrete Work

Earth cut forms are not permitted. Chamfer above grade exposed joints, edges, and external corners of concrete 3/4-inch. Formwork, including tolerances, shall conform to ACI 347R. Tack welding of reinforcement is not permitted. Batching, measuring, mixing, transporting, placing, and curing concrete shall conform to ASTM C 94, ACI 301, ACI 302.1R.1R, and ACI 304R. Cold weather concrete installation shall conform to ACI 306R. Hot weather concrete installation shall conform to ACI 305R.

3.2.3 Precast Utilidor Tops

Placement of precast tops shall be accomplished after the concrete has attained the specified compressive strength, unless otherwise approved by the precast manufacturer. Brace as required. Place precast tops level, plumb, square, and true within tolerances. Bearing surfaces shall be flat, free of irregularities, and properly sized. Provide proper clearances. Correct bearing surface irregularities with non-shrink grout.

3.2.4 Manholes

Where connections to existing manholes are required, the Contractor shall break open the manhole to the minimum extent necessary for adequate tying of the new construction to the old. No structural elements or appurtenances shall be supported from manhole tops other than the access ladder, electrical hardware, and structural elements that cannot be located elsewhere.

Manholes containing fire hydrants shall have precast two-part lids that match the existing lids. Annular space around hydrant barrels and two-part lid joint shall be sealed weather tight.

3.2.5 Insulation

Provide 2 inches of insulation on exterior of utilidor and manhole walls and tops that are exposed during construction. As a minimum, insulation shall cover the utilidor tops and extend down the walls of the utilidor a distance of 2 feet. Insulation shall be attached to exterior surfaces with an adhesive as recommended by the insulation manufacturer. If bituminous waterproofing is used, it shall still be tacky when installing the insulation.

3.2.6 Chemical Grouting

Prior to chemical grouting, the interior floor and walls of the utilidor and manholes shall be cleaned using low volume, high-pressure water and surfactant. The Government's Field Representative and Contractor shall identify and mark the cracks and seepage areas to be chemically grouted. Types of chemical grout to be used include urethane, acrylate, and acrylic.

Grouting shall be performed by a crew under the direct supervision of a superintendent who has documented experience in the chemical grouting of soil behind structures. Storage, mixing, handling, and use of all

materials and compounds shall be in strict accordance with the manufacturer's instructions and specifications. Grouting shall seal the concrete to stop leakage and seepage.

3.2.7 Concrete Wall Penetrations

All concrete wall penetrations shall be sealed water tight around the appurtenance penetrating the wall. The penetration seal shall include a rubber-sealing element between the pipe wall and the concrete.

3.2.8 Waterproofing

The below ground exterior of all concrete manhole and utilidor sidewalls and lids shall be waterproofed. Waterproofing shall extend a minimum of 2 ft beyond construction joints with existing utilidors and manholes. Waterproof all existing below ground manholes exposed in the course of constructing new access shafts, ceilings, and expanding existing manhole chambers. The utilidor walls exposed while removing lids to access utilidor piping shall not be waterproofed. Waterproofing of manhole and utilidor sidewalls shall use a waterproofing membrane system. Lids shall receive bituminous waterproofing.

3.3 UTILIDOR HEATING REQUIREMENTS

3.3.1 Winter Heating Requirement

When the ambient air temperature is below 32 degrees F, the utilidor sections and manholes shall be heated. All temperatures shall be constantly and adequately monitored. The Contractor shall submit its heating and monitoring plan. For the purposes of this paragraph, "backfilled" shall mean that the insulation has been installed and backfill has been brought to within 3 inches of the top of the structure's walls. This requirement shall apply to both new utilidors and manholes, and existing utilidors and manholes that have work under this contract. When the utilidor sections or manholes are insulated and backfilled, the structures shall be heated such that the minimum inside air temperature at all locations is 40 degrees F minimum. When the utilidor sections or manholes are not backfilled, the entire structure, to include air spaces and all external surfaces and unbackfilled trench areas within 3 lineal feet of the structure's walls, shall be heated to 40 degrees F minimum.

3.3.2 Adjacent Utilidors

Any utilidor system not included in this contract but connected to utilidors having work under this contract shall be heated as described above. The extent of this heating shall include all areas that are disturbed under this contract. "Disturbed" shall include excavation or any other work that alters the thermal regime and exposes the utilidor and/or manholes to freezing temperatures.

3.4 FIELD QUALITY CONTROL

3.4.1 Concrete Sampling and Testing

3.4.1.1 Sampling

Collect samples of fresh concrete to perform tests specified in accordance with ASTM C 172 and ASTM C 31.

3.4.1.2 Slump Tests

Take concrete samples during concrete placement. Perform tests at commencement of concrete placement, when test cylinders are made, and for each batch (minimum) or every 10 cubic yards (maximum) of concrete. Tests shall be performed in accordance with ASTM C 143. Testing lab shall be a Government approved Lab.

3.4.1.3 Temperature Tests

Test the concrete delivered and the concrete in the forms. Perform tests in hot or cold weather conditions (above 80 degrees F and below 50 degrees F) for each batch (minimum) or every 10 cubic yards (maximum) of concrete, until the required temperature is obtained, and whenever test cylinders and slump tests are made. Testing lab shall be a Government approved Lab.

3.4.1.4 Compressive Strength Tests

Make five test cylinders for each set of tests in accordance with ASTM C 31. Precautions shall be taken to prevent evaporation and loss of water from the specimen. Test two cylinders at 7 days, two cylinders at 28 days, and hold one cylinder in reserve in accordance with ASTM C 39. For each manhole, take no less than two sets of samples and perform strength tests for each mix design of concrete placed. Each strength test result shall be the average of two cylinders from the same concrete sample tested at 28 days. If the average of any three consecutive strength test results is less than f'c, as specified in the concrete mix design, or if any test result falls below the designed f'c by more than 500 psi, take a minimum of three ASTM C 42 core samples from the in-place work represented by the low test cylinder results and test. Concrete represented by core test shall be considered structurally adequate if the average of three cores is equal to at least 85 percent of the designed f'c and if no single core is less than 75 percent of designed f'c. Locations represented by erratic core strengths shall be retested. Remove concrete not meeting strength criteria and provide new acceptable concrete. Repair core holes with non-shrink grout. Testing lab shall be a Government approved Lab.

3.4.1.5 Air Content Tests

Test air-entrained concrete for air content at the same frequency as specified for slump tests. Test shall be performed in accordance with ASTM C 173 or ASTM C 231. Testing lab shall be a Government approved Lab.

-- End of Section --

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DIVISION 02 - SITE WORK

SECTION 02510

WATER DISTRIBUTION SYSTEM

-- End of Section Table of Contents --

SECTION 02510

WATER DISTRIBUTION SYSTEM

PART 1 GENERAL

1.1 REFERENCES

The current editon of 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 197	Standard Specification for Cupola Malleable Iron
ASTM A 126	Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe
ASTM A 53	Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
ASTM A 153	Standard Specification for Zinc Coating (Hot Dipped) on Iron and Steel Hardware
ASTM A 536	Standard Specification for Ductile Iron Castings
ASTM C 518	Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
ASTM C 591	Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation
ASTM C 547	Mineral Fiber Pipe Insulation
ASTM D 1621	Standard Test Method for Compressive Properties of Rigid Cellular Plastics
ASTM D 2842	Standard Test Method for Water Absorbtion of Rigid Cellular Plastics

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B1.20.1	Pipe Threads, General Purpose (Inch)

ASME B16.3	Malleable Iron Threaded Fittings
ASME B16.1	Cast Iron Pipe Flanges and Flanged Fittings

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA C110	Ductile-Iron and Gray-Iron Fittings, 3 In. Through 48 In. (75 mm through 1200 mm), for Water and Other Liquids
AWWA C151	Ductile-Iron Pipe, Centrifugally Cast, for Water or Other Liquids
AWWA C500	Metal-Seated Gate Valves for Water Supply Service
AWWA C502	AWWA Standard for Dry-Barrel Fire Hydrants
AWWA C508	Swing Check Valves for Waterworks Service, 2 In. Through 24 NPS In.
AWWA C606	AWWA Standard for Grooved and Shouldered Joints
AWWA C651	AWWA Standard for Disinfecting Water Mains

STATE OF ALASKA ADMINISTRATIVE CODES (AAC) AND STATUTES (AS)

18 AAC 80	Drinking Water

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 24	Installation of Private Fire Service Mains and Their Appurtenances

MANUFACTURERS STANDARDIZATION SOCIETY (MSS)

MSS SP 70	Cast Iron Gate Valves, Flanged and Threaded Ends
MSS SP 80	Bronze Gate, Globe, Angle and Check Valves

1.2 SUMMARY

This section includes requirements for the provision of the water distribution systems within the utilidor structural System.

1.2.1 Compenents Included

(1) Pipe material.
(2) Joints and gaskets.

(3) Pipe insulation.
(4) Hydrants.
(5) Valves.
(6) Supports/guides/thrust restraints.

1.2.2 Components excluded

(1) Earthwork, including excavation, filling, backfilling, and compaction.
(2) Demolition including asbestos abatement.
(3) Utilidor structural system.
(4) Sanitary sewer collection system.
(5) Steam distribution system.
(6) Power distribution, lighting, and communication systems.
(7) Roadway and sidewalk repair and replacement.

1.2.3 Related Sections

Section 01012, DESIGN AFTER AWARD.
Section 01355, ENVIRONMENTAL PROTECTION
Section 02509, UTILIDOR STRUCTURE
Section 02531, SANITARY SEWERS
Section 02559, STEAM DISTRIBUTION SYSTEM
Section 13280, HAZARDOUS MATERIALS ABATEMENT
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.3 Design and Construction

The design and construction shall comply with the latest editions of the following guides. In the case of discrepancies between these guides and the RFP Design Requirements, the more stringent shall apply.

(1) January 2002 Eielson Utilidor Design Guide (See Appendix G of the DB/RFP)

(2) Cold Regions Utilities Monograph, American Society of Civil Engineers (ASCE), Latest Edition

(3) State of Alaska Administrative Code 18 AAC 80

1.4 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.

SD-01 Preconstruction Submittals

Design Drawings; G.

Submit design drawings in accordance with Section 01012, DESIGN AFTER AWARD.

Specifications; G.

Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed water distribution system in accordance with Section 01012, DESIGN AFTER AWARD. U.S. Army COE Alaska District Guide Specification Section 02511, WATER DISTRIBUTION SYSTEMS IN UTILIDORS shall be properly edited for this project and submitted.

Design Analysis; G.

Submit a design analysis in accordance with Section 01012, DESIGN AFTER AWARD. The basis of design shall establish conformance to applicable referenced codes, and the suitability of the water distribution design. The Contractor shall provide services to comply with 18 AAC 80, Article 2. Public Water system Review and Approval Requirements. The Air Force has completed a hydraulic model of the Base water system. Pipe sizes listed in Schedule 3, Plan Sheet G1.4, reflect pipe diameters determined by the hydraulic model to meet present and future flow requirements in the Project Area.

SD-03 Product Data

Pipe Material;
Fittings and Specials;
Joints and Gaskets;
Pipe Insulation and Jacket System;
Water Valve and Equipment Insulation Covers;
Hydrants;
Check Valves;
Gate Valves;
Expansion Joints;
Supports;
Hangers;
Guides;
Thrust Restraints;

As part of Design After Award submit product cut sheets in accordance with section 01012 DESIGN AFTER AWARD. Products shall meet the requirements of Part 2 PRODUCTS of this section.

SD-07 Certificates

Hyperchlorinated Water Disposal;

Hyper chlorinated water disposal method. Material and Test Certificates for flushing, hydrostatic testing, and disinfecting.

1.5 DELIVERY, STORAGE, AND HANDLING

1.5.1 Delivery of Products

Deliver materials to the site in an undamaged condition. Deliver proprietary items in manufacturers' original unopened and undamaged containers or packages with manufacturer's name and brand and other pertinent data such as specification number, type and class, date of manufacture, and shelf life clearly labeled. Schedule delivery of materials to coincide with scheduled installation.

1.5.2 Storage and Handling

Carefully store materials off the ground to provide proper ventilation, drainage, and protection against weather and dampness. Protect materials from marring, staining, rust, damage, and overload and from contaminants such as grease, oil, and dirt. Store materials at temperatures recommended by the manufacturer. Ensure that materials can be accurately identified after removal from containers or after removal of identification tags. Handle materials to avoid damage such as chipping and breaking. Replace damaged material.

1.6 INTERRUPTION OF SERVICES

All utility main shut downs and start-ups will be done by the Base Utilidor Shop personnel.

PART 2 PRODUCTS

2.1 COMPONENT PERFORMANCE

Design of all system components shall be based upon the recommendations of a Contractor engaged Professional Engineer registered in the State of Alaska who is experienced in utilidor and utilities design. The following are design requirements for specific components. Product cut sheets shall be submitted as part of the design after award. These product cut sheets shall be coordinated with the Design Drawings, Design Analysis, and Specifications submitted by the designer of record.

2.1.1 Pipe Material

Pipe sizes 4-inches and smaller in diameter shall be Schedule 40, hot dipped galvanized steel in accordance with ASTM A 53. Pipe shall be welded or seamless.

Pipe sizes greater than 4-inches in diameter shall be cement lined ductile iron in accordance with AWWA C151 and have a pressure rating of 150 psi working pressure.

2.1.2 Fittings and Specials

2.1.2.1 Ductile Iron Pipe

Fittings for ductile-iron pipe shall have a pressure rating no less than that of the adjoining pipe, unless otherwise specified. Fitting and specials with flanged joints shall conform to AWWA C110. Fittings and specials for grooved end pipe shall conform to AWWA C606.

2.1.2.2 Galvanized Steel Pipe

Threaded fittings for steel pipe shall be ASTM A 153 galvanized, class 150, ASTM A 197 malleable cast iron. Threads shall meet ASME B1.20.1 and ASME B16.3 Cast iron companion flanges shall be ASTM A 153 galvanized, class 125, ASTM A 126 cast iron, ASME B16.1 dimensions, and ASME B1.20.1 threads.

2.1.3 Joints and Gaskets

Ductile iron pipe joints shall be rigid or flexible AWWA C606 grooved and shouldered joints. AWWA C606 coupling housings shall be ASTM A 536 ductile iron with enamel paint finish. Gaskets, bolts, and nuts shall also meet the requirements of AWWA C606. All pipe joints shall be restrained. Plain-end pipe and mechanical couplings (Dresser style) or push-on joints shall not be used in utilidors.

AWWA C606 flexible grooved joints shall not be used in pipe served by an expansion joint. Ductile iron pipe joints shall not be welded.

Steel pipe 4 inches in diameter shall be rigid or flexible AWWA C606 grooved and shouldered joints. AWWA C606 coupling housings shall be ASTM A 536 ductile iron with an ASTM A 153 galvanized finish. Gaskets, bolts, and nuts shall also meet the requirements of AWWA C606. Steel Pipe diameters less than 4 inches shall be threaded joints per ASME B1.20.1.

2.1.4 Pipe Insulation and Jacket System

Water line and couplings throughout utilidors and manholes shall be covered with polyisocyanurate insulation molded by the manufacturer specifically for the pipe and appurtenance on which it is to be installed. The insulation shall be homogenous, of uniform density, self-extinguishing and meet the requirements of ASTM C 591. The insulation shall have the following properties:

Compressive Strength 20 psi (min.) by ASTM D 1621 @ 74 deg F

Initial Thermal Conductivity 0.014 BTU/(hr-ft2-deg F)(max.) K value @ 75 deg F by ASTM C 518

Moisture Adsorption 3% by volume (max.) by ASTM D 2842

Attach insulation shell to pipe with 0.015 inch thick, 1/2-inch wide stainless steel band and stainless steel wing seals.

In the utilidor provide a tri-directionally reinforced, Underwriters Laboratory listed, white kraft/foil/scrim laminated jacket with a maximum temperature resistance of 300 degrees F.

Jacket and insulation shall have an Underwriters Laboratory listed fire and smoke hazard rating not exceeding:

Flame Spread: 25

Smoke Developed: 50

Insulation within the manhole shall have an aluminum jacket as described for pipe insulation in Section 02559, STEAM DISTRIBUTION SYSTEM

2.1.4.1 Water Valve and Equipment Insulation Covers

Insulating system for water valves and equipment shall have the following characteristics:

a. Removable, one-piece sewn cover construction with Velcro fasteners.

b. Metal Fasteners: stainless steel.

c. Thread: High temperature bonded multifilament, Teflon coated rated for 475 deg F maximum.

d. Seams: Double sewn, 8 stitches per inch minimum.

e. Closures: 2-inch minimum flap. Provide end closures with draw strings.

f. Jacket: Silicon coated fiberglass fabric, 16-oz minimum.

g. Insulation: 2-inch thick fiberglass with a thermal conductivity of k= 0.25 BTU-inch/hr.-ft2-deg F at 300 degrees F mean temperature. Insulation shall be molded mineral fiber conforming to ASTM C 547, Class 2, asbestos free.

2.1.4.2 Insulation Thickness

Provide pipe minimum insulation thicknesses according to the following schedule:

Pipe Size	Insulation Thickness
3/4"	1"
1" to 2"	1-1/2"
2-1/2" and larger	2"

2.1.5 Hydrants

Fire hydrants shall be dry type and meet or exceed AWWA C502, latest revision. Rated working pressure shall be 250 psig, test pressure shall be 500 psig. The nozzle section, upper and lower standpipes, and hydrant base shall be ductile iron. The main valve closure shall be of the compression type, opening against the pressure and closing with the pressure. Nozzle section to be designed for easy 360-degree rotation by the loosening of no more than four bolts. The seat diameter shall be 5-1/4 inches. Hydrant

must be designed so that removal of all working parts can be accomplished without excavating. The bronze seat to be threaded into mating threads of bronze for easy field repair. The draining system of the hydrant shall be bronze and be positively activated by the main operating rod. Hydrant to be furnished with a sliding bronze drain valve. Sliding drain valves made of rubber, plastic, or leather will not be allowed. Hydrant must have an internal travel stop nut located in the top housing of the hydrant. Hydrant operating threads to be factory lubricated and O-ring sealed from water, moisture, and foreign matter. Hydrant shall have a traffic flange. Hydrants shall be Waterous-Pacer®, Kennedy Valve, Inc. or approved equal with two (2) 2.5 inch hose outlets and one (1) 4.5 inch suction connection.

2.1.6 Butterfly and Globe Valves

Butterfly and globe valves shall not be used.

2.1.7 Gate Valves

2-inch and smaller valves shall be threaded, bronze, class 125/200 WOG, conforming to MSS SP 80 w/union near valve but not between valve and main. Valves greater than 2-inch shall be outside screw and yoke (OS&Y), cast iron, flanged, class 125/200 WOG, solid wedge, bronze mounted, gate valves conforming to MSS SP 70. Bronze components, packing, and elastomers shall conform to AWWA C500.

2.1.8 Check Valves

Valves larger than 2-inch shall be iron body, bronze mounted, flanged ends, and shall be the non-slam type meeting the requirements of AWWA C508. The valves shall have a clear waterway equal to the full nominal diameter of the valve. Valves shall open to permit flow when inlet pressure is greater than the discharge pressure, and shall close tightly to prevent return flow when discharge pressure exceeds the inlet pressure.

2.1.9 Expansion Joints

Expansion joints shall be the laminated bellows type expansion joints properly anchored and guided. Joints shall be packless and flexible with no internal sleeves. Expansion elements shall be of stainless steel. Joints shall be equipped with limit rods to prevent the expansion joint from exceeding the rated travel. Expansion joints shall contain carbon steel flat faceplate 150-pound class flanges. Expansion joints shall be rated at 150 psig, minimum design pressure rating, and tested to 225 psig. Expansion joints shall be Hyspan 1500 or approved equal. Design thermal expansion for the temperature range 40 to 140 degrees F.

2.1.10 Supports/Hangers/Guides/Thrust Restraints

The Contractor shall submit design calculations in accordance with Section 01012, DESIGN AFTER AWARD showing the adequacy of the pipe support system which shall be as recommended by the pipe manufacturer. Supports shall be slotted to prevent the accumulation of liquid where water lines and sewer lines are placed on the same support. Hangers, inserts, and supports shall be adequate to support the fully charged pipe in service. The maximum

spacing between pipe supports for straight runs shall be as recommended by the pipe and/or coupling manufacturer. No hangers or supports shall be suspended from top of manhole or utilidor lids. The connection between the utilidor water or fire lines and the interior building water or sprinkler piping, and all bends, plugs and tees shall be installed and restrained against thrust in accordance with NFPA 24.

2.1.11 Guides

Alignment guides shall be cast-iron or steel and shall be so constructed that the axial movement of the pipe caused by thermal expansion will be guided in a straight line only and movement in any other direction will be adequately restrained. The guide may be a guiding cylinder attached to an anchor base or a clamp type attached to a flanged slide, moveable in guide bars attached to an anchor base. Guiding surfaces shall be machine finished and properly lubricated. The anchor base shall be correctly designed, adequately supported, and properly aligned to prevent distortion and binding of the pipe in the guide. The guide must be removable from its anchor base without disturbing the water pipe.

PART 3 EXECUTION

3.1 EXAMINATION AND VERIFICATION OF CONDITIONS

Coordinate the water distribution system work with the work of other trades at the job site to ensure that components, which are to be incorporated into the water distribution system, are available to prevent delays or interruptions as the work progresses. Prior to installation, verify that water distribution system components are undamaged. Damaged water distribution system components not scheduled for replacement or repair shall be repaired or removed and replaced with new components. Repairs to damaged water distribution system components shall be done in accordance with the applicable industry standards, the manufacturer's recommendations and/or good construction practice.

3.2 INSTALLATION/APPLICATION/ERECTION

3.2.1 General Requirements

Install all work in accordance with these specifications, the approved submittals, the industry standard publications referenced, and the respective manufacturer's recommendations and instructions to assure compliance with the requirements specified herein. In the event of conflict between the specified installation/application/erection requirements and the specified code, the more stringent installation/application/erection requirements shall apply.

3.2.2 Piping

Piping shall be replaced as indicated in the concept drawings. Pipe shall be cut accurately to the measurement established at the site by the Contractor and shall be worked into place without springing or forcing. Care shall be taken not to weaken the structural portion of the utilidor or manholes. Changes in pipe sizes shall be made with reducing fittings.

Piping shall be racked along the utilidor to maximize clear space for worker access along the length of the utilidor. Maintain a minimum of 8-inch clearance around all piping measured from the bare surface. Where possible piping shall not be placed side-by-side in the same plane. Stagger the placement of specialties longitudinally along the utilidor to maximize maintenance clearance access.

Low point drains shall be installed on water lines at each manhole as to allow for the manual draining of all pipe segments. Drains shall consist of 1-1/2-inch tap, nipple and gate valve.

3.2.3 Hydrants

Hydrant legs shall be a minimum of 6-inches with isolation valves inside the utilidors located at the main Hydrant services shall be steam traced from the water main to the hydrant shoe. Where hydrants are placed on manholes, the lids shall consist of split concrete assembly sufficient to allow for entire hydrant assembly removal. Hydrant pipe penetrations passing through manhole lids shall be sealed watertight. Prior to taking any hydrant out of service notify the fire alarm center 72 hours prior to outage.

3.2.4 Valves

Valves shall be located in accordance with the schedule on the plans.

3.2.4.1 Gate Valves

Gate valves will be installed at locations required by the new distribution system and as described in above. Isolation gate vales shall be installed on the water mains at each end of the project where new lines tie into existing lines.

3.2.4.2 Check Valves

Check valves will be installed at locations required by the new distribution system. Check valves will not be installed in laterals from the water main to the hydrants.

3.2.5 Expansion Joints

Pipe alignment must be maintained to insure axial displacement of the joint. Alignment must be maintained through the use of anchors and guides. The Contractor shall submit design calculations showing the adequacy of the pipe expansion system which shall be as recommended by a licensed engineer.

3.2.6 Supports/Hangers/Thrust Restraints

The Contractor shall submit design calculations showing the adequacy of the pipe support system. Supports shall be slotted to prevent the accumulation of liquid where water and sewer lines are placed on the same support. Inserts and supports shall be adequate to support the fully charged pipe in

service. The maximum spacing between pipe supports for straight runs shall be as recommended by the pipe and/or coupling manufacturer. Pipe support spacing shall not exceed 5 feet apart at heavy fittings and valves. Pipe shall be supported at each coupling and multiple fittings as required. Supports shall not exceed 1-ft from each change of direction in piping. Where possible all pipe to support contact shall be shielded by a graphite or polytetrafluoroethylene (PTFE), also referred to as Teflon, slide plate and/or cradle having a minimum thickness of 1/2-inch. Hangers and supports shall not be suspended from utilidor or manhole roofs. Pipe shall be secured to each horizontal support in utilidors to limit side-to-side and vertical movement; axial movement shall not be restrained in this manner. Supports in utilidors and manholes that are in contact with the floor shall be adequately protected against corrosion.

Plugs, caps, tees, and bends on all waterlines 4-inches in diameter and larger, and on all fire hydrants, shall be provided with concrete or structural steel thrust restraint blocking, anchors or metal tie rods and clamps or lugs as required by the NFPA. Valves shall be securely anchored or shall be provided with thrust blocking to prevent movement. Blocking shall be placed between a solid surface and the hydrant, valve, or fitting to be anchored. Blocking shall be placed so that the fitting joints will be accessible for repair. The connection between the utilidor water or fire lines and the interior building water or sprinkler piping, and all bends, plugs, and tees on fire protection lines shall be installed and restrained against thrust in accordance with NFPA 24. Steel rod, clamps, and other restraint devices shall be protected against corrosion.

3.2.7 Guides

The Contractor shall submit design calculations showing the adequacy of the pipe guide system which shall be as recommended by the pipe manufacturer. Guides shall be securely anchored against pipe movement. In no case will pipe rollers, racks, or hangers be considered substitutes for guides. Alignment guides that are supported from the floor shall be adequately protected against corrosion. When the pipeline approaches and expansion joint the pipe shall be adequately guided to the joint.

3.3 FIELD QUALITY CONTROL

Water line shall be flushed, hydrostatically tested, and disinfected. The Contractor shall submit a material and test certificate for flushing, hydrostatic testing, and disinfecting.

3.3.1 Flushing

Prior to any tests performed all newly installed water facilities shall be open bore flushed to remove any foreign matter. The Contractor at no additional cost to the Government shall replace water appurtenance damaged by foreign objects left in the water line. The minimum rate of flow shall be 10 feet per second or the maximum flow rate available to the system under fire flow conditions. Coordinate flushing of the water line through the Contracting Officer at least forty eight (48) hours before flushing to confirm availability of water. Open bore flushing shall be accomplished at each extremity of the main prior to hydrostatic tests and disinfection.

Under no circumstances shall open bore flushing be done through fire hydrants or reduced outlets. Flushing shall be made in the presence of the Contracting Officer or his representative.

3.3.2 Hydrostatic Testing

After the pipe system is completed and the fire hydrants are permanently installed, the newly laid piping or any valve section of water piping or fire line shall be subjected to a hydrostatic pressure test. A test shall be for a period of 2-hours at 120 psi or 1.33 times the system working pressure which ever is greater. If the pressure remains constant without the aide of a pump, the test section will have passed. This test shall be made in the presence of the Contracting Officer or his representative.

3.3.3 System Disinfection

Before acceptance of potable water operation, each unit of completed water and fire line shall be disinfected and flushed as prescribed by AWWA C651. The unit will not be accepted until satisfactory results have been obtained from water samples submitted by the Contractor to a laboratory certified by the State of Alaska to perform testing for coliform bacteria. Chlorinated water shall not be discharged to the environment. The Contracting officer shall approve the method for Hyperchlorinated Water Disposal operations before beginning the disinfection process.

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 02 - SITE WORK

SECTION 02531

SANITARY SEWERS

SECTION 02531

SANITARY SEWERS

PART 1 GENERAL

1.1 REFERENCES

The current editon of 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 123	(2000) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 536	Standard Specification for Ductile Iron Castings
ASTM D 2000	Classification System for Rubber Products in Automotive Applications

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA C104	American National Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water
AWWA C110	(1998) Ductile-Iron and Gray-Iron Fittings, 3 In. Through 48 In. (75 mm through 1200 mm), for Water and Other Liquids
AWWA C111	(2000) Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
AWWA C151	(1996) Ductile-Iron Pipe, Centrifugally Cast, for Water or Other Liquids
AWWA C606	AWWA Standard for Grooved and Shouldered Joints

STATE OF ALASKA ADMINISTRATIVE CODES (AAC) AND STATUTES (AS)

18 AAC 72	Wastewater Disposal

1.2 Summary

1.2.1 Section Includes

This section includes requirements for the provision of the sanitary sewer collection system. This section covers both sanitary sewers in the utilidor system and direct burial. See Section 02559, STEAM DISTRIBUTION SYSTEM for manhole wastewater sump pumps.

1.2.2 Components Included

(1) Pipe material.
(2) Joints and gaskets.
(3) Pipe insulation and jacketing.
(4) Fittings and specials.
(5) Clean outs.
(6) Expansion joints.
(7) Supports and hangers.

1.2.3 Components Excluded

Items forming a part of another system:

Section 02559, STEAM DISTRIBUTION SYSTEM

1.2.4 Related Sections

Section 01012, DESIGN AFTER AWARD.
Section 01355, ENVIRONMENTAL PROTECTION
Section 02300, EARTHWORK.
Section 02509, UTILIDOR STRUCTURE
Section 02510, WATER DISTRIBUTION SYSTEM
Section 02559, STEAM DISTRIBUTION SYSTEM
Section 02741, ROADWAY
Section 02770, CONCRETE SIDEWALKS AND CURBS AND GUTTERS
Section 13280, HAZARDOUS MATERIALS ABATEMENT
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.3 Design and Construction

The design and construction shall comply with the current edition of the following guides. In the case of discrepancies between these guides and the RFP Design Requirements, the more stringent shall apply.

(1) January 2002 Eielson Utilidor Design Guide (See Appendix G of the DB/RFP)

(2) Cold Regions Utilities Monograph, American Society of Civil Engineers (ASCE), Latest Edition

(3) State of Alaska Administrative Code 18 AAC 72 Wastewater Disposal Regulations.

1.4 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.

SD-01 Preconstruction Submittals

Design Drawings; G.

Submit design drawings in accordance with Section 01012, DESIGN AFTER AWARD.

Specifications; G.

Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed sanitary sewer collection system in accordance with Section 01012, DESIGN AFTER AWARD. U.S. Army Corps of Engineers Alaska District Guide Specification Section 2533 SEWERS IN UTILIDORS and the appropriate Division 02 SITEWORK specification(s) shall be properly edited for this project and submitted.

Design Analysis; G.

Submit a design analysis in accordance with Section 01012, DESIGN AFTER AWARD. The basis of design shall establish conformance to applicable referenced codes, and the suitability of the sewer collection system design. The Contractor shall provide services to comply with 18 AAC 72, Article 2. Domestic Wastewater System Plan Review. The Air Force has completed a hydraulic model of the Base wastewater collection system. Pipe sizes listed in Schedules on Sheets G1.4 and G1.5, reflect pipe diameters determined by the hydraulic model to meet present and future Project Area flow requirements.

SD-03 Product Data

Pipe Material;

Fittings and Specials;

Joints and Gaskets;

Insulation and Jacketing;

Expansion Joints;

Supports;

Hangers;

As part of Design After Award submit product cut sheets in

accordance with section 01012 DESIGN AFTER AWARD. Products shall meet the requirements of Part 2 PRODUCTS of this section.

1.5 DELIVERY, STORAGE, AND HANDLING

1.5.1 Delivery of Products

Deliver materials to the site in an undamaged condition. Deliver proprietary items in manufacturers' original unopened and undamaged containers or packages with manufacturer's name and brand and other pertinent data such as specification number, type and class, date of manufacture, and shelf life clearly labeled. Schedule delivery of materials to coincide with scheduled installation.

1.5.2 Storage and Handling

Carefully store materials off the ground to provide proper ventilation, drainage, and protection against weather and dampness. Protect materials from marring, staining, rust, damage, and overload and from contaminants such as grease, oil, and dirt. Store materials at temperatures recommended by the manufacturer. Ensure that materials can be accurately identified after removal from containers or after removal of identification tags. Handle materials to avoid damage such as chipping and breaking. Replace damaged material.

1.6 INTERRUPTION OF SERVICES

All utility main shut downs and start-ups will be done by Base Utilidor Shop personnel.

PART 2 PRODUCTS

2.1 COMPONENT PERFORMANCE

Design of all system components shall be based upon the recommendations of a Contractor engaged Professional Engineer registered in the State of Alaska who is experienced in utilidor and utilities design. The following are design requirements for specific components. Product cut sheets shall be submitted as part of the design after award. These product cut sheets shall be coordinated with the Design Drawings, Design Analysis, and Specifications submitted by the designer of record.

2.1.1 Direct Buried Sewer Components

2.1.1.1 Pipe Material

Direct buried sanitary sewer pipe shall be ductile iron in accordance with AWWA C151. All pipes shall have a cement-motar lining in accordance with AWWA C104. The pipe shall have a minimum thickness of Class 50.

2.1.1.2 Fittings and Specials

Fittings for ductile iron pipe shall have a pressure rating no less than that of the adjoining pipe, unless otherwise specified. Fitting and

specials shall conform to AWWA C110. Flanged joints shall not be used for direct bury pipe.

2.1.1.3 Joints and Gaskets

Joints shall be rubber gasketed push-on joints or mechanical joints conforming to AWWA C111 depending on the service requirements.

2.1.1.4 Insulation and Jacketing

Direct buried sewer lines shall be insulated with urethane foam or approved equal. Insulation shall have a waterproof coating or jacket to protect the insulation from water intrusion. Both the insulation and waterproofing/jacket shall be factory fabricated.

Contractor may propose the use of alternate insulation materials and methods than those described. Approval of proposals for use of substitute materials and methods will be given only if sufficient evidence is presented with the request for their use, to demonstrate their durability and functional adequacy in every respect. Approval shall not be granted for use of substitute materials or methods, which permit the permeation of water vapor into or through the insulation or through the insulation joints, or which will not withstand 200 degree temperatures without damage.

2.1.1.5 Clean-outs

Clean-outs for direct buried sewers shall be of the "Double Wye" type to allow the cleaning tool to enter either the upstream or downstream direction. The clean-out diameter shall match the pipe diameter on services and mains up to 6-inches in diameter. For all other clean-outs, the minimum diameter shall be 8-inches.

2.1.2 Sanitary Sewers in Utilidors Components

2.1.2.1 Pipe Material

Sewer lines in utilidors shall be ductile iron in accordance with AWWA C151, Class 53. All pipe shall have a cement-mortar lining in accordance with AWWA C104.

2.1.2.2 Fittings and Specials

Fittings for ductile-iron pipe shall have a pressure rating no less than that of the adjoining pipe, unless otherwise specified. Fitting and specials with push-on and flanged joints shall conform to AWWA C110. Fittings and specials with grooved and shouldered end joints shall conform to AWWA C606.

2.1.2.3 Joints and Gaskets

Pipe joints shall be AWWA C606 grooved and shouldered. AWWA C606 coupling housings shall be ASTM A536 ductile iron.

2.1.2.4 Expansion Joints

Bellows type joints shall not be used.

Grooved pipe type coupling expansion joints shall be flexible and shall be combinations of couplings and short nipples, joined in tandem to provide increased expansion. Design thermal expansion for the temperature range 40 to 140 degrees F.

2.1.2.5 Supports/Hangers

The Contractor shall submit design calculations in accordance with Section 01012, DESIGN AFTER AWARD showing the adequacy of the pipe support system which shall be as recommended by the pipe manufacturer. Supports shall be slotted to prevent the accumulation of liquid where water lines and sewer lines are placed on the same support. Hangers, inserts, and supports shall be adequate to support the fully charged pipe in service. The maximum spacing between pipe supports for straight runs shall be as recommended by the pipe and/or coupling manufacturer. No hangers or supports shall be suspended from top of manhole or utilidor lids.

Supports shall be concrete saddles whenever possible.

Sanitary sewer support system requires seismic restraints.

2.1.2.6 Transition to Existing Pipe

Where new pipe joins existing cast iron and asbestos cement pipe, the transition coupling shall have gaskets provided by the coupling manufacturer to the type and diameter of pipe being joined. The center ring and end ring of the coupling shall be ductile iron per ASTM A 536, Grade 65-45-12. The gasket material shall be virgin SBR per ASTM D 2000, compounded for sewer service. The coupling shall utilize rods mounted around the coupling body to provide a watertight closure. Romac Industries Style 501, Ford Meter Box Company Style FC, or equal.

The transition coupling shall be restrained using a system of pipe clamps, clamping bolts, restraining rods, T-bolts, and nuts. The clamps shall be cast from ductile iron meeting or exceeding ASTM A 536, Grade 65-45-12. The clamping bolts, rods, T-bolts, and nuts shall be high strength low alloy steel per AWWA C111. Hot dip galvanize all parts per ASTM A 123.

Where new pipe joins existing ductile iron pipe with AWWA C606 joints, provide a spool to connect using grooved and shouldered couplings.

PART 3 EXECUTION

3.1 EXAMINATION AND VERIFICATION OF CONDITIONS

Coordinate the sanitary sewer collection system work with the work of other trades at the job site to ensure that components, which are to be incorporated into the sanitary sewer system, are available to prevent delays or interruptions as the work progresses. Prior to installation, verify that sanitary sewer collection system components are undamaged. Damaged sanitary sewer collection system components shall be repaired or

removed and replaced with new components. Repairs to sanitary sewer collection system components shall be done in accordance with the applicable industry standards, the manufacturer's recommendations and/or good construction practice.

3.2 INSTALLATION/APPLICATION/ERECTION

3.2.1 General Requirements

Install all work in accordance with these specifications, the approved submittals, the industry standard publications referenced, and the respective manufacturer's recommendations and instructions to assure compliance with the requirements specified herein. In the event of conflict between the specified installation/application/erection requirements and the specified code, the more stringent installation/application/erection requirements shall apply.

3.2.2 Cleanouts

Cleanouts shall be located in accordance with the Uniform Plumbing Code. In addition, specific locations are at each service leaving the manhole or main utilidor and at least one sewer main cleanout in each manhole. Maximum distance between mainline cleanouts is to be 400 feet. Sewers shall have wye-style clean outs.

3.2.3 Sanitary Sewers in Utilidors

3.2.3.1 Piping

Piping shall be replaced as indicated on the conceptual drawings contained in attached concept drawings. Pipe shall be cut accurately to the measurement established at the site by the Contractor and shall be worked into place without springing or forcing. Changes in pipe sizes shall be made with reducing fittings.

3.2.3.2 Expansion Joints

Pipe expansion shall be accommodated through the use of grooved type pipe couplings. The Contractor's licensed engineer shall submit design calculations, product information and manufacturer's recommendations for application of this type of system.

3.2.3.3 Supports/Hangers

The Contractors licensed engineer shall submit design calculations showing the adequacy of the pipe support system in accordance with Section 01012, DESIGN AFTER AWARD. Supports shall be slotted to prevent the accumulation of liquid where water and sewer lines are placed on the same support. Inserts and supports shall be adequate to support the fully charged pipe in service. The maximum spacing between pipe supports for straight runs shall be as recommended by the pipe and/or coupling manufacturer. Pipe support spacing shall not exceed 5 feet apart at heavy fittings and valves. Pipe shall be supported at each coupling and multiple fittings as required. Supports shall not exceed 1-ft from each change of direction in piping.

Where possible all pipe support contact shall be shielded by a graphite or polytetrafluoroethylene (PTFE), referred to as Teflon, slide plate and/or cradle having a minimum thickness of 1/2-inch. Hangers and supports shall not be suspended from utilidor or manhole roofs. Pipe shall be secured to each horizontal support in utilidors to limit side-to-side and vertical movement; axial movement shall not be restrained in this manner. Supports in utilidors and manholes that are in contact with the floor shall be adequately protected against corrosion.

3.3 TESTING

Force mains shall be open bore flushed to remove foreign objects, and then hydrostatically tested at 60 psi described for a water line in Section Section 02510, WATER DISTRIBUTION SYSTEM. Flush gravity main and services to remove foreign objects and then hydrostatically test at 60 psi as described for a water line in Section Section 02510, WATER DISTRIBUTION SYSTEM. Secure pipe and, cap all wyes and other openings to withstand the test pressures.

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 02 - SITE WORK

SECTION 02559

STEAM DISTRIBUTION SYSTEM

-- End of Section Table of Contents --

SECTION 02559

STEAM DISTRIBUTION SYSTEM

PART 1 GENERAL

1.1 REFERENCES

Code Reference and Industry Standards Criteria: The design and construction shall comply with the current edition of the following guides, standards, local codes, and ordinances. In the case of discrepancies between the following guides, standards, local codes, and ordinances and the RFP Mechanical Design Requirements the more stringent requirement shall apply.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A13.1	Scheme for the Identification of Piping Systems

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B16.3	Malleable Iron Threaded Fittings
ASME B16.5	Pipe Flanges and Flanged Fittings NPS 1/2 thru NPS 24
ASME B16.11	Forged Fittings, Socket-Welding and Threaded
ASME B31.1	(B31.1a; B31.1b; B31.1c) Power Piping
ASME B16.39	Malleable Iron Threaded Pipe Unions Classes 150, 250, and 300
ASME B40.1	Gauges - Pressure Indicating Dial Type - Elastic Element
ASME BPV IX	Boiler and Pressure Vessel Code; Section IX Welding and Brazing Qualifications

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 47	Ferritic Malleable Iron Castings
ASTM A 53	Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
ASTM A 193/A193 M-01b	Alloy-Steel and Stainless Bolting material for High Temp Service
ASTM A 194	Specification for Carbon and Alloy Steel Nuts for Bolts for High-Pressure and High-Temperature Service

ASTM A 733	Welded and Seamless Carbon Steel and Austenitic Stainless Steel Pipe Nipples
ASTM A 387	Specification for Pressure Vessel Plates, Alloy Steel, Chromium-Molybdenum
ASTM B 209	Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B 650	Electrodeposited Engineering Chromium Coatings of Ferrous Substrates
ASTM C 533	Calcium Silicate Block and Pipe Thermal Insulation
ASTM C 547	Mineral Fiber Pipe Insulation
ASTM E 84	Surface Burning Characteristics of Building Materials
ASTM F 1139	Standard Specifications for Steam Traps and Drains

MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY (MSS)

MSS SP-25	Standard Marking System for Valves, Fittings, Flanges and Unions
MSS SP-45	By-pass and Drain Connections
MSS SP-69	Pipe Hangers and Supports - Selection and Application
MSS SP-80	Bronze Gate, Globe, Angle and Check Valves

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 90A	Insulation of Air-Conditioner and Ventilation Systems

MISCELLANEOUS

January 2002 Eielson Utilidor Design Guide (See Appendix G of the Design Build RFP)

1.2 SUMMARY

1.2.1 Section Includes

These specifications constitute the basis for the utilidor steam and condensate design and installation for Eielson AFB. The contractor may use alternative design solutions and materials to meet the technical

performance criteria. The alternative design solutions must provide methods, materials, workmanship, and quality of installation equal to the minimal requirements of this specification section.

1.2.2 Components Included

(1) New Steam piping and appurtenances within utilidor.
(2) New Condensate piping and appurtenances within utilidor.
(3) New Steam and piping insulation within utilidor.
(4) New Steam and condensate anchors, guides, and expansion joints.
(5) New Utilidor manhole sump pumps.

1.2.3 Components Excluded

Items forming a part of another system:

(1) Earthwork, including excavation, filling, backfilling and compaction.
(2) Demolition including asbestos abatement.
(3) Water Distribution.
(4) Sanitary sewer collection system.
(5) Power distribution, lighting, and communication systems.
(6) Roadway and sidewalk repair and replacement.

1.2.4 Related Sections

Section 01012, DESIGN AFTER AWARD.
Section 01355, ENVIRONMENTAL PROTECTION
Section 02509, UTILIDOR STRUCTURE
Section 02510, WATER DISTRIBUTION SYSTEM
Section 02531, SANITARY SEWERS
Section 13280, HAZARDOUS MATERIALS ABATEMENT
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.3 SCOPE

Design and furnish all construction documents, labor, materials, equipment, supervision of labor, and performance of all operations required to completely install satisfactorily operating steam and condensate systems as defined herein. Scope shall include the steam and condensate piping system within the utilidor exiting to the building service entrance pit. Provide new utilidor piping based on the pipe sizes of the existing system. Provide new valves and appurtenances, quantities and locations, based on the requirements of this RFP. System shall include all traps, anchors, expansion joints, and appurtenances required to extend steam and condensate to the building service entrance.

1.4 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. SUBMITTAL PROCEDURES:

Submit the following in accordance with Section 01012, DESIGN AFTER AWARD Part 2 and 3.

SD-01 Preconstruction Submittals

Design Drawings; G.

Submit design drawings in accordance with Section 01012, DESIGN AFTER AWARD.

Specifications; G.

Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed utilidor steam system in accordance with Section 01012, DESIGN AFTER AWARD. U.S. Army Corps of Engineers Alaska District Guide Specification Section 02559 HEAT DISTRIBUTION SYSTEMS IN UTILIDORS AND MANHOLES and the appropriate Division 15 MECHANICAL specification section(s) shall be properly edited for this project and submitted.

Design Analysis; G.

Submit a design analysis in accordance with Section 01012, DESIGN AFTER AWARD. The basis of design shall establish conformance to applicable referenced codes, and the suitability of the utilidor piping design.

SD-03 Product Data

PIPING AND FITTINGS;

VALVES;

STEAM TRAPS;

PRESSURE GAUGES;

STRAINERS;

STEAM VENTURI EJECTOR;

ALIGNMENT GUIDES;

EXPANSION JOINTS;

INSULATION;

MANHOLE SUMP PUMPS;

As part of Design After Award submit product cut sheets in accordance with section 01012 DESIGN AFTER AWARD. Products shall meet the requirements of Part 2 PRODUCTS of this section.

1.5 DELIVERY, STORAGE, AND HANDLING

1.5.1 Delivery of Products

Deliver materials to the site in an undamaged condition. Deliver proprietary items in manufacturers' original unopened and undamaged containers or packages with manufacturer's name and brand and other pertinent data such as specification number, type and class, date of

manufacture, and shelf life clearly labeled. Schedule delivery of materials to coincide with scheduled installation.

1.5.2 Storage and Handling

Carefully store materials off the ground to provide proper ventilation, drainage, and protection against weather and dampness. Protect materials from marring, staining, rust, damage, and overload and from contaminants such as grease, oil, and dirt. Store materials at temperatures recommended by the manufacturer. Ensure that materials can be accurately identified after removal from containers or after removal of identification tags. Handle materials to avoid damage such as chipping and breaking. Replace damaged material.

1.6 INTERRUPTION OF SERVICES

1.6.1 Utility Mains

All Utility main shut-downs and start-ups will be done by Base Utilidor Shop personnel.

1.7 OPERATING AND MAINTENANCE DATA

The Contractor shall prepare operating and maintenance instructions containing information to operate, prolong service life, or replace parts of the work. Operating and maintenance data shall specifically include:

(1) List of all contractors and subcontractors names, addresses, and telephone numbers.

(2) List of all equipment and material manufacturers' local representatives and suppliers and their addresses and telephone numbers.

(3) Pipe identification schedules.

(4) Nameplate directory with a list of all equipment indicating designation, location of equipment, manufacturers' name, model number, serial number, electrical characteristics, primary control switch location, and normal position of switch.

(5) Valve directory indicating valve number, size, location, function, service, type, and normal position.

1.7.1 Equipment Literature

Literature shall be grouped together by system, i.e. steam, steam condensate, etc. For all equipment, fixtures, devices, valves and specialties, provide the following:

(1) Manufacturer's data sheets and cut sheets.

(2) Model and serial numbers.

(3) Capacity curves, charts, and calculations.

(4) Electrical characteristics.

(5) Replacement parts list.

(6) As-built equipment piping diagrams.

(7) As-built equipment wiring diagrams.

(8) Manufacturer's instructions for operation and maintenance.

(9) Completely mark out on all literature sheets all non-applicable items.

(10) Where piping and wiring diagrams are not available from the manufacturer, the Contractor shall produce them.

1.7.2 Master Maintenance Schedule

List each item of equipment requiring inspection and maintenance, showing component maintenance required and the intervals when such inspection and maintenance shall be performed (daily, weekly, monthly, semi-annually, etc.). For each item, reference the page within the maintenance manual where detailed manufacturer's maintenance instructions can be found.

1.8 COMPONENT IDENTIFICATION

1.8.1 Piping Identification

(1) Contractor shall provide pipe markers that identify all piping with approved color coded adhesive bands that show fluid type, piping system identification and directional flow arrows. Adhesive bands shall be W.H. Brady Company's "Quik-Label" or equal.

(2) Piping identification label to be black letters not less than 2-inches high. Directional arrows to be black, not less than 2-inches long, on yellow background. Piping identification and directional arrows shall meet ANSI A13.1.

(3) Identify piping at approximately 15 ft centers in all utilidors, manholes, and mechanical rooms, as well as in all the other spaces (such as shafts) in which piping may be viewed. There shall be at least one set of identifying bands per pipe in each space requiring identifying bands. In addition, the origination of each pipe main shall be further identified indicating the zone served.

1.8.2 Steam Trap Identification

Steam traps shall be labeled with a 2-inch round/square numbered brass tag with stamped black filled lettering which is connected by a stainless steel jack chain to the trap.

1.8.3 Valve Identification

1) Identify valves in all areas with a 2-inch round/square numbered brass tag with stamped black filled lettering which is connected by a stainless steel jack chain. Identification tags shall be engraved, indicating the service abbreviation, stating whether normally open or normally closed. Install tags with stainless steel jack chain on handwheel or stem.

(2) Service abbreviation shall match piping service

identification label. In addition, each valve tag shall include the manhole number and its unique sequential identification number of that valve within the manhole.

1.8.4 Equipment Identification

(1) Manufacturer's nameplates shall be provided on all equipment identifying manufacturer's name, model number, size, capacity, and electrical characteristics. Leave manufacturer's nameplates clean and legible.

(2) Identify all equipment with engraved Lamicoid identification tags showing symbol number and service as shown on the concept drawings. Securely fasten identification tags to equipment.

1.9 DESIGN CRITERIA

1.9.1 High Pressure Steam Utility Mains

Shall be designed and sized for 100 psi steam at maximum steam velocity of 12,000 FPM and 2 psi/100 ft pressure drop. Low pressure steam distribution within the mechanical room shall be designed and sized with a maximum steam velocity of 7,200 FPM and 0.25 psi/100ft.

1.9.2 Pumped Condensate Utility Mains

Shall be sized for a pressure drop of 1 psi/100 ft, and 1.5 times the total steam demand.

1.9.3 Thermal Expansion Joints

Expansion for piping design shall be based on a temperature range of 40 degrees Fahrenheit to 400 degrees Fahrenheit. Field preset expansion joints as required for actual expansion joint installation temperature.

1.9.4 Drip Leg Steam Traps

Shall be sized for heat loss load, not warm-up load.

PART 2 PRODUCTS

2.1 GENERAL

All equipment and materials shall be protected from corrosion. For products with protective coatings, specifications shall be written to require the products' corrosion protection bond to pass one of the industry standard adhesion tests.

2.1.1 Component Performance

Design of all system components shall be based upon the recommendations of a Contractor engaged Professional Engineer registered in the State of Alaska who is experienced in utilidor and utilities design. The following are design requirements for specific components. Product cut sheets shall be submitted as part of the design after award. These product cut sheets shall be coordinated with the Design Drawings, Design Analysis, and Specifications submitted by the designer of record.

2.2 PIPING AND FITTINGS

Unless otherwise specified, all pipe, fittings, valves, and piping accessories shall conform to the requirements of ASME B31.1, and shall be the proper type, class, and grade for pressure and temperature of the heating medium.

2.2.1 Steel Pipe

Steel pipe 2-inches in diameter and larger shall be seamless or electric-resistance welded conforming to ASTM A 53, Grade B, Type E or S; or to ASTM A 106, Grade B. Steel pipe 1-1/2 inches in diameter and smaller shall be seamless conforming to ASTM A 106, Grade B. All condensate piping, gauge piping, and steam piping 2-inch in diameter and smaller shall be extra strong Schedule 80. All other pipe shall be standard weight Schedule 40.

2.2.1.1 Nipples

Nipples shall conform to ASTM A 733, standard weight or extra-heavy weight, as required to match adjacent piping.

2.2.1.2 Steel Flanges

Steel flanges shall be raised face type with spiral wound centering ring non-paper (Garlock) gaskets, conforming to ASME B16.5 Class 150 and shall match valves or flanged fittings. Flanges shall have the manufacturer's trademark affixed in accordance with MSS SP-25 so as to permanently identify the manufacturer. Flanges shall be prohibited in inaccessible utilidor locations. Flanges shall utilize ASTM A 193/A193 M-01b, Grade B stud with matching ASTM A 194, Grade 2H nuts.

2.2.1.3 Pipe Threads

Pipe threads shall conform to ASME B1.20.1. Pipe threads may be used only on pipe 3/4 inch or smaller.

2.2.2 Fittings

Fittings shall have the manufacturer's trademark affixed in accordance with MSS SP-25 so as to permanently identify the manufacturer.

2.2.2.1 Welded Fittings

Welded fittings shall conform to ASTM A 234/A 234M, buttwelded or socket welded, standard weight or extra strong, as required to match connecting piping. Buttwelded fittings shall conform to ASME B16.9, and socket welded fittings shall conform to ASME B16.11.

2.2.2.2 Malleable Iron Fittings

Fittings shall conform to ASME B16.3, ASTM A 47, class as required to match connecting piping.

2.2.2.3 Unions

Unions shall conform to ASME B16.39, standard weight or extra heavy, as required to match adjacent piping.

2.2.3 Insulating Flanges and Dielectric Unions

Insulating flanges or flange gasket kits shall be installed at every pipe connection from the trench system to an underground system and at dissimilar metals. The kit shall consist of a flange gasket, bolt sleeves, and one insulating washer and one steel washer for both ends of each bolt. The gasket kits shall be capable of electrically isolating the pipe at the pressure and temperature of the heating medium at the point of application. Material of the type being used must have been installed in an installation, which has been satisfactorily operating for not less than 2 years. The Contractor shall ensure that these kits are provided and properly installed according to manufacturer published instructions as indicated. Dielectric unions, pressure rated to match pressure on system used, shall be used for joining dissimilar metals, 3/4-inch and smaller threaded pipe.

2.3 VALVES

All valves 2-inches and small shall be bronze, union bonnet gate type MSS SP-80 200 SWP/400 WOG, rising stem. All valves over 2-inches and larger shall be cast steel ASME B31.1 Class 150 OS&Y. All steam isolation valves 6-inches and larger shall have by-pass gate or globe valves sized in accordance with MSS SP-45.

2.4 STEAM TRAPS

Class of steam trap body shall be suitable for a working pressure of not less than 1.5 times the steam supply working pressure but not less than 200 psi. Traps shall fail open. All steam traps shall be thermostatic with bimetallic element, automatic air discharge, integral cage unit and strainer, and meet ASTM F 1139. Where an integral strainer cannot be provided provide strainer as a separate unit.

2.5 PRESSURE GAUGES

Gauges shall conform to ASME B40.1 Steam gauges shall be provided with "pig-tail" siphons, pin type pulsation snubbers, and shut-off isolation valves. Pressure gauges on pumped condensate lines shall be provided with pin type pulsation snubbers, and shut-off isolation valves.

2.6 STRAINERS

Strainers shall be cast steel y-type with connections the same size as the piping in which the connections are installed. Strainer shall be suitable for temperature and pressure requirements of the system. Each strainer shall be equipped with an easily removable cover and sediment basket. Bodies shall be cast steel, arrows cast into the side clearly showing the direction of flow, and bottoms drilled and plugged. Basket shall be made of perforated stainless steel, or monel, be easily removable, and provide net free areas through the basket of at least 2.5 times that of the entering pipe. The flow shall be into the basket an out through the perforations.

2.7 MANHOLE SUMP PUMPS

Provide electric sump pumps where scheduled on the drawings. Sump pumps shall have bronze impellers, ON/OFF/Auto pump control, high-level alarm and thermal protection and a maximum operating temperature range of 140 degrees F to 40 degrees F. Provide exterior remote red warning strobe with wire guard and alarm horn mounted above grade adjacent to the manhole. Pumps

shall discharge to sanitary sewer main. Provide Goulds Model 3886 pumps to match existing sump pumps used system wide.

2.8 STEAM VENTURI EJECTOR

Provide manually operated steam venturi ejector at all manholes as scheduled on the drawings. Ejectors shall have cast iron bodies with removable bronze nozzles. Ejectors shall have a 1-inch inlet and a 2-inch outlet. Ejector shall discharge to sanitary sewer main. Manufacturer; Watson McDaniel Model 17 or equal

2.9 ALIGNMENT GUIDES

Alignment guides shall be cast-iron or steel and shall be so constructed that the axial movement of the pipe caused by thermal expansion will be guided in a straight line only and movement in any other direction will be adequately restrained. Alignment guides for steam and condensate pipes shall be "spider" type heavy carbon steel with factory painted finish. Spider shall be sized with enough travel to insure that a minimum of 1/2 the width remains within the length of the outer housing for all condition of operation. The upper half of the clap or guiding cylinder housing must be removable.

2.10 PIPING SUPPORTS

Steam and condensate piping supports for piping on utilidor piping support racks shall be roller chair or adjustable pipe roller type with cast iron rollers, steel roll rods, steel chair and bolts. Provide insulation protection shields and saddles as required to protect piping insulation and allow longitudinal pipe movement.

2.11 EXPANSION JOINTS

Expansion joints for steam and condensate pipes shall be slip type, injection packed, Hyspan series 6501 with flanged ends or equal. MIL-E 17814 Type IV Class 1 or Class 2. Provide expansion joints with drain port and plug. Joint shall be installed with drain port located on the bottom to facilitate drip and trap assembly installation. Expansion joints shall provide for either single or double slip of connected pipes, as required or indicated, and for not less than the traverse indicated. Joints shall be designed for steam working pressure not less than 100 psig and shall be in accordance with applicable requirements of EJMA-1 and ASME B31.1. Joints shall be designed for packing injection under full line pressure. End connections shall be flanged. Joints shall be provided with anchor base where required or indicated. Where adjoining pipe is carbon steel, the sliding slip shall be seamless steel plated with a minimum of 2 mils of hard chrome conforming to ASTM B 650. Joint components shall be fabricated from material equivalent to that of the pipeline. Initial settings shall be made in accordance with manufacturer's recommendations to compensate for ambient temperature at time of installation. Pipe alignment guides shall be installed as recommended by joint manufacturer, but in any case shall not be more than 5 feet from expansion joint, except that for lines 4-inches or smaller, guides shall be installed not more than 2 feet from the joint. Service outlets shall be provided where indicated.

2.12 INSULATION

All insulation materials, including linings, jackets, facings, wet or dry adhesives, and vapor barriers, shall meet requirements of NFPA 90A. Flame

spread rating shall not exceed 25 and smoke developed rating shall not exceed 50, as defined in ASTM E 84.

2.12.1 Fiberglas Insulation

Provide complete with vapor barrier permeability rating of 0.02 perm, and with a thermal conductivity of k=.25 btu-in./hr-ft2-F at 100 degrees F mean temperature. Insulation shall be molded mineral fiber conforming to ASTM C 547, Class 2, Asbestos free.

2.12.2 Calcium Silicate Insulation

Provide complete with vapor barrier permeability rating of 0.02 perm, and with a thermal conductivity of k=.40 btu-in./hr-ft2-F at 300 degrees F mean temperature, or better. Shall have recommended temperature rating of 1200 degrees F. Insulation shall be molded calcium silicate conforming to ASTM C 533, Type I, Asbestos free.

2.12.3 Rigid Insulation Inserts

Provide rigid insulation inserts for 2-1/2 inch and smaller pipe. Inserts shall be calcium silicate, or approved substitute, for installation between pipe and hanger. Insulation inserts shall be not less than 6-inches long for 1/2-inch to 2-1/2 inch pipe; thickness equal to adjoining insulation.

2.12.4 Insulation Protection Shields

Provide MSS SP-69, Type 40, 16 gauge galvanized metal insulation protection shields for 2-1/2 inch and smaller pipe; formed to fit the diameter of the insulation, extending up to the centerline of the pipe. Length equal to insulation inserts.

2.12.5 Insulation Protection Saddles

Provide MSS SP-69, Type 39, ASTM A 387 Grade 22 steel pipe saddles for 3-inch and larger pipe for insulation protection at cast iron roller chair supports. Provide insulation protection saddles with welded center plates for pipe sizes greater than 10-inches.

2.12.6 Metal Jackets

Aluminum jackets shall be 0.025 inches thick, have an embossed finish and meet ASTM B 209. Jacket sections shall be joined using longitudinal slip joints with a minimum 2-inch lap, caulk and seal between all metal seams. Jacket shall be secured with 1/2-inch wide 0.015-inch thick annealed stainless steel bands.

PART 3 EXECUTION

3.1 PIPING

The following items are typical for all piping installations:

(1) Close all openings of piping during construction with appropriate caps, plugs, or covers during progress of the work to preclude introduction of undesirable materials or contaminants.

(2) Slope all pipe lines and provide low point drains, using hose end gate valves and high point vents, using specified

automatic air vents.

(3) Ream ends of all pipe to full diameter free of burrs, nicks, and sharp edges.

(4) Cut pipe accurately from measurements taken on the site. Springing or bending to fit or make up pipe will not be permitted.

(5) Piping shall be supported in a manner to prevent binding, undue swing, and vibration transmission to the structure.

(6) Threaded Joints: Apply Teflon tape to male equipment threads.

(7) Ring gaskets, spiral wound with centering ring, shall be used with all flanges.

(8) Arrange piping along walls in horizontal groups, each group to be in one plane.

(9) Provide insulating couplings, dielectric nipples or flanges to prevent electrolysis at dissimilar metal piping connections.

(10) All changes in direction, branches, laterals and intersections in piping shall be made with welded fittings. Mitering of pipe to form elbows, notching straight runs to form tees or any similar construction will not be permitted.

(11) Reduction in pipe sizes shall be made with reducing tees or reducing fittings. Weld O Lets and Thread 0 Lets may be used on branch piping 2-inches and smaller connecting to mains over 4-inches. Branch pipes over 2-inches shall use welded fittings.

(12) Bushings will not be permitted and close nipples will not be permitted.

(13) Provide gate blow down/drain valves with threaded hose adapters and end caps at all strainers. Blow down/drain valves shall be the same size as the strainer blow down connection.

(14) Valves for drains and trap assemblies shall be as close as possible to mains (steam or condensate main as applicable). If valve is not on first nipple from main, then weld all joints between valve and main.

(15) Provide warm up valves and by-passes around all main line isolation valves. Weld all joints between by-pass valve and main.

(16) Provide isolation valves on steam and condensate mains in each manhole so that each section of main can be isolated for maintenance. Tees shall have three (3) valves and cross-flow fittings shall have four (4) valves. Maximum 400 foot valve spacing on steam mains.

(17) In all manholes provide isolation valves on all steam and condensate mains, laterals, and branch take-offs. Lateral isolation valve shall be placed as close as possible to the connection point to the service mains.

(18) All drip legs shall be full dimension line size for all steam lines 6 inches and under. Drip legs for steam lines over 6 inches shall be 2/3 the steam line size.

(19) Provide full dimension drip leg with steam trap and gate blow down/drain valves and trap assemblies at all steam main low points and at the base of all vertical offsets in the steam main.

(20) Provide full dimension drip legs with steam trap and gate blow down/drain valve and trap assemblies on both sides of all service main steam valves.

(21) Provide a full dimension drip leg with steam trap and gate blow down/drain valve on the building side of all steam service lateral take-offs and at vertical risers at building line.

(22) The condensate service laterals shall have low point maintenance drain down valves.

(23) All valves shall be installed with stems vertical wherever possible, and in no case shall stems be oriented below horizontal.

(24) Field check valves for packing and lubricant. Replace leaking packing.

(25) Install valves to be accessible from floor level. Do not install valves with stem pointing downward.

(26) Provide main isolation and/or lateral branch isolation valves same size as respective main or lateral branch line size.

(27) Install swing check and gravity closing lift check valves in horizontal position.

(28) Provide 1 inch minimum steam heat trace line with gate valves and trap assemblies for all fire hydrant water main branches.

(29) Pressure gauges shall be provided on each side of all isolation valves within the utilidor.

(30) Install pressure gauges on the upstream side of each steam ejector venturi.

(31) All pressure gauges shall be provided with isolation valves and snubbers. Pressure gauges on steam lines shall be provided with "pig tails".

(32) Locate and install pressure gauges to permit observation by personnel standing on manhole floor.

(33) Traps shall be located in a readily accessible location for maintenance.

(34) Install steam drip legs and line traps at each low point and the end of line point of the steam line.

(35) Provide all steam traps with isolation valves, strainer before and check valves after.

(36) Install main line steam and condensate blowdown stations in accessible utilidors at not greater than 400 foot intervals. Provide 1 1/2-inch steam and 1-1/4 inch condensate blowdown connections with threaded ends. Direct blowdown discharges away from areas likely to be occupied by maintenance workers.

(37) All steam trap assemblies and expansion joints in utilidors shall be installed at manholes for accessibility. Close all openings in pipes with appropriate caps, plugs, or covers during progress of the work to preclude introduction of undesirable materials or contaminants.

(38) Expansion compensation in steam and condensate piping must be accommodated by the use of expansion joints. Piping bends/loops are not allowed.

(39) As field conditions allow, maintain a minimum 8-inch clearance, measured from the bare surface, around all steam and condensate piping.

3.2 PIPE SLEEVES

(1) Provide sleeves where pipes pass through walls. Sleeves in bearing walls, foundations, masonry or concrete walls, and slabs shall be black steel pipe. All sleeves through frame or similar construction shall be 20 gauge galvanized sheet metal with edges turned 1/2-inch, installed flush with both sides of wall partition. All sleeves shall be flush with surfaces except basement floor and any wet floor area where seepage may occur. In such areas the sleeves shall project a minimum of 1-inch above floor.

(2) Size sleeves to allow 1/2-inch annular space between pipe insulation, or the bare pipe, and the pipe sleeve. The space between pipe and sleeve shall be filled with mineral wool or other non-combustible material to prevent passage of fire and smoke. The non-combustible material shall be caulked with butyl between pipe and sleeve at wall surface. The caulking shall have suitable smoke and flame retarding capabilities for the application.

(3) For piping passing through sleeves in areas containing floor drains and in waterproof construction, caulk annular space between pipe or pipe insulation and the enclosing sleeve to attain a watertight installation. Caulk and finish with sealing compound.

3.3 INSULATION

Provide 2-inch thick insulation on all steam and condensate piping systems. Insulation for the steam and condensate return lines in manholes shall be calcium silicate with an aluminum jacket and stainless steel bands. The insulation within the manholes (i.e. calcium silicate insulation with aluminum jackets) shall be required to extend 6 ft into the utilidor. Valves, flanges and expansion joints, over 2-inches in diameter, shall be covered with removable valve blankets that are secured with nylon buckles and straps.

3.4 WELDING

Provide and perform welding of pressure piping systems in accordance with provisions of all applicable codes, including ASME BPV IX and ASME B31.1 series, Code For Pressure Piping.

3.4.1 QUALIFICATIONS AND PROCEDURES

Provide designer approved welding procedures, and welder qualifications in accordance with ANSI A13.1/ASME B31.1, Paragraph 127.5, for shop and project site welding of piping work.

3.4.2 EXAMINATION, INSPECTION AND TESTING

Provide, design engineer of record, approved non-destructive testing procedures, inspection and testing reports in accordance with ANSI A13.1/ ASME B31.1, Paragraph 136 for shop and project site welding of piping work. Mandatory minimum non-destructive testing shall be 100% visual and 10% radiographic. Visual testing shall be 100% of final welds and 10%, random testing, of all weld passes. Submit a copy of the testing report to the Contracting Officer.

3.5 TESTING

Tests shall be conducted before, during, and after the installation of the system. The Contractor shall provide all instruments, equipment, facilities, and labor required to properly conduct the tests. Test pressure gauges for a specific test shall be approved by the Contracting Officer and shall have dials indicating not less than 1-1/2 times, nor more than 3 times the test pressure.

3.5.1 CLEANING OF PIPING

Prior to the hydrostatic and operating tests, the interior of the piping shall be flushed with clean water until the piping is free of all foreign materials. Flushing and cleaning out of system pipe, equipment, and components shall not be considered completed until witnessed and accepted by the Contracting Officer. After flushing the system is completed, the system shall be drained and filled with clean water. Temporary bypasses or temporary strainers shall be provided around equipment and control valves to prevent clogging.

3.5.2 FIELD TESTS

The following field tests shall be conducted when applicable to the system involved. If any failures occur, the Contractor shall make such adjustments or replacements as the Contracting Officer may direct, and the tests shall be repeated until satisfactory tests are completed.

3.5.2.1 Hydrostatic Tests of Service Piping

Before testing, isolate or remove all equipment from system that would be damaged by test pressure. Purge or bleed air from piping systems before performing hydrostatic testing. All piping shall be tested hydrostatically before insulation is applied at field joints, and shall be proved tight at a pressure 1-1/2 times the working pressure of 100 psig or at 200 psig, whichever is greater. Test all piping systems before concealing piping. Hydrostatic test pressures shall be held for a minimum of 24 hours. If the hydrostatic test pressure cannot be held, the Contractor shall make such adjustments or replacements and the tests repeated until satisfactory results are achieved.

3.5.2.2 Equipment Tests

All pumps, valves, traps, alarms, controls, and any other operable item of equipment shall be operated to verify proper operation and compliance with the specifications. Pump voltage, current, and discharge readings shall be recorded and submitted for approval.

3.5.2.3 Insulating Flange Test

Insulating flanges shall be tested for electrical isolation in accordance with the insulating flange manufacturer's standard test. This test shall be witnessed and approved by the Contracting Officer.

3.5.2.4 Operational Tests

After installation of the concrete trench system, or testable portion thereof, operational tests shall be conducted. Trench covers shall not be placed prior to completion of operational tests. Operational tests shall consist of operating the system at the pressure and temperature expected for the system when in normal service, and shall demonstrate satisfactory operating effectiveness. The test on each system, or portion thereof, shall last a minimum of 24 hours.

3.5.2.5 Trench Water Removal Tests (Sump Pump Test)

After the above tests are completed, and before concrete trench and valve manhole covers are placed, the concrete trenches, sumps, and valve manholes shall be cleaned of dirt and debris. Concrete trench system shall be tested to ensure gravity drainage of water is maintained in trench bottom from high points to drained low points. Contractor shall verify water does not pond between high and low points, and that drained low points are operational either by use of sump pumps or by gravity drainage to storm drains, as indicated. Test shall not be considered completed until witnessed and accepted by the Contracting Officer. Trench tops shall be placed and sealed immediately after approval by the Contracting Officer.

-- End of Section --

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DIVISION 02 - SITE WORK

SECTION 02741

ROADWAY

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SECTION 02741

ROADWAY

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.

ALASKA TEST METHOD (ATM)

ATM T-13	Degradation Value of Aggregates
ATM T-17	Bituminous Mix Design by the Marshall Method

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO T-96	Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine

AIR FORCE MANUAL (AFM)

AFM 88-7, Chap. 1	Pavement Design for Roads, Streets, Walks and Open Storage Areas

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES (ADOT & PF)

ADOT&PF	(2001) Standard Specifications for Highway Specifications Construction

STATE OF ALASKA ADOT&PF STANDARD DRAWINGS MANUAL

T-21.02	Pavement Marking Applications
T-22.03	Pavement Marking Symbol Dimensions

WESTERN ALLIANCE FOR QUALITY IN TRANSPORATION CONSTRUCTION (WAQTC)

WAQTC TM-1	Determining the Percentage of Fracture in Coarse Aggregate
WAQTC FOP for AASHTO T 27/T11	Sieve Analysis of Fine and Coarse Aggregates, and Materials Finer than 75mm in Mineral Aggregates by Washing

1.2 SUMMARY

1.2.1 Section Includes

This section includes requirements for the provision of existing streets and paved areas to be removed and replaced in conjunction with this project.

1.2.2 Components Included

(1) Paved street replacement.

1.2.3 Components Excluded

Items Forming Part of Another System

(1) Demolition including asbestos abatement.
(2) Utilidor structural system.
(3) Water distribution system.
(4) Sanitary sewer collection system.
(5) Steam distribution system.
(6) Power distribution, lighting, and communication systems.
(7) Sidewalk repair and replacement.

1.2.4 Related Sections

Section 01012, DESIGN AFTER AWARD.
Section 01355, ENVIRONMENTAL PROTECTION
Section 02300, EARTHWORK.
Section 02509, UTILIDOR STRUCTURE
Section 02770, CONCRETE SIDEWALKS AND CURBS AND GUTTERS
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.3 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.

SD-01 Preconstruction Submittals

Design Drawings; G.

Submit design drawings in accordance with Section 01012, DESIGN AFTER AWARD.

Specifications; G.

Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the paved and unpaved road removal and replacement in accordance with Section 01012, DESIGN AFTER AWARD. The appropriate Division 02 SITEWORK specification(s) shall be properly edited for this project and submitted.

Design Analysis; G.

Submit a design analysis in accordance with Section 01012, DESIGN

AFTER AWARD. The basis of design shall establish conformance to applicable referenced codes, and the suitability of the fill and backfill requirements for this project.

Subbase Analysis;

Aggregate Base Course;

PART 2 PRODUCTS

2.1 PERFORMANCE

All paving replacement and repairs shall be based upon the recommendations of a registered Professional Engineer who is experienced in the paving replacement and repair issues related to this project. Recommendations and design shall be fully illustrated and specified in Design Drawings, Design Analysis, and Specifications submitted by the designer of record in accordance with Specification section 01012 DESIGN AFTER AWARD.

2.1.1 Flexible Pavement Section

Flexible pavement shall be designed following AFM 88-7, Chap. 1, Flexible Pavement Design or approved ADOT&PF method. The Government shall provide traffic characteristics. Pavement section shall also be capable of supporting American Association of State Highway Transportation Officials (AASHTO) HS20 standard highway loading and gross vehicle weight (GVW) up to 70,000 pounds. Minimum pavement, base, and subbase thickness are given in a plan detail on Sheet C5.1.

2.1.2 Hot-Mix Asphalt

Hot-Mix Asphalt: Provide dense, hot-laid, hot-mix asphalt plant mixes conforming to ADOT&PF Standard Specifications, type and class of which to be determined by the Contractor engaged engineer. Mix to be designed according to procedures in ATM T-17 and comply with the following requirements:

(1) Provide mixes with a history of satisfactory performance in geographical area where Project is located.

(2) The contractor shall obtain approval of the job mix design prior to placing any asphalt concrete on the job.

2.1.3 Subbase

Subbase shall consist of nonfrost susceptible (NFS) pit run gravel, sand, combination of these, or other approved NFS materials. Gradation for subbase shall meet the same requirements as Structural Fill in Section 02300, EARTHWORK

Provide a Subbase Analysis report for material being imported for subbase prior to construction

2.1.4 Aggregate Base Course

Aggregate base course shall be crushed stone or crushed gravel and shall consist of sound, tough, durable pebbles or rock fragments of uniform quality. All material shall be free from clay balls, vegetable matter, or other deleterious matters. In addition, aggregate shall meet the following

requirements:

Percent of Wear	AASHTO T-96	50 max
Degradation Value	ATM T-13	45 min
Percent Fracture	WAQTC TM-1	70 min

Gradations shall conform to the following requirements, as determined by WAQTC FOP for AASHTO T 27/T11:

Sieve Designation	Percent Passing
1-1/2 inch	100
1 inch	70-100
3/4 inch	60-90
3/8 inch	45-75
No. 4	30-60
No. 8	22-52
No. 40	8-30
No. 200	0-6

Provide a Aggregate Base Course report for material being imported for aggregate base course prior to construction

2.1.5 Paint

Paint for traffic markings shall be furnished in accordance with 2001 ADOT&PF Standard Specifications Section 708-2.03 Paint For Traffic Markings.

2.1.6 Curbs and Gutters

Curbs and gutters shall be in accordance with Section 02770, CONCRETE SIDEWALKS AND CURBS AND GUTTERS.

PART 3 EXECUTION

3.1 SUBBASE AND AGGREGATE BASE COURSE

Subbase shall be placed and compacted in accordance with Section 304 SUBBASE of the 2001 ADOT&PF Standard Specifications. Aggregate base course shall be placed and compacted in accordance with Section 301 SUBBASE of the 2001 ADOT&PF Standard Specifications.

3.2 ASPHALT PLACEMENT

Asphalt mixing plant, hauling equipment, paver and compaction equipment, placing and spreading, and compaction shall be performed in accordance with Section 401 ASPHALT CONCRETE PAVEMENT of the 2001 ADOT&PF Standard Specifications.

3.3 JOINTS

Joining new pavement patches to existing pavement shall be accomplished in accordance with ADOT&PF Standard Specifications Section 401-3.14 Joints.

3.4 CURBS AND GUTTERS

Curbs and gutters removed during construction shall be replaced with new. Parking lots shall have curbs and gutters to provide for a durable edge and to access sidewalks where appropriate.

3.5 PAVEMENT MARKINGS

All pavement existing markings shall be repainted and restriped. Pavement shall be marked according to ADOT&PF Standard Drawings Manual, Drawing T-21.02 Pavement Marking Applications and T-22.03 Pavement Marking Symbol Dimensions.

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SECTION 02770

CONCRETE SIDEWALKS AND CURBS AND GUTTERS

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SECTION 02770

CONCRETE SIDEWALKS AND CURBS AND GUTTERS

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 CONCRETE INSTITUTE (ACI)

ACI 211.1	Selecting Proportions for Normal, Heavy Weight and Mass Concrete
ACI 305R	(2000) Hot Weather Concreting
ACI 306R	(1997) Cold Weather concreting
ACI 325.9R	Guide for Construction of Concrete Pavements & Concrete Bases

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 184	(2001) Fabricated Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A 185	(2001) Steel Welded Wire Fabric, Plain, for Concrete Reinforcement
ASTM A 615	(2001) Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM C 33	Standard Specification for Concrete Aggregates
ASTM C 39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C 192	Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
ASTM C 94	Standard Specification for Ready-Mixed Concrete
ASTM C 150	Standard Specification for Portland Cement
ASTM C 171	(1997) Sheet Materials for Curing Concrete
ASTM C 260	Standard Specification for Air-Entraining Admixtures for Concrete

ASTM C 494	Standard Specification for Chemical Admixtures for Concrete
ASTM C 309	(1998) Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C 827	(2001) Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures
ASTM C 1107	Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Non-shrink)
ASTM D 1190	(1997) Standard Specification for Concrete Joint Sealer
ASTM D 1752	(1996) Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction

AIR FORCE MANUAL (AFM)

AFM 88-7, Chap. 5	General Provisions and Geometric Design for Roads, Streets, Walks, and Open Storage Area

1.2 SUMMARY

This section includes concrete requirements for sidewalks, curbs, gutters, and ramps.

1.3 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.

SD-01 Preconstruction Submittals

Design Drawings; G.

Submit design drawings in accordance with Section 01012, DESIGN AFTER AWARD.

Specifications; G.

Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of sidewalk removal and replacement in accordance with Section 01012, DESIGN AFTER AWARD. The appropriate Division 02 SITEWORK and Division 03 CONCRETE specification(s) shall be properly edited for this project and submitted.

Design Analysis; G.

Submit a design analysis in accordance with Section 01012, DESIGN AFTER AWARD. The basis of design shall establish conformance to

applicable referenced codes, and the suitability of the fill and backfill requirements for this project.

Concrete mix design; G.

1.4 ENVIRONMENTAL REQUIREMENTS

Conform to the requirements for temperature and humidity/moisture as listed in Part 3 of this specification.

PART 2 PRODUCTS

2.1 PERFORMANCE

All sidewalk, curb, and gutter replacement and repairs shall be based upon the recommendations of a Contractor engaged registered Professional Engineer who is experienced in the sidewalk, curb, and gutter replacement and repair issues related to this project. Recommendations and design shall be fully illustrated and specified in Design Drawings, Design Analysis, and Specifications submitted by the designer of record in accordance with Specification section 01012 DESIGN AFTER AWARD.

2.1.1 Sidewalk, Curb, and Gutter

Sidewalk, curb, and gutter material shall be portland cement concrete as specified herein. Typical dimensions shall be as shown in the plans. Transition new sidewalk width to match existing sidewalk of lesser width.

2.2 REINFORCING MATERIALS

The reinforcing of concrete walks shall be continuous and, therefore, typical details showing the arrangement of reinforcing and joints shall be shown on the design drawings submitted in accordance with Section 01012, DESIGN AFTER AWARD. Reinforcing steel drawings shall be submitted in accordance with ACI 325.9R.

(1) General: Reinforcing materials shall be clean, straight, and shop-fabricated to the indicated dimensions.

(2) Wire Mesh: Mesh shall be welded, plain, cold-drawn steel wire fabric conforming to ASTM A 185.

(3) Metal Accessories: Reinforcing bar accessories, chairs, ties, slab bolsters, and spacers shall be cold-drawn, industrial-quality, basic wire corrugated or straight, clean, and free of rust, furnished in sizes and quantities to adequately support reinforcement.

(4) Metal-Joint Inserts: Metal-joint inserts for contraction joints shall be formed of zinc-coated steel sheets.

(5) Fabricated Bar Mats: Mats shall be welded or clip-assembled steel bars, and shall conform to ASTM A 184. Bars used in fabrication of mats shall be Grade 60 deformed billet-steel bars conforming to ASTM A 615.

(6) Reinforcing Bars: Reinforcing bars and tie bars shall be deformed billet-steel bars, Grade 60, conforming to ASTM A 615.

(7) Joint Dowel Bars: Dowel bars for load transfer, expansion joints, and transverse contraction joints in reinforced concrete slabs shall be plain billet steel bars, Grade 60, conforming to ASTM A 615. Bars shall be cut true to length with ends square and free of burrs.

2.3 JOINT MATERIALS

1) Preformed Joint Fillers: Fillers shall be preformed, non-extruding, resilient fillers conforming to ASTM D 1752, thickness as indicated.

(2) Wood-Joint Fillers: Wood joint fillers for temporary joint filling shall be sound heart redwood as approved.

(3) Elastic-Joint Sealant: Joint sealant shall be a hot-poured rubber-modified asphalt joint sealer conforming to ASTM D 1190.

2.4 CURING MATERIALS

(1) Impervious Sheeting: Waterproof paper shall be fiber reinforced, non-staining, white, two-ply Kraft paper conforming to ASTM C 171. Polyethylene sheeting shall be white polyethylene film, 4-mil (0.004 inch) minimum thickness, with water-retention capability conforming to ASTM C 171.

(2) Liquid Membrane-Forming Compounds: Liquid membrane-forming compounds shall be a spray-applied, white-pigmented compound conforming to ASTM C 309.

2.5 FORM MATERIALS

(1) General Forms shall be of sufficient strength to resist springing during placement of concrete and to remain in vertical and horizontal alignment until removed. Forms shall be free of distortion and defects and shall extend the full depth of the concrete. Defective forms shall be replaced with new or repaired forms at no additional cost to the Government.

(2) Steel Forms: Forms shall include spring-steel flexible forms for forming curves and corner forms, form spreaders, and fillers as required.

(3) Wood Forms: Forms shall be 2-inch nominal thick planks, surfaced on four sides, straight, free of defects, clean, and well-oiled. Wood forms shall have a nominal length of 10 feet, with a minimum of three stakes per form at a maximum spacing of 4 feet. Corners, deep sections, and radius bends shall have additional stakes and braces as required. Radius bends may be formed with 3/8-inch boards laminated to the required thickness.

(4) Form Coating: Form oil shall be a non-staining clear compound that will not discolor or injure the concrete.

2.6 CONCRETE MATERIALS

1) Aggregates: Aggregates shall conform to ASTM C 33. Fine aggregates shall be natural or manufactured sand. Coarse aggregates shall be crushed stone or crushed gravel.

(2) Air-Entraining Admixtures: Material shall be a liquid air-entraining admixture conforming to ASTM C 260.

(3) Set-Retarding Admixtures: Set-retarding admixtures shall conform to ASTM C 494.

(4) Portland Cement: Portland cement shall conform to ASTM C 150, Type I or II.

(5) Mixing Water: Mixing water shall be potable.

2.7 CONCRETE-MIX DESIGN

Concrete mix design shall be Portland cement concrete with an air-entraining admixture, with a minimum compressive strength of 3,000 pounds per square inch (psi) at 28 days, minimum cement content of six 94 pound bags of cement per cubic yard, and a maximum slump of 4 inches. The proportions of the concrete-mix design shall be determined by tests conducted in accordance with the basic relations and procedures outlined in ACI 211.1, using at least three different water-cement ratios. Under no circumstances shall the maximum water-cement ratio or the minimum cement content be changed outside the limits specified for the quality of concrete to be used in the work. Concrete-mix design test specimens shall be made as specified.

PART 3 EXECUTION

3.1 GRADES

In accordance with AFM 88-7, Chap. 5 grades for walks shall follow the existing grade as nearly as possible. The transverse grades for sidewalks shall not be less than 1/4-inch per foot. The longitudinal grade shall not be greater than 15 percent.Replacement curb and gutter shall restore drainage patterns. Replacement curb and gutter shall be installed with positive grade.

3.2 CONCRETE SAMPLING AND TESTING

Concrete sampling and testing shall follow the procedure outlined in specification Section 02509, UTILIDOR STRUCTURE.

3.3 READY-MIXED CONCRETE

Ready-mixed concrete shall conform to the requirements of ASTM C 94, with modifications in the referenced ASTM specification as follows:

(a) Section 4, MATERIALS. Delete in its entirety. Materials shall be as specified.

(b) Section 5, ORDERING INFORMATION. Delete and substitute the following: At least 10 calendar days before delivery of the concrete, the Contractor shall furnish a statement giving the source and properties of the proposed concrete-mix materials and the proposed concrete mix design strength tests for the class of concrete specified. Changes in the source of materials or the concrete-mix proportions shall not be made without prior written authorization. Proportions of the concrete mix design shall be determined by tests conducted in accordance with the basic

relations and procedures outlined in ACI 211.1, using at least three different water-cement ratios. Under no circumstances shall the maximum water-cement ratio or the minimum cement content be changed outside the limits specified for the class of concrete to be used in the work. At least three flexure-test specimens for each age to be strength tested shall be made and cured in accordance with ASTM C 192 and tested for flexure strength at 7 days and 28 days in accordance with ASTM C 39. From the results of the flexure-strength tests, a curve shall be plotted showing the relationship between the water-cement ratio and compressive strength. The maximum permitted water-cement ratio shall be that value shown by the curve to produce the design-minimum laboratory flexure strength at 28 days as specified for the class of concrete to be used in the work.

(c) Section 6, TOLERANCES IN SLUMP. Delete subsections 6.1.1 and 6.1.2 and substitute the following: The slump shall be not more than the value specified in Paragraph 2.6 CONCRETE MIX DESIGN.

(d) Section 11.3, CENTRAL-MIXING CONCRETE. Delete the reference to non-agitating equipment. The use of non-agitating equipment will not be permitted.

(e) Section 11.7. Delete and substitute the following: When a truck mixer or agitator is used for mixing or delivery of concrete, no water from the truck water system or elsewhere shall be added after the initial introduction of the mixing water for the batch. Concrete shall be delivered to the work site and discharge completed within 1-1/2 hours, or before the drum has turned 300 revolutions after the introduction of cement to the aggregates, whichever comes first. As an exception, in hot weather when the temperature of the concrete is 85° F and above, the 1-1/2 hour mixing and delivery time shall be reduced to 45 minutes. When a truck mixer is used for the complete mixing of the concrete, the mixing operation shall begin within 30 minutes after the cement has been intermingled with the aggregates.

(f) Section 16, BATCH TICKET INFORMATION. Add the following: With each load of concrete delivered to the site of the work, the ready-mixed concrete manufacturer shall furnish 2 delivery tickets. In addition to the requirements of Section 16.1, delivery tickets shall provide the following information:

Type and brand name of cement;
Amount of cement per cubic yard of concrete;
Maximum size of aggregate;
Weights of fine and coarse aggregate;
Amount and brand name of air-entraining admixture;
Total water content expressed by water-cement ratio; and
Certification that all ingredients are as approved.

Strength, frequency, and number of flexural strength tests shall be as specified.

(g) Section 18. Delete in its entirety.

3.4 HOT AND COLD WEATHER MIXING

During hot-weather conditions (temperatures exceeding 80°F), aggregates and

mixing water shall be kept as cool as possible. Chilled water or chopped ice shall be used, provided the water equivalent of the ice is calculated in the total proportion of mixing water. Aggregates shall be cooled by sprinkling with water immediately before use. Cement with a temperature in excess of 80° F shall not be used.

Concrete delivered in cold weather (temperatures below 45°F) shall have a temperature of at least 60° F but no more than 80°F when it is placed. Aggregates and mixing water shall be heated and mixed uniformly in the mixer before cement is introduced, and in accordance with ACI 306R.

3.5 FORM WORK

3.5.1 Setting Forms

Forms shall be set to the required line and grade and braced and staked to resist the pressure of concrete placement, and shall have uniform bearing throughout their entire lengths and widths. Sufficient forms shall be provided to allow continuous progress of the work without the necessity of removing forms less than 12 hours after placing concrete. Forms shall be cleaned and oiled with non-staining mineral oil immediately before the concrete is placed. Should the subgrade between forms become rutted or disturbed, it shall be reshaped and compacted to specified tolerances. Before concrete is placed, the subgrade or base course between forms shall be made true with a subgrade planer.

3.5.2 Form Tolerance

After forms are set in place, their top surface shall be checked for grade. Forms shall be checked for true with a straightedge not less than 10 feet long. The top of the form shall vary not more than 1/8 inch in 10 feet, and the longitudinal axis of the vertical face shall vary not more than 1/4 inch in 10 feet.

3.6 PLACING CONCRETE

3.6.1 General

Concrete shall not be placed until the subgrade, base course, and forms have been approved for line and grade. The subgrade shall be moistened to provide a uniformly dampened condition at the time concrete is placed. Retempered concrete or concrete which has partially hardened shall not be deposited. Exposed, newly placed concrete shall be protected.

3.6.2 Cold Weather Placing

Concrete shall be placed, protected, and cured in accordance with ACI 306R.

3.6.3 Hot-Weather Placing

Concrete shall be placed, protected, and cured in accordance with ACI 305R.

3.6.4 Hand Spreading of the Concrete

Hand spreading of concrete will be permitted; only when necessary and shall be done with square-faced shovels; rakes or hoes shall not be used. Except where reinforcing steel is indicated, concrete shall be placed and spread in one course, monolithic construction, and consolidated by internal

vibration, spading, and tamping along the face of the forms and at joints to remove voids and honeycomb. Depositing and spreading concrete shall be continuous, as far as possible, between transverse joints. In the event of an unavoidable interruption of the work continuing more than 1/2 hour, a construction joint shall be placed. Sections less than 15 feet in length between transverse joints will not be permitted and, if constructed, shall be removed at the Contractor's expense. Finishing operations shall not begin until surface water has disappeared or is removed in an approved manner. Applying dry cement as an absorptive material will not be permitted. Retempered concrete or concrete which has partially hardened shall not be deposited.

3.6.5 Placing Reinforcing Steel

When reinforcement is required, the concrete shall be placed in two operations. The initial pour shall be struck off to the entire width of the pour the required depth below the finished surface. The reinforcement shall be laid full length in final position without further manipulation. The top layer of concrete shall then be placed, struck off, and screeded. Any portion of the bottom layer of concrete, which has been placed more than 30 minutes without being covered with the top layer shall be removed and replaced without additional cost to the Government. Wire mesh reinforcement shall be end-lapped one full mesh plus 2 inches; edge laps shall be not less than 2 inches. Laps shall be securely fastened at each edge and at two additional points along the top. Reinforcement steel shall not be distributed along the road but shall be placed in the concrete slab directly from the hauling equipment or from a bridge riding on the forms, except for irregular widths and, where the use of hauling equipment is not practicable. The longitudinal bars of fabricated bar mats shall have a lap of at least 30 diameters. Width of the wire reinforcement sheets or bar mats shall be 4 inches less than the width of the slab. The allowable number of sheets between contraction joints or between contraction and expansion joints shall not exceed four. The length of wire fabric or bar mats, when properly placed in the work, shall be such that the reinforcement will clear transverse joints by not less than 2 inches or more than 4 inches.

3.7 JOINTS

3.7.1 General

Joints shall conform to ACI 325.9R and the specified requirements, except where indicated otherwise. Joints shall be constructed true to line with the face perpendicular to the surface of the pavement. Longitudinal joints shall be constructed parallel to the centerline of the pavement, unless otherwise required, and shall vary not more than 1/2 inch from the designated position. Transverse joints shall be constructed at right angles to the centerline of the pavement, unless otherwise indicated, and shall vary not more than 1/4 inch from a true line. In no case shall the joint fall outside the center 3 inches of the load-transfer device. When the pavement is laid in partial-width slabs, or where existing pavements are being widened, transverse joints in the new slab shall be placed in line with similar joints in the existing pavement.

3.7.2 Longitudinal Joints

Longitudinal Joints shall be constructed as either construction joints or as transverse contraction joints as defined herein.

3.7.3 Transverse Contraction Joints

Transverse contraction joints in reinforced concrete pavement shall be saw-cut to a minimum depth of 1/4 of the slab thickness for a weakened plane joint.

3.7.4 Construction Joints

Construction joints shall be placed at the end of pours and at places where paving operations are stopped for a period of more than 1/2 hour, except where such pours end at expansion joints. Except where indicated otherwise, construction joints in both plain and reinforced pavement shall have a load-transfer device (min #5 steel dowels or formed keyway). Construction joints shall be constructed with a 1/2-inch-wide by 1/2-inch to a 3/4 inch-deep sealing groove formed in the second pour by a wood or fiberboard temporary filler.

3.7.5 Expansion Joints

Expansion joints shall be spaced as indicated and shall include a load-transfer unit and a pre-molded joint filler, except that the pre-molded joint filler without the load-transfer unit shall be used for joints abutting concrete walks, curbs, structures, catch basins, manholes, inlets, and other fixed objects. The load-transfer unit and dowels for expansion joints shall be formed keyways or steel dowels, except where indicated otherwise.

3.7.6 Joint Fillers

Joint fillers for expansion joints shall extend the full width and depth of the joint. After installation, the top shall be not less than 1/2 inch and no more than 1 inch below the finished surface. Joint fillers shall be furnished in lengths not less than the lane width being poured. Where more than one length is required, the sections shall be securely laced or clipped together. Joint fillers shall be held in place during installation by an approved installing device. The top edge of the filler shall be protected with metal cap or approved temporary filler while concrete is being placed.

3.7.7 Sawing Concrete Joints

Joints constructed by sawing shall be in accordance with ACI 325.9R. Joints constructed with a concrete saw shall be cut as soon as concrete has hardened sufficiently to prevent edge damage. The width of the joint shall be approximately 1/8 inch and shall be widened at top of groove to 1/2 inch wide by 1/2 to 3/4-inch depth. For construction joints in small sidewalks, the groove may be consistently 1/8 inch wide and 2 inches deep, regardless of the slab thickness. The depth of the groove cut shall be approximately one-fourth of the depth of the slab or to the depth indicated. Sawing concrete shall be limited to widening joints to receive sealant and for joint repairs and minor jointing. Concrete sawing shall not be used to form contraction or weakened plane joints.

3.8 FINISHING CONCRETE

3.8.1 General

Concrete finishing shall be performed with finishing machines or hand-finishing methods, as approved.

3.8.2 Striking Off and Consolidating Concrete

Immediately after depositing, the concrete shall be struck off and consolidated by an approved finishing machine or float to conform to the finished grade. While striking off, a uniform ridge of concrete shall be maintained ahead of the screed for its entire length. Sufficient mortar shall be worked to the surface to provide a dense, smooth finish. Excessive operation of the machine over a given area will not be permitted. Concrete shall be compacted by mechanical vibration or by approved hand methods for the full width of the slab and adjacent to joints to prevent voids and segregation from occurring against joint material, load-transfer devices, and joint-assembly units. Equipment that cannot produce the required compaction and surface finish will be considered unsatisfactory. The Contractor shall then furnish alternate equipment and methods that shall produce satisfactory pavement at no additional cost to the Government.

3.8.3 Floating Concrete

After the concrete has been struck off and consolidated, the surface shall be smoothed by means of a mechanical float or by a suspended pan float. The mechanical float shall be adjusted so that the float will pass over each section of pavement at least twice and may make one or two additional trips, if required, to properly compact the concrete and to produce a uniform surface texture. Excessive operation over an area will not be permitted. Where mechanical floating is not possible, hand methods may be used, as approved.

3.8.4 Straight Edging and Surface Correction

After floating has been completed, but while the concrete is still plastic, the surface shall be checked for true with a straightedge not less than 10 feet long. The straightedge shall be placed at the center of the slab with the blade parallel to the centerline and pulled slowly and uniformly to the edge. The operation shall be repeated until the surface of the concrete is free from irregularities and is in continuous contact with the bottom of the straightedge. The straightedge shall then be moved forward half its length, and the operation repeated. Depressions in the surface shall be filled with freshly mixed concrete, struck off, consolidated, refinished, and retested.

3.8.5 Final Finish

For Gutters, Curbs, and Large Slabs: As soon as excess moisture or sheen has disappeared and while it is still possible to produce a uniform surface of gritty texture, the pavement shall be finished by dragging a seamless strip of damp burlap or cotton fabric not less than 5 feet and more than 10 feet in width over the full width of the pavement. The drag shall be pulled by a self-propelled foot-bridge supported on the forms. The pavement shall be given a final finish by dragging the burlap over the full width of the pavement for a second time.

For Sidewalks: As soon as excess moisture or sheen has disappeared and while it is still possible to produce a uniform surface of gritty texture, the pavement shall be finished by dragging a broom specifically designed for concrete finishing over the full width of the pavement, taking care to produce straight lines. Edges of the individual slab units shall have a smooth trowel texture, applied after the broom finish and including all four sides of the slab unit within 2 inches of the edge or joint.

3.8.6 Edging at Forms and Joints

Edges of the slab, transverse joints, and construction joints shall be worked with an edging tool and rounded to the required radius. Tool marks appearing on the surface of the slab shall be eliminated. Joints shall be tested with a 10-foot straightedge before the concrete has set and correction shall be made to align joints with each other and with adjacent slabs.

3.8.7 Hand Finishing

Hand finishing concrete pavements will be permitted when approved and under the following conditions:

(a) To finish concrete already deposited in the event of a breakdown of mechanical equipment.

(b) To finish narrow widths or irregular areas where operating the mechanical equipment is impractical.

(c) To finish minor amount of concrete paving where the use of mechanical equipment is impractical and hand finishing would be the normal procedure.

Hand finishing concrete pavement shall conform to ACI 325.9R and shall be performed by approved methods and equipment. When striking off and consolidating by hand methods, pours shall be limited to single-lane widths or less, unless otherwise approved.

3.8.8 Surface Test

Surface Test applies slabs larger than 8 ft wide only. On the day following placing of the concrete, the pavement shall be tested with a 10-foot straightedge parallel with, and perpendicular to, the centerline as directed. Areas showing high spots exceeding 1/8 inch but not exceeding 1/2 inch in 10 feet shall be marked and removed. Where the departure from the correct cross section exceeds 1/2 inch, the pavement shall be removed and replaced at the expense of the Contractor. Any section removed shall be not less than 10 feet in length. When it is necessary to remove and replace a section of pavement, any remaining portion of the slab adjacent to the joints that is less than 10 feet in length shall also be removed and replaced.

3.8.9 Removing Forms

Forms shall remain in place at least 12 hours after concrete has been placed, then shall be removed in a manner that will avoid damage to the pavement.

3.8.10 Honeycombed or Defective Work:

After the forms have been removed, the ends of joints shall be cleaned and minor honeycombed areas shall be pointed. Areas designated as "major honeycombed areas" will be considered defective work and shall be removed and replaced at the expense of the Contractor. An area or section so removed shall be not less than 10 feet in length and not less than the full width of the lane. When it is necessary to remove and replace a section of pavement, any remaining portion of the slab adjacent to the joints that is

less than 10 feet in length shall also be removed and replaced.

3.9 CURING

3.9.1 General

Freshly deposited concrete shall be protected from premature drying and maintained with minimum moisture loss at a relatively constant temperature for the period of time necessary for the hydration of the cement and proper hardening of the concrete. The Contractor shall have facilities ready for curing operations. Exposed surfaces shall be protected from drying. Wherever practical, continuous water curing is preferable. Wind breakers or sun-shading screens shall be provided when required by wind or drying conditions.

3.9.2 Cold-Weather Curing

Concrete shall be protected and cured to prevent loss of moisture and to maintain the recommended concrete temperatures for cold-weather concrete placement in accordance with ACI 306R.

3.9.3 Hot-Weather Curing

Concrete shall be protected and cured for 7 days during hot weather or during conditions of rapid drying of concrete in accordance with ACI 305R.

3.9.4 Curing Methods

Except during conditions of cold weather concrete placement, exposed concrete surfaces shall be wet cured for a minimum of 48 hours, beginning the process immediately after the finishing operations have been completed and as soon as concrete has hardened sufficiently to preclude surface damage. Concrete shall be cured by means of one or more of the methods listed:

(a) Continuous Water Spray: Continuous water spray of exposed concrete surfaces shall be achieved by use of soil-soaker hoses or fog-spray nozzles to keep the surface moist but not flooded for the curing period.

(b) Wetted Burlap or Cotton Mats: Exposed concrete surfaces shall be covered with two or more layers of wetted burlap cloth or cotton mats. Material shall be saturated with water both night and day and held securely in place during the initial curing period.

3.9.5 Final Curing

The final curing of exposed concrete surfaces shall be achieved by continuing the method of initial wet curing for the duration of the curing period or by the use of one of the following:

(a)Impervious sheets: Exposed concrete surfaces shall be covered with polyethylene sheets or Kraft paper. Adjoining sheets shall be lapped at least 6 inches and shall overlap ends at least 12 inches. Joints shall be cemented or taped to form a continuous membrane. Sheets shall be in good condition; all perforations, tears, holes, or rips shall immediately be patched. Curing sheets shall be folded over exposed edges of concrete and secured in

place.

(b)A liquid membrane-forming compound shall be applied under constant pressure to exposed concrete surfaces in one or two uniform spray applications, as directed, at a rate of 150 square feet per gallon of material by means of an approved pressure sprayer. Portable spray equipment shall be used for curing irregular-width pours or where the total amount of concrete is small. At the time of use, the curing compound shall be in a mixed state. The spray equipment shall provide effective stirring of the compound during application. The curing compound shall not be permitted to enter joints, nor shall it be allowed on surfaces to be subsequently joined with other concrete surfaces. The spraying unit shall be equipped with a calibrated gage to ensure the quantity applied is as required. The unit shall provide a fine fog spray to the surface of the concrete. An additional coat of compound shall be applied to all surfaces showing uneven coverage. Damage to any area covered with curing compound within the 7-day curing period shall be resprayed as specified. The Contractor shall provide alternate methods or equipment for the protection of the pavement in case of a breakdown of spray equipment. Failure to provide complete and uniform coverage at the required rate will be cause for discontinuation of this curing method.

3.10 JOINT SEALING

3.10.1 Preparation

Temporary fillers shall be removed manually or with a saw cut. The joint opening and adjacent concrete surfaces shall be cleaned of extraneous matter. The joint shall be cleaned by sand blasting or by other approved methods. The residue from a sawed groove or the dust and sand present after sand blasting or cleaning shall be removed.

3.10.2 Joint Sealant

Longitudinal and transverse, expansion, and isolation joints shall be sealed with the specified elastic joint sealant. Joint sealant shall be handled, prepared, and placed in strict accordance with the manufacturer's printed or certified instructions. Special care shall be taken to preclude damage by overheating the sealant. A copy of the manufacturer's printed or certified instructions shall be on the job for inspection and use before beginning the work. The sealant shall not be placed when the air temperature is less than 50° F in the shade. Each joint shall be cleaned of foreign matter, including membrane-curing compound, and the joint faces shall be clean and surface dry when the seal is applied. Immediately after cleaning, joints shall be sealed in accordance with the manufacturer's written directions, completely filling the joint. The sealant shall be stirred during heating so that localized overheating does not occur. Sealing compound spilled on the surface of the concrete outside the joint or adjacent surfaces shall be removed immediately. Traffic shall not be permitted over the poured joint until the compound has hardened sufficiently to resist picking up of sealing compound. Sand or similar material shall not be used as a cover for the seal.

3.11 DEFECTIVE PAVEMENT

3.11.1 Repairs and Replacement of Pavement Slabs

Broken or defective slabs shall be replaced or repaired at no additional cost to the Government. Non-reinforced concrete pavement slabs that contain the following defects shall be removed and replaced:

(a) Pavement slabs with multiple cracks through the full depth of the slab separating the slab into three or more parts between contraction joints.

(b) Pavement slabs with one or more cracks through the pavement extending diagonally across more than one-third of the slab, in either a transverse or longitudinal direction replacing the smaller portion of the slab. Pavement slabs containing a single diagonal crack intersecting the transverse and longitudinal joints within one-third of the width and length of the slab from the corner, shall be repaired by replacing the smaller portion of the slab.

3.11.2 Full Depth Random Cracks

Random cracks penetrating the full depth of the pavement shall be grooved and sealed with the specific joint sealant. The sealing groove shall be approximately 1/2-inch wide and 3/4-inch deep. Random cracks that are tight and do not penetrate the full depth of the pavement shall be left undisturbed. When necessary, the depth of crack penetration shall be determined by inspection of test cores, not less than 4 inches in diameter, drilled by the Contractor at his expense, at locations directed. Core holes shall be refilled with Portland cement concrete bonded to the pavement with polysulfide epoxy binder or with non-shrink grout conforming to ASTM C 1107 and positive expansion when tested in accordance with ASTM C 827. When a transverse random crack terminates in or crosses a transverse contraction joint, the uncracked portion of the joint shall be filled with epoxy resin mortar or grout and the crack routed and sealed with the specified joint sealant. When a transverse random crack approximately parallels the planned contraction joint and is within 25 percent of the slab length from a contraction joint in non-reinforced pavement, the crack shall be routed and sealed and the joint filled with a bonded grout. When a transverse random crack is more than 25 percent of a slab length from the nearest contraction joint in non-reinforced pavement, both the joint and the crack shall be sealed with the specified joint sealant.

3.11.3 Pavement Protection and Opening to Traffic

The pavement shall be protected from damage until acceptance of the work. Traffic shall be excluded from the pavement until the concrete is at least 14 days old or until specimen beams have reached a modulus of rupture of 550 psi, and as permitted. To expedite construction, operation of paving mixers and batch hauling equipment will be permitted on new pavement after the pavement has been cured for at least 7 days, the joints have been sealed or protected, and specimen beams have reached a modulus of rupture of 500 psi.

The pavement carrying construction traffic or equipment shall be kept clean, and spillage of materials or concrete shall be immediately removed. Damage to pavement caused by equipment or traffic on the pavement before acceptance shall be corrected by repairing or replacing pavement at no additional cost to the Government.

3.12 CLEANUP AND WASTE DISPOSAL

The Contractor shall clean up the site and dispose of waste materials and debris. After completion of the protection and curing period, insulating and curing materials shall be removed. Joints shall be sealed and excess materials removed from the site. Straw shall be removed from the site or distributed where directed. Concrete surfaces shall be swept and washed free of stains, discoloration, and loose particles.

-- End of Section --

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DIVISION 13 - SPECIAL CONSTRUCTION

SECTION 13280

HAZARDOUS MATERIALS ABATEMENT

-- End of Section Table of Contents --

SECTION 13280

HAZARDOUS MATERIALS ABATEMENT

PART 1 GENERAL

1.1 REFERENCES

The planning and execution of work by the Contractor shall comply with the latest, or as noted, editions of the following guides, standards, and codes. In the case of discrepancies between the following guides, standards, and codes, and the RFP Design Requirements, the more stringent shall apply. 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.

1.1.1 Planning and Execution of Work

The planning and execution of work by the Contractor shall comply with the current, or as noted, editions of the following guides, standards, and codes. In the case of discrepancies between the following guides, standards, and codes, and the RFP Design Requirements, the more stringent shall apply.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z9.2	(1979; R 1991) Fundamentals Governing the Design and Operation of Local Exhaust Systems
ANSI Z87.1	(1989; Errata; Z87.1a) Occupational and Educational Eye and Face Protection
ANSI Z88.2	(1992) Respiratory Protection

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 61	National Emissions Standards for Hazardous Air Pollutants
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste

40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 268	Land Disposal Restrictions
40 CFR 763	Asbestos
42 CFR 84	Approval of Respiratory Protective Devices
49 CFR 107	Hazardous Materials Program Procedures
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packaging
49 CFR 173.216	Shippers - General Requirements for Shipments and Packaging, Asbestos, blue, brown or white

COMPRESSED GAS ASSOCIATION (CGA)

CGA G-7	(1990) Compressed Air for Human Respiration
CGA G-7.1	(1997) Commodity Specification for Air

ARMY ENGINEERING MANUALS (EM)

EM 385-1-1	U.S. Army Corps of Engineers Safety and Health Requirements Manual

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 340/1-90-018	(1990) Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance
EPA 340/1-90-019	(1990) Asbestos/NESHAP Adequately Wet Guidance
EPA 560/5-85-024	(1985) Guidance for Controlling Asbestos-Containing Materials in Buildings

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Pub No. 84-100	(1984; Supple 1985, 1987, 1988 & 1990)

NIOSH Manual of Analytical Methods

UNDERWRITERS LABORATORIES (UL)

UL 586	(1996) High-Efficiency, Particulate, Air Filter Units

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E 119	Fire Tests of Building Construction and Materials
ASTM D 1331	Surface and Interfacial Tension of Solutions of Surface-Active Agents
ASTM E 1368	Visual Inspection of Asbestos Abatement Projects
ASTM E 1553	Practice for Collection of Airborne Particulate Lead During Abatement and Construction Activities
ASTM E 1613	Standard Method for Determination of Lead by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES), Flame Atomic Absorption Spectrometry (FAAS), or Graphite Furnace Atomic Absorption Spectrometry (GFAAS) Techniques
ASTM E 1644	Practice for Hot Plate Digestion of Dust Wipe Samples for the Determination of Lead
ASTM E 1726	Sample Digestion of Soils for the Determination of Lead by Atomic Spectrometry
ASTM E 1727	Field Collection of Soil Samples for Lead Determination by Atomic Spectrometry Techniques
ASTM E 1728	Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques
ASTM E 1729	Field Collection of Dried Paint Samples for Lead Determination by Atomic Spectrometry Techniques
ASTM E 1741	Preparation of Airborne Particulate Lead Samples Collected during Abatement and Construction Activities for Subsequent Analysis by Atomic Spectrometry

ASTM E 1792	Wipe Sampling Materials for Lead in Surface Dust
ASTM D 4397	Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 701	(1996; TIA 96-1, 96-2) Methods of Fire Tests for Flame-Resistant Textiles and Films

STATE OF ALASKA ADMINISTRATIVE CODES (AAC)

8 AAC 61	Occupational, Health and Environmental Control, Toxic and Hazardous Substances
18 AAC 60	Environmental Conservation - Solid Waste Management

U S AIR FORCE, EIELSON AIR FORCE BASE

HMWMP	Hazardous Waste/Hazardous Material Management Plan
FW 32-7005	Hazardous Materials Management
PWDBPA	EIELSON AFB PLAN Preliminary Waste Disposal And Borrow Pit Areas Plan
OCPEP	EIELSON AFB PLAN Example Outline for Construction Project Environmental Protection/Borrow Pit Plan

1.2 SUMMARY

1.2.1 Section Includes

This section includes requirements for the proper removal and disposal of hazardous materials from the project utilidors prior to demolition and installation of new piping and equipment.

1.2.2 Scope of Work

A survey of the utilidors has been performed and results indicate asbestos-containing or asbestos-contaminated insulation exists throughout the utilidors. Asbestos was also detected in mastics and sealants on utilidor lids, joints, walls, gaskets at flanged connections and in packing in valves. Some of the manholes have been abated of asbestos insulation. Due to flooding, all surfaces and insulation should be considered contaminated with asbestos. Water on the floor of the utilidor is assumed to be asbestos contaminated. All water removed from the utilidors shall be

filtered prior to disposal in the sanitary sewer system. This water must contain less than 7,000,000 asbestos fibers per liter prior to discharge.

Lead-containing paint was detected on manhole lids, piping, hatches, ladders, and mechanical supports. Abandoned and unserviceable lead shielded cable shall be identified by Eielson personnel or private utility owner for removal by the Contractor. The Contractor shall coordinate cable identification. Metal items removed as part of the project, whether painted or not, shall be recycled. All loose and flaking paint chips shall be collected and disposed of as hazardous waste.

Eielson AFB survey data and additional data gathered specifically for this project can be obtained from the Eielson project office.

Eielson AFB considers utilidors to be Permit Required Confined Spaces. Contractor shall have a confined space program for entry and performing work in utilidors that complies with the U.S. Army Corps of Engineers Safety and Health Requirements Manual and 29 CFR 1910.146. Confined space permits shall be issued prior to any utilidor work.

1.2.3 Related Sections

Section 01012, DESIGN AFTER AWARD.
Section 01355, ENVIRONMENTAL PROTECTION
Section 02509, UTILIDOR STRUCTURE
Section 02510, WATER DISTRIBUTION SYSTEM
Section 02531, SANITARY SEWERS
Section 02559, STEAM DISTRIBUTION SYSTEM
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.3 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.

SD-01 Preconstruction Submittals

Hazardous Materials Abatement Plan; G

Before the start of any construction, the Contractor shall submit a 95% design for the removal and disposal of hazardous materials with the 65% design submittal. The Contractor shall submit a 100% hazardous materials design with the 95% design submittal. Two weeks after the 100% hazardous materials design has been submitted, a complete hazardous materials abatement plan and all submittals required by Section 13280 ASBESTOS ABATEMENT, specification prepared by the Contractor, shall be provided to the Government for review and approval.

Design Drawings; G.

Submit design drawings in accordance with Section 01012, DESIGN AFTER AWARD. Hazardous materials abatement work may be incorporated on demolition drawings.

Specifications; G.

Submit new detailed specification sections to specify the requirements for testing, removal, and disposal of hazardous materials from all areas of the project in accordance with Section 01012, DESIGN AFTER AWARD. Unified Facilities Guide Specification Section 13280 ASBESTOS ABATEMENT and Section 13281 LEAD HAZARD CONTROL ACTIVITIES.

Design Analysis; G.

Submit a design analysis in accordance with Section 01012 DESIGN AFTER AWARD. The basis of design shall establish conformance to applicable referenced codes, and suitability of the utilidor design.

Submit all work plans, disposal plans, testing results, and waste manifests as required by Unified Facilities Guide Specification Section 13280 HAZARDOUS MATERIALS ABATEMENT and Section 13281 LEAD HAZARD CONTROL ACTIVITIES. Copies of all testing results shall be maintained throughout construction. At the completion of the hazardous materials portion of the project, copies of all abatement work plans, disposal plans, testing results and reports shall be compiled in one well organized and easy to read folder. Concurrently, two copies of this folder shall be sent out with letters of transmittal to the Contracting Officer and the 354th Environmental Flight Hazardous Waste Manager (377-1659).

1.4 QUALIFICATIONS

1.4.1 Designated Competent Person

The Contractor shall use properly qualified and trained personnel to perform duties as the competent person. The person selected shall have prior experience in the administration and supervision of abatement projects, including exposure assessment and monitoring, work practices, abatement methods, disposal procedures and site safety and health requirements.

1.4.2 Supervisors and Workers

The Contractor shall use only properly qualified and trained supervisors and workers for all abatement work. All workers and supervisors shall have current certificates of training for the level of hazardous materials work being performed.

1.4.3 Designated Industrial Hygienist

The Contractor shall select an independent Industrial Hygienist to prepare the Contractor's Hazardous Materials Abatement Plan, prepare and perform

training, direct air monitoring, and assist the Contractor's Competent person in implementing and ensuring that safety and health requirements are complied with during the performance of all required work.

1.4.4 Independent Testing Laboratory

An independent testing laboratory shall be used to perform all testing and analysis required during hazardous materials abatement. The lab shall meet the requirements as set forth in the U.S. Army Corps of Engineers Unified Facilities Guide Specification, Section 13280 ASBESTOS ABATEMENT and Section 13281 LEAD HAZARD CONTROL ACTIVITIES.

1.4.5 Citations on Previous Projects

The Contractor and all subcontractors shall provide a record of any citations and penalties received from federal, state, or local regulatory agencies relating to asbestos or hazardous materials abatement activities performed by the contractor or subcontractor.

1.5 HAZARDOUS MATERIALS WORK PLAN

The Contractor shall develop and submit a written comprehensive site-specific Hazardous Materials Work Plan covering all abatement work to be performed by the contractor and subcontractors. The plan shall describe the personal protective equipment to be used, location and description of regulated areas, abatement methods, storage and disposal procedures, sampling and testing procedures, environmental controls, emergency response procedures, schedule and work coordination plans, and security procedures.

1.6 MEDICAL REQUIREMENTS

Medical requirements shall conform to 29 CFR 1926.1101 for asbestos abatement work, to 29 CFR 1926.62 for lead abatement work and to other pertinent state or local requirements.

1.7 TRAINING

Supervisor and worker training shall be in accordance with all federal, state, and local regulations. In addition, each worker shall be instructed by the Contractors' Industrial Hygienist on the specific health and safety hazards associated with the project, hazard communication program, specific work practices and controls required, security procedures, and the air monitoring program.

1.8 RESPIRATORY PROTECTION PROGRAM

The Contractor shall establish in writing and implement a respiratory protection program in accordance with 29 CFR 1926.62 and .1101, 29 CFR 1910. 134, ANSI Z88.2, CGA G-7, CGA G-7.1, and the specifications.

1.9 HAZARD COMMUNICATION PROGRAM

A hazard communication program shall be established and implemented in accordance with 29 CFR 1926.59.

1.10 LICENSES, PERMITS, AND NOTIFICATIONS

Necessary licenses, permits, and notifications shall be obtained in conjunction with the project's hazardous materials abatement, transportation, and disposal actions. Timely notifications of such actions shall be furnished as required by federal, state, and local regulations. The contractor is responsible for any fees or costs associated with licenses, permits, or notifications.

1.11 PERSONAL PROTECTIVE EQUIPMENT

The contractor shall provide respirators, protective clothing and eye protection at no cost to the workers. All personal protective equipment shall meet federal, state, and local requirements for the type work performed.

1.12 HYGIENE FACILITIES AND PRACTICES

The contractor shall establish a decontamination and shower area for the decontamination of employees, materials and equipment as required by 29 CFR 1926.62 and 1926.1101. The Contractor shall ensure that employees enter and exit the regulated area through the decontamination area.

1.13 REGULATED AREAS

All Class I, II, and III asbestos work shall be conducted within a regulated area. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to hazardous materials.

1.14 SIGNS AND LABELS

Danger signs and tape shall be used to demarcate areas where hazardous materials work is being performed and shall be posted at work area entrances, exits, decon areas, emergency exits, and waste disposal areas. Warning labels shall be affixed to all components or containers containing asbestos or other hazardous waste in accordance with all federal, state, and local regulations.

1.15 LOCAL EXHAUST VENTILATION

Local exhaust ventilation equipment shall conform to ANSI Z9.2, 29 CFR 1926.62, and 29 CFR 1926.1101. Filters on local exhaust system equipment shall conform to ANSI Z9.2 and UL 586.

1.16 TOOLS

Vacuums shall be equipped with HEPA filters and have sufficient capacity to efficiently collect, transport, and retain asbestos or other hazardous waste. Power tools shall not be used to remove asbestos unless the tool is equipped with an integral HEPA vacuum collection system. Reusable tools shall be thoroughly decontaminated prior to being removed from regulated areas.

1.17 AIR MONITORING EQUIPMENT

The Contractor's industrial hygienist shall approve air-monitoring equipment to be used to collect samples. Pumps and sampling cassettes shall be suitable for the contaminate being sampled.

1.18 EXPENDABLE SUPPLIES

Glove bags, disposal containers, sheet plastic, and other expendable materials shall conform to the requirements of U.S. Army Corps of Engineers, Unified Facilities Guide Specification Section 13280 ASBESTOS ABATEMENT and Section 13281 LEAD HAZARD CONTROL ACTIVITIES.

1.19 CONFINED SPACE COMPLIANCE PROGRAM

A written confined space compliance program shall be established and implemented in accordance with 29 CFR 1910.146 and with the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, latest edition. Figure 6-1 of the USACE publication is a flowchart which will be valuable in helping the Contractor in the decision making process.

PART 2 PRODUCTS

2.1 ENCAPSULANTS

Encapsulants shall meet the requirements identified in Corps of Engineers, Unified Facilities Guide Specification Section 13280 ASBESTOS ABATEMENT and Section 13281 LEAD HAZARD CONTROL ACTIVITIES.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

The Contractor shall identify all hazardous materials in the project to be removed, create a work plan for the safe removal of these materials, remove the materials, and transport and dispose of them in accordance with all applicable federal, state, and local regulations, the specifications, and the approved work plan. Coordinate all project abatement activity with the work of other trades at the job site to ensure that unprotected workers are not exposed to hazardous materials. Provide documentation that hazardous materials have been removed, properly disposed of and the work area is safe for unprotected workers.

3.2 ASBESTOS ABATEMENT

Asbestos abatement work shall be in accordance with referenced standards and regulations, Design Drawings, Design Analysis, the Specifications, and the approved Contractor's Hazardous Materials Abatement Plan. Regulated work areas shall be established for all asbestos abatement work. Personal, work area, and environmental air monitoring shall be performed in accordance with 29 CFR 1926.1101.

3.3 LEAD BASED PAINT REMOVAL

Lead based paint removal work shall be in accordance with referenced standards and regulations, the specifications, and the approved Contractor's Hazardous Materials Work Plan. Regulated work areas shall be established for all lead abatement work. Personal, work area, and environmental air monitoring shall be performed in accordance with 29 CFR 1926.62.

3.4 CRITICAL BARRIERS

Critical barriers shall be installed in utilidors and manholes to prevent the spread of contamination throughout the utilidor, adjacent work areas, or to the public. Critical barrier shall be installed as described in Corps of Engineers, Unified Facilities Guide Specification Section 13280 ASBESTOS ABATEMENT.

Barriers installed between utilidor sections shall be left in place after abatement activities are completed. They shall be left in place during piping removal, replacement and re-insulating activities. Emergency egress shall be provided between abatement barriers. Contractor shall remove these barriers only after Government acceptance of the project.

3.5 METHODS OF COMPLIANCE

The Contractor shall employ proper control and handling procedures in accordance with 29 CFR 1926.62, 29 CFR 1926.1101 and U.S. Army Corps of Engineers, Unified Facilities Guide Specification Section 13280 ASBESTOS ABATEMENT and Section 13281 LEAD HAZARD CONTROL ACTIVITIES. These procedures must be clearly described in the Contractor's Hazardous Materials Work Plan. Wrap and cut procedures will be used when practical for the removal of pipes insulated with asbestos. Wrap and cut procedures shall be as shown in U.S. Army Corps of Engineers, Unified Facilities Guide Specification Section 13280 ASBESTOS ABATEMENT.

Asbestos shall be packaged for tranport following 49 CFR 173.216. In addition to 49 CFR 173.216, transite pipe shall be transported in dust and sift proof containment.

3.6 FINAL CLEANING AND INSPECTION

Upon completion of abatement, the regulated area shall be cleaned by collecting, packing, and storing all gross contamination. A final cleaning shall be performed using HEPA filtered vacuums and wet cleaning of all exposed surfaces and objects in the regulated area. Upon completion of the final cleaning, the Contractor and Contracting Officers Representative shall conduct a final visual inspection of the cleaned area in accordance with ASTM E 1368.

Water collected from cleaning operations shall be collected and filtered through a dual filtration system. A first filter shall be provided to remove fibers 20 micrometers and larger, and a final filter provided that removes fibers 5 micrometers and larger.

3.7 LOCKDOWN

Prior to removal of plastic barriers and after completing the final visual inspection requirements, a lockdown encapsulant shall be spray applied to ceilings, walls, floors, and other surfaces in the regulated area.

3.8 EXPOSURE ASSESSMENT AND AIR MONITORING

Exposure assessment, air monitoring, and analysis of airborne contaminates shall be performed in accordance with 29 CFR 1926.62, 29 CFR 1926.1101, and U.S. Army Corps of Engineers, Unified Facilities Guide Specification Section 13280 ASBESTOS ABATEMENT and Section 13281 LEAD HAZARD CONTROL ACTIVITIES. Exposure assessment and air monitoring shall be performed by the Contractor's independent Industrial Hygienist. Samples shall be analyzed by the Contractor's independent testing lab.

3.9 CLEARANCE CERTIFICATION

When hazardous materials abatement and final cleanup is completed the Contractor will certify in writing that the area is safe before unrestricted entry is permitted.

3.10 CLEANUP AND DISPOSAL

ll hazardous waste including contaminated filters, scrap, containers, equipment, and clothing shall be placed in proper disposal containers for disposal. All asbestos waste shall be disposed of at the Eielson AFB asbestos landfill in accordance with 40 CFR 61, State, and Eielson AFB procedures. Lead contaminated waste and other hazardous waste must be handled, stored, and transported in accordance with 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 263, and Eielson AFB Hazardous Waste/Hazardous Materials Management Plan. Hazardous waste generated on Eielson AFB shall be turned over to the Eielson AFB, CE Hazardous Waste Facility for disposal.

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DIVISION 16 - ELECTRICAL

SECTION 16000

UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

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SECTION 16000

UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

PART 1 GENERAL

1.1 REFERENCES

The current editon of 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.

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA RN 1	Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	National Electrical Code

UNDERWRITERS LABORATORIES (UL)

UL 6	Rigid Metal Conduit
UL 44	Rubber Insulated Wires and Cables
UL 467	Grounding and Bonding Equipment
UL 514A	Metallic Outlet Boxes
UL 514B	Fittings for Conduit and Outlet Boxes
UL 1242	Intermediate Metal Conduit

1.2 Design and Execution of Work

The design and execution of work by the Contractor shall comply with the latest editions of the following guides, standards, and codes. In the case of discrepancies between the following guides, standards, and codes, and the RFP Design Requirements, the more stringent shall apply.

(1) All materials shall comply with standards of American Society for Testing and Materials (ASTM) and American National Standards Institute (ANSI).

(2) Applicable standards from Electronic Industries Alliance (EIA).

(3) Applicable standards from Illuminating Engineering Society of North America (IES), (IESNA).

(4) Applicable standards from Institute Of Electrical And Electronic Engineers (IEEE).

(5) Applicable standards from Insulated Cable Engineers Association.

(6) National Electrical Code (NEC).

(7) Applicable sections from the National Electrical Safety Code (NESC).

(8) Applicable sections from the Occupational Safety and Health Administration (OSHA).

(9) Applicable sections from the Rural Electrification Association (REA).

(10) Applicable standards from the Telecommunications Industries Association (TIA).

(11) Applicable standards from the Underwriters' Laboratories, Inc. (UL).

(12) National Fire Protection Association (NFPA).

1.3 SUMMARY

1.3.1 Section Includes

This section includes requirements for the provision of the utilidor power, communications, and lighting systems.

1.3.2 Components Included

This section includes:

(1) Communication cable rack system within utilidor (North Street project area only).

(2) Power and lighting requirements.

1.3.3 Related Sections

Section 01012, DESIGN AFTER AWARD.
Section 02300, EARTHWORK.
Section 02509, UTILIDOR STRUCTURE
Section 02510, WATER DISTRIBUTION SYSTEM
Section 02531, SANITARY SEWERS
Section 02559, STEAM DISTRIBUTION SYSTEM
Section 02741, ROADWAY
Section 02770, CONCRETE SIDEWALKS AND CURBS AND GUTTERS
Section 13280, HAZARDOUS MATERIALS ABATEMENT

1.4 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.

SD-01 Preconstruction Submittals

Design Drawings; G.

Submit design drawings in accordance with Section 01012, DESIGN AFTER AWARD.

Specifications; G.

Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed utilidor power and communications system in accordance with Section 01012, DESIGN AFTER AWARD. Unified Facilities Guide Specifications Sections 16375 ELECTRICAL DISTRIBUTION SYSTEM UNDERGROUND shall be properly edited for this project and submitted.

Design Analysis; G.

Submit a design analysis in accordance with Section 01012, DESIGN AFTER AWARD. The basis of design shall establish conformance to applicable referenced codes, and the suitability of the utilidor design.

SD-03 Product Data

Conduit and Fittings;

Wire and Cable;

Grounding and Bonding Equipment;

As part of Design After Award submit product cut sheets in accordance with section 01012 DESIGN AFTER AWARD. Products shall meet the requirements of Part 2 PRODUCTS of this section.

1.5 DELIVERY, STORAGE AND HANDLING

1.5.1 Delivery of Products

Deliver materials to the site in an undamaged condition. Deliver proprietary items in manufacturers' original unopened and undamaged containers or packages with the manufacturer's name and brand and other pertinent data such as specification number, type and class, date of manufacturer and shelf life clearly labeled. Schedule delivery of materials to coincide with scheduled installation.

1.5.2 Storage and Handling

Carefully store material off the ground to provide proper ventilation, drainage and protection against weather and dampness. Protect materials from marring, staining, rust, and damage from contaminants such as grease, oil, and dirt. Handle materials to avoid damage. Replace damaged material.

1.6 OPERATING AND MAINTENANCE DATA

O & M training shall be provided by the Contractor. Operating training of the electrical equipment and, specifically the Utility Monitoring System extension, shall be provided as part of other system training.

PART 2 PRODUCTS

2.1 SYSTEM PERFORMANCE

Design of all system components shall be based upon the recommendations of a Contractor engaged Professional Engineer registered in the State of Alaska who is experienced in utilidor and utilities design. The following are design requirements for specific components. Product cut sheets shall be submitted as part of the design after award. These product cut sheets shall be coordinated with the Design Drawings, Design Analysis, and Specifications submitted by the designer of record.

2.1.1 Lighting Requirements

Utilidor Manhole Lighting System Requirements (See Manhole Electrical Equipment Schedule on Sheet E1.1b of the Drawings)

(1) Utilidor manhole lighting shall use fixtures rated for wet location with long-life incandescent lamps, vapor tight, gasketed, metal housing, and wire guard.

(2) Fixtures provided within each manhole shall be controlled by local switches with weatherproof covers at manhole entries and at other locations indicated on the Drawings.

(3) All areas shall be designed to provide illuminance levels recommended in the IES Lighting Handbook.

(4) As a minimum, number of fixtures shall be provided in each manhole per schedule on the Drawings.

2.1.2 Telephone Communications System Requirements

(1) Vertical rack system shall be constructed from strut as shown on Sheet E3.1 of the Drawings.

(2) Vertical racks shall be spaced a maximum of five foot on center throughout the utilidor.

2.1.3 Electrical Service Requirements

(1) New primary and secondary services at designated manholes shall be in accordance with NEC and NESC.

(2) New secondary services at designated manholes shall be provided for power to all manholes (not every manhole will have an electrical service). Components of the existing secondary services, with the exception of service transformers, shall not be reused. Utilize existing service transformers or provide new transformers where required due to increased circuit size and/or voltage drop.

(3) Service disconnects shall be combination meter/circuit breaker type only and rated for service entrance. Manhole locations requiring service drops from poles shall have meter disconnects mounted on the pole. All exterior mounted equipment shall be NEMA 3R.

(4) Existing service locations are shown on Sheets E1.2, E1.3

and E2.1.

(5) Manholes not located near a service pole shall be powered by spare or new breakers in or on the closest building load center or other available load center.

(6) New overhead secondary conductors shall not be used between poles.

2.1.4 Electrical System Requirements

(1) All work in manholes shall be in accordance with NEC.

(2) Manholes requiring sump power are shown on Sheet E1.2. Sump pump outlets for specific man holes are listed in schedules on Sheet E1.1B.

(3) All electrical equipment in manholes shall be U.L. listed for wet location and appropriate for use in manhole environment.

(4) A single receptacle with weatherproof cover shall be provided for power connection of sump.

(5) As a minimum, number of duplex receptacles with while-in-use cover shall be provided in each manhole for general use per manhole Electrical Equipment Schedule on Sheet E1.1B.

(6) All circuit breakers serving manhole utilidor general use duplex receptacles shall be of the GFCI type.

2.1.5 Compliance Checking

Compliance with utilidor, communication and lighting system requirements will be determined by a review of drawings, specifications and calculations submitted at the design completion and by a review of manufacturer's catalog data, drawings and test reports submitted during construction.

2.2 COMPONENT PERFORMANCE

2.2.1 Underground Electrical Work

2.2.1.1 Conduit and Fittings

Metal conduit shall be rigid steel (zinc-coated) conforming to UL 6, intermediate metal conduit (IMC) (zinc-coated) conforming to UL 1242, or rigid metal conduit, PVC coated conforming to NEMA RN 1. Plastic conduit shall not be used.

Metal fittings for rigid steel conduit and IMC shall be cast-metal with gasketed closures conforming to UL 514A and UL 514B.

2.2.1.2 Wire and Cable

Conductors shall be copper. 600 volt wires and cables shall conform to UL 44 type XHHW or RHW. Wires and cables manufactured more than 12 months prior to date of delivery to the site shall not be used. The year of manufacture shall be durably marked on the outer surface of each cable at regular intervals throughout cable length. All wiring shall be in conduit.

2.2.2 Grounding and Bonding Equipment

Grounding and bonding shall be in accordance UL 467. All wiring shall include an insulated green ground conductor. Insulation shall match other wire and cable. Grounding Electrodes shall be 3/4 inch minimum diameter, copper material, and 10-foot minimum length.

2.2.3 Communications Work

2.2.3.1 Underground Communications Work

Existing distribution and service entrance cables shall remain in operation during construction. All cable splices, if required, shall be performed with no interruption of service. Rack system for existing cabling shall be installed as part of new work.

2.2.4 Power Services and Equipment

New services shall be provided as required such that system power for each manhole is available. All installations shall be suitably listed and protected from damage.

2.2.5 Utilities Monitoring System Infrastructure

Infrastructure for a future Utilities Monitoring System (UMS) is part of utilidor repair work. The infrastructure includes the following three items:

(1) Conduits. Conduits are for UMS instrument cables [Not in Contract (NIC)] back to a central, field data collection point. Conduit shall terminate at a location in a UMS monitored manhole chamber. Location shall be suitable for collecting cable from UMS instruments (instruments NIC). A power conduit (cable NIC) shall be installed between the data collection point and MH electric distribution system. A spare conduit shall be installed between the data collection point and adjacent MH chamber. Installed conduits shall have a pull string.

(2) Field Data Collection Point. Use NEMA 3R box(es) located above grade at a manhole shaft as a data collection point. Minimize data collection points when feasible. The maximum cable length between data collection point and UMS instrument is 300 feet.

(3) Install instrument-sensor ports on water, steam, and condensate pipes at Master Manhole Monitoring locations. These locations and sensors are described in the following paragraphs. Valve and cap each port. Standard ¾-inch diameter ports are typical. Locate ports in conjunction with MH piping layout. The Contractor shall confirm port locations and configuration with the Government during the Design Analysis.

The future UMS will monitor water, sewer and heat utilities. For Phase IV utilidor, the UMS (NIC) will require the following:

(1) Master Manhole Monitoring at MH 113
(2) Sump Alarms at MHs 501, 503, 705, 111, 112, 201, 202, and 203

The data will be monitored at manholes and reported back to a central

computer located at the Water Treatment Plant (WTP), Building 3228, for logging, processing and alarming (NIC). The computer (NIC) provides terminal access and display of the information in a graphical manner.

The interconnection of the monitoring data through remote telemetry units (RTUs) to the WTP shall be via the existing telephone cable plant using modems or line driver modules (NIC).

The sump locations (where there are no other signals to report) shall have a single high water, Sump Alarm signal reported to the WTP (NIC).

Each Master Manhole location will monitor the following analog (AI) and digital (DI)inputs:

(1) Steam: pressure (AI) and temperature (AI)
(2) Condensate: pressure (AI), temperature (AI), and quality (AI)(up to 3 points within a manhole)
(3) Water: pressure (AI)
(4) Lift Stations - (when present): flow (AI), pump on/off(2 pumps)(DI), and wet well high level (DI)
(5) Sump - (when present): high level alarm (DI)

Sensors (NIC) shall include the following:

(1) High level alarms shall be sensed using float switches (w/Normally Open contacts)
(2) Condensate Quality shall be sensed using conductivity probes installed in the invert of the condensate main (4-20maDC AO)
(3) Pressure: Pressure Sensor and Transmitter (4-20maDC AO)
(4) Temperature: Temperature Sensor and Transmitter (4-20maDC AO)
(5) Lift Station flow: Utilize a local analyzer to monitorpump run and off times to calculate a flow through the station(4-20maDC AO)

2.2.6 Compliance Checking

Compliance with the power, lighting and communications component requirements will be determined by a review of the drawings, and specifications submitted at design completion and by a review of manufacturer's catalog data, drawings instructions, statements, reports and certificates submitted during construction.

PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Verification of Conditions

Coordinate the electrical work with the work of other trades at the job site to ensure that components which are to be incorporated into the electrical system are available to prevent delays or interruptions as the work progresses. Verify that conditions are suitable for installation of the electrical system.

3.2 INSTALLATION

Electrical installations shall conform to NFPA 70, and to the requirements specified herein. Provide new equipment and materials.

3.2.1 Installation Underground

3.2.1.1 Underground Conduit/Duct without Concrete Encasement

The type of conduit shall be rigid galvanized steel. The top of the conduit shall be not less than 24 inches below grade, and shall have a minimum slope of 3 inches in each 100 feet away from buildings and toward manholes and other necessary drainage points. Run conduit in straight lines except where a change of direction is necessary. As each conduit run is completed, draw a non-flexible testing mandrel not less than 12 inches long with a diameter 1/4 inch less than the inside diameter of the conduit through the conduit. After which, draw a stiff bristle brush through until conduit is clear of particles of earth, sand and gravel; then immediately install conduit plugs.

Provide not less than 3 inches clearance from the conduit to each side of the trench. A minimum clearance of 3 inches shall be provided between adjacent conduits. Grade bottom of trench smooth; where rock, soft spots, or sharp-edged materials are encountered, excavate the bottom for an additional 6 inches, fill and tamp level with original bottom with sand or earth free from particles, that would be retained on a 1/4-inch sieve. Provide warning tape.

3.2.2 Conduit Protection at Concrete Penetrations

Galvanized conduits which penetrate concrete (slabs, pavement, and walls) in wet locations shall be protected by a PVC sheath at the penetration; PVC sheath shall be 40 mils thick conforming to NEMA RN 1, and shall extend from at least 2 inches within the concrete to the first coupling or fitting outside the concrete (minimum of 6 inches from penetration).

3.2.3 Cable Pulling

Pull cables down grade with the feed-in point at the manhole or buildings of the highest elevation. Maintain minimum allowable bending radii in forming such loops. Use lubricants that are specifically recommended by the cable manufacturer for assisting in pulling jacketed cables. Lubricant shall not be deleterious to the cable sheath, jacket, or outer coverings. Tensions shall not exceed the maximum pulling tension recommended by the cable manufacturer.

3.2.4 Electrical Installation

Electrical equipment and lighting shall be installed within 3 feet of finished grade. Lighting within manhole shall be placed to provide proper distribution of light and in accordance with IES guidelines while accommodating new and existing work of other trades.

3.2.5 Telephone Communications Work Installation

Rack system for existing cable shall be installed in accordance with NFPA 70.

3.2.6 Grounding

Grounding shall conform to NFPA 70 except that grounds and grounding systems shall have a resistance to solid earth ground not exceeding 5 ohms.

3.2.6.1 Grounding Electrodes

Provide cone pointed driven ground rods driven full depth plus 6 inches. Provide connection to utilidor ground grid. Existing utilidor ground grid shall be maintained in place during construction.

3.2.6.2 Grounding Connections

Make grounding connections which are buried or otherwise normally inaccessible, excepting specifically those connections for which access for periodic testing is required, by exothermic type process. Make exothermic welds strictly in accordance with the weld manufacturer's written recommendations. Welds which have "puffed up" or which show convex surfaces indicating improper cleaning are not acceptable. Mechanical connectors are not required at exothermic weldments. For accessible connections in lieu of an exothermic type process, a compression ground grid connector of a type which uses a hydraulic compression tool to provide the correct circumferential pressure may be used. Tools and dies shall be as recommended by the manufacturer. An embossing die code or other standard method shall provide visible indication that a connector has been adequately compressed on the ground wire.

3.2.6.3 Grounding Conductors

Bare hard-drawn copper wire No. 8 AWG minimum. Connect ground rods to copper ground conductor by welded connection.

3.2.6.4 Other Metal Parts

Ground noncurrent-carrying metal parts of equipment including metal poles, luminaires, mounting arms, brackets, and metallic enclosures. Where copper grounding conductor is connected to a metal other than copper, provide specially treated or lined connectors suitable for this purpose.

3.2.7 Unpaved Surfaces

Restore areas disturbed by trenching, storing of dirt, cable laying, pad construction, and other work to their original elevation and condition. Preserve and replace sod or topsoil after backfilling is completed. Replace sod that is damaged by sod of quality equal to that removed. When the surface is disturbed in a newly seeded area, re-seed the restored surface with the same quantity and formula of seed as that used in the original seeding.

3.2.8 Paving Repairs

Where trenches, pits, or other excavations are made in existing roadways and other areas of pavement where surface treatment of any kind exists, restore such surface treatment or pavement to the same thickness and in the same kind as previously existed and to match and tie into the adjacent and surrounding existing surfaces.

3.3 FIELD QUALITY CONTROL

As an exception to requirements that may be stated elsewhere in the contract, notify the Contracting Officer 5 working days prior to each test.

3.3.1 Distribution Conductors 600 Volt Class

Perform 600-volt cable tests to verify that no short circuits or accidental

grounds exist. Make tests using an instrument which applies a voltage of approximately 500 volts to provide a direct reading in resistance; minimum resistance shall be 250,000 ohms.

3.3.2 Devices Subject to Manual Operation

Each device subject to manual operation shall be operated at least three times, demonstrating satisfactory operation each time.

3.3.3 Grounding System Test

Test the grounding system to ensure continuity and that interconnected resistance to ground is not in excess of 5 ohms. Test the ground rod for resistance to ground before making connections to the rod; tie the grounding system together and test for resistance to ground. Make resistance measurements in dry weather, not earlier than 48 hours after rainfall. Include in the written report: locations of ground rods, resistance and soil conditions at the time that measurements were made. Submit results of each test to the Contracting Officer.

3.3.4 Follow-up Verification

Upon completion of acceptance checks and tests, the Contractor shall show by demonstration in service that circuits and devices are in good operating condition and properly performing the intended function.

-- End of Section --

APPENDIX A

GEOTECHNICAL SUMMARY

Table of Contents

Note: The June 2001 report covers the south Flightline Avenue project area from MH 507 to 705.

The September 10, 2002 report covers the north Flightline Avenue and Broadway Avenue project area from MH 111 to 219-1.

GEOTECHNICAL SUMMARY
REPAIR UTILIDORS, PHASE IV, CANTONMENT AREA
EIELSON AIR FORCE BASE, ALASKA

1.0 INTRODUCTION

The utilidors at Eielson Air Force Base (AFB) were constructed 45 to 50 years ago. The maintenance crews are currently experiencing increased incidences of repair. Critical areas were identified and prioritized. The initial Scope of the Phase IV effort included both MILCON M&R, mission critical support facilities referred to as the Cantonment Area (CA), and the Family Housing (FH) facilities. During the design charrette on May 14 through 16, 2002, a scope of work was defined for both the FH and CA portions of the project. The Phase IV scope of work for the FH is discussed in a separate report. The following scope of work was identified for the Cantonment Area in Phase IV.

- Portions of work defined in Phase II but not awarded, which includes the utilidor along Broadway from Central to Flightline Avenue and from Broadway to Building 1140. Repairs begin at MH 111 continue south to MH 113, turn east and continue to MH 219-1.

- Utilidor work along Wabash from North Street to Tanker Road. Repairs begin at MH 333 continue south to MH 204 and onward to MH 114.

- Utilidor work along Flightline Avenue from MH 111 to MH 103.

A site plan depicting approximate locations of each of the priorities is shown in the attached Figure 1.

2.0 GENERAL SITE CONDITIONS

Eielson Air Force base is located in the Tanana River Valley about 30 miles southeast of Fairbanks. The valley at the base is a wide flat plane, generally forested with birch and spruce. The Eielson area is located in the Tanana Lowlands physiographic province. The lowlands consist of vegetated floodplains and low benches cut by the Tanana River, and

sloughs and oxbow lakes representing former channel positions of the Tanana River or its tributaries. Soils in the lowlands typically consist of interbedded alluvial sands and gravels covered by silty overbank deposits. The thickness of the alluvial sediments overlying bedrock in the vicinity of the project is unknown, but estimated to be as great as 400 feet in the Fairbanks area.

The Fairbanks area is located within a subarctic zone underlain by discontinuous permafrost. Permafrost is defined as that part of the earth's surface where a temperature below 0°C has existed for two or more years. The maximum depth of permafrost measured in the Fairbanks area exceeds 160 feet. The thickness of the active layer (the near-surface ground that undergoes an annual freeze-thaw cycle) is largely dependent upon soil type, ground cover, and snow depth. Frost penetration beneath roads, parking lots, and other areas kept clear of snow can exceed 10 feet; whereas, frost penetration in areas covered by organic material or snow is typically 3 feet or less.

The Eielson base is located on the northeast side of the Tanana River. Most of the base development is east of the runway.

3.0 PREVIOUS EXPLORATIONS AND OBSERVATIONS

Geotechnical explorations have not been specifically conducted for this project. The geotechnical information presented herein was obtained from reports of previous explorations for nearby projects. This information was reviewed and summarized for this document. Copies of site plans, pertinent boring logs, and groundwater information are presented in the attachments for reference.

Geotechnical

Building 3315

Previous geotechnical explorations performed in April of 1987 in the vicinity of Building 3315 were reviewed for this work. We reviewed a total of four boring logs. The site plan and logs are presented in Attachment A. The soils encountered in the four borings consisted of 6.5 to 7.5 feet of medium-dense to very dense, sandy gravel fill underlain by 0.5 to 1.5 feet of medium-dense to stiff silt. The silt was underlain by medium-dense, interbedded, sandy gravel and gravelly sand to the depths explored.

Groundwater was observed at depths of 13 to 13.5 feet below the ground surface at the time of drilling.

Analytical testing was not performed on any of the samples.

Building 3127

Previous geotechnical exploration data performed in May of 1988 for the addition to Building 3127 were reviewed for this work. We reviewed two boring logs. The site plan and logs are presented in Attachment B. The soils encountered in the exploratory borings were relatively uniform. In general, soils consisted of a surficial 1- to 1.5-foot-deep silt or silty soil underlain by 4 to 7.5 feet of silt, sand, and gravel fill over 2 to 3 feet of silty to slightly silty sand. These soils were underlain by gravelly sand and sandy gravel to the depths explored. In general, the relative density of soils throughout the boring was medium dense.

The groundwater table was encountered in the borings between about 14.5 feet below the ground surface. Permafrost was not encountered within the depths explored. Seasonal frost was encountered in both borings between depths of 2 to 7 feet.

Analytical testing was not performed on any of the samples.

Environmental

The Phase IV project includes sections of utilidor and associated facilities that pass through or adjacent to several identified areas that have, or have had, environmental contamination. These source areas and sites are identified below. Selected records of decision (RODS) and summaries of these source areas from the EAFB Operable Unit 2 and Operable Units 3, 4, and 5, Declaration of the Amended Record of Decision, dated September 1995, are presented in Attachments C through E.

- Source Area DP44: This site is near the Large Aircraft Maintenance Hangar in the area of buildings 1138, 1141, and 1144. Contamination in this area is suspected to originate from jet engine maintenance activities and the battery shop (Building 1141). Groundwater contamination above the Environmental Protection Agency (EPA) screening risk-based assessment levels has been detected in monitoring wells in this area. This site has TCE, DCE, and benzene groundwater contamination and solvent and benzene contaminated soil.

- Source Area SS47: This site is in the northeast corner of the intersection of Central Avenue and Broadway Avenue. This site is in the commissary parking lot. Fuel contaminated soil were observed in the parking lot. Groundwater contamination was noted below screening levels. Lead was detected in the groundwater in two wells upgradient of the site. However, it is not expected that the utilidor work in the area will impact the groundwater.

- Source Area ST59: This site includes building 2207 northeast of Central Avenue and the North Street intersection. Little information was found other than the Alaska Department of Conservation (ADEC) report that declared the site as requiring no further action in 1992.

Groundwater

In addition to the site-specific exploration studies, an areawide groundwater study was performed for the base. Two years of monitoring well groundwater levels were plotted. The study shows a consistent groundwater gradient flowing to the northwest, generally parallel to the Tanana River. Seasonal fluctuation appears to be consistent throughout the base, with about 2.5 feet of variation. Groundwater surface plots and seasonal fluctuation plots are presented in Attachment G.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The soils along the utilidor alignment and in the vicinity of Phase IV manholes will likely consist of a surficial layer of sand and gravel fill or silt underlain by primarily sand and gravel. A silty zone at about 5 to 10 feet below the surface may be encountered in areas overlain by fill.

Trenching

During any deep trenching the trench sidewalls should not be expected to stand at a steep angle, especially below the groundwater. Groundwater volumes may be significant, such that dewatering may be needed operate in a deep trench. We understand most of the utilidor repair will involve opening the lids and working within the existing concrete corridor; therefore, there is little chance that groundwater or contamination will be encountered.

Street/Road Crossings

Where the utilidor crosses streets or roads, new material should be imported to reconstruct the street section. No records were found showing the current section. The upper materials should be to be nonfrost susceptible (NFS). During the excavation the depth of the current street section should be determined. The same section will be appropriate for the backfilling. NFS backfill near and extending out from the utilidor beneath roads should be tapered. The fill taper is intended to prevent differential frost-jacking of pavement section due to subsurface silty soils.

The recommended transition taper for utilidor street or road crossings is intended to limit the potential sharp, differential frost heave that can occur when there is an abrupt transition from NFS soils to frost-susceptible soils. Transitions are discussed in AFM 88-6, Chapter 4 section 7-3. For buried utilidor crossings beneath low-speed streets and roads, we typically recommend a gradual backfill transition taper of 4 horizontal to 1 vertical, or flatter, in select or structural fill materials.

Potentially Contaminated Soils

The soils excavated from any deep trenches may be contaminated, especially those soils removed from near the groundwater zone. Soils should be screened. Backfilling, stockpiling, testing, treating, and disposing of the potentially contaminated soils should be conducted in accordance with EAFB policies and agreements and in accordance with State requirements (18AAC 75, 18 AAC 78). Laboratories used to comply with the above procedures and policies should be validated by the Corps of Engineers (COE) for the methods used.

Groundwater

Groundwater may be a concern, especially where the utilidor or manholes are deep. The highest groundwater levels occur immediately following breakup and again in late August. There appears to be some short-term impact on the groundwater from rain during the summer. It is not known what lag time or magnitude of rise is associated with rainfall events. Flow volumes in any trench will be dependent on the soil type. With clean gravels, dewatering could be needed to maintain trench stability. We do not recommend dewatering in contaminated areas, and suggest the contractor pursue other construction methods if groundwater is encountered. Dewatering on EAFB will require permits and possibly contaminant testing prior to discharge.

Dewatering may entail contaminated water or migration of contaminated water. This water cannot be disposed of under the current Eielson dewatering permit. Regulations regarding dewatering with contaminated water present are included in 18 AAC 72.

Seismic

The site is located in Seismic Zone 3. For the 1997 UBC code the soil profile is S_D. The near source factors N_a and N_V will both be 1.0 for all source types. The potential for liquefaction at the site is low to moderate. There are relatively loose granular soils and groundwater; however, the sand and gravel are generally more coarse than would be typical for liquefaction to occur.

5.0 LIMITATIONS

The information and conclusions presented above are based on previous information compiled for a different project. The data was not obtained for the purpose of construction or repair of a utilidor. Additionally, some of the data is more than 10 years old. Subsequent activities in the project area could have changed the interpreted subsurface conditions; thus, there may be differences in the soil descriptions, soil types, and groundwater conditions. Any use of this data should consider the potential for differing site conditions.

We appreciate the opportunity to be of service.

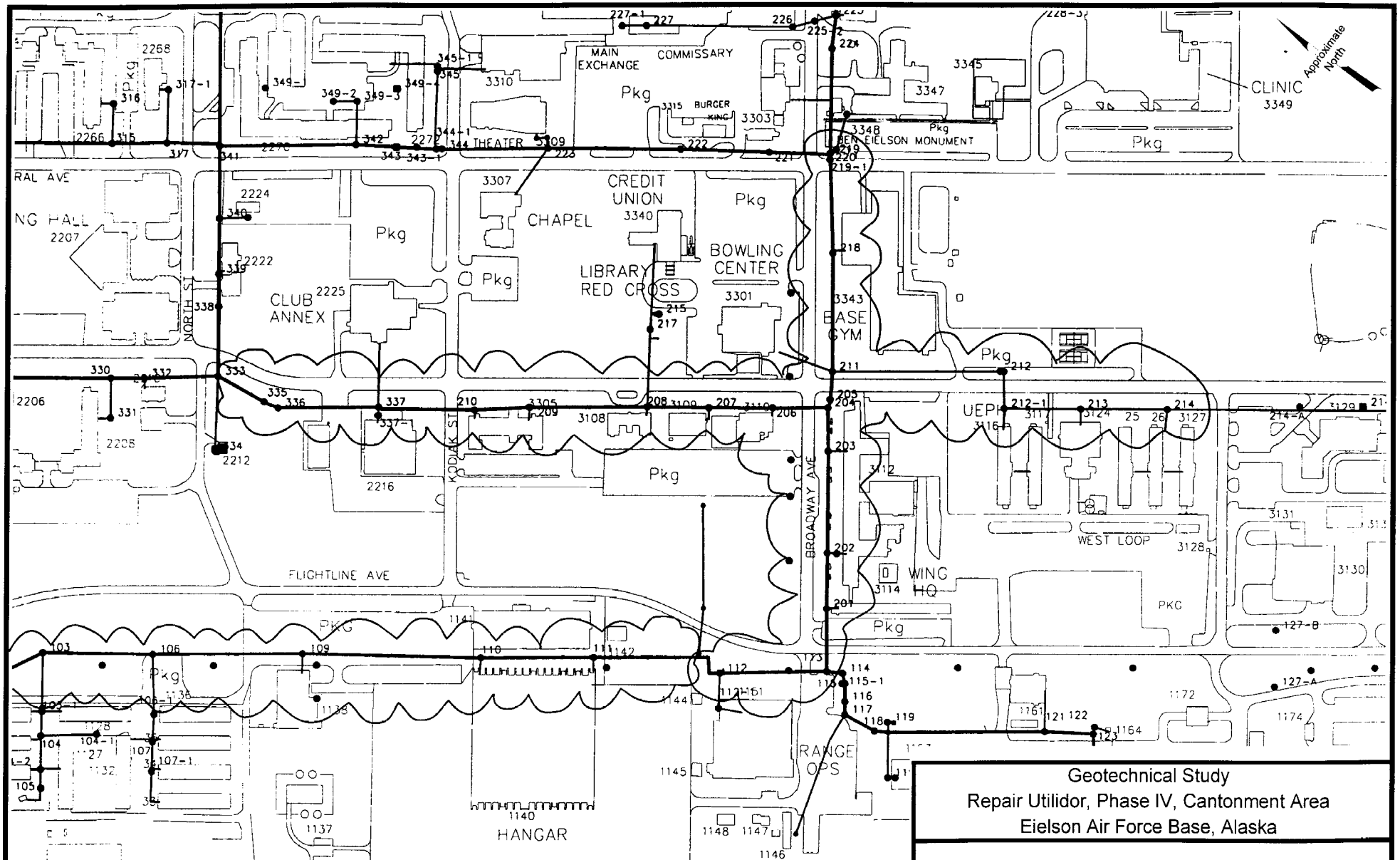
Sincerely,

SHANNON & WILSON, INC.

Stephen Adamczak, Jr., P.E.
Vice President

Att:

	Figure 1	Site Plan
	Attachment A	Building 3315 Geotechnical Data and Site Map
	Attachment B	Building 3127 Geotechnical Data and Site Map
	Attachment C	Records of Decision (RODS), Environmental Source Area DP 44
	Attachment D	Records of Decision (RODS), Environmental Source Area SS 47
	Attachment E	Alaska Department of Environmental Conservation, No Further Action Statement, Environmental Source Area SS 59
	Attachment F	Sitewide Water Table Data



LEGEND:

- Phase IV Cantonment Area Project Limits

Approximate Scale

Geotechnical Study
Repair Utilidor, Phase IV, Cantonment Area
Eielson Air Force Base, Alaska

SITE PLAN

31-1-01727-002 October 2002

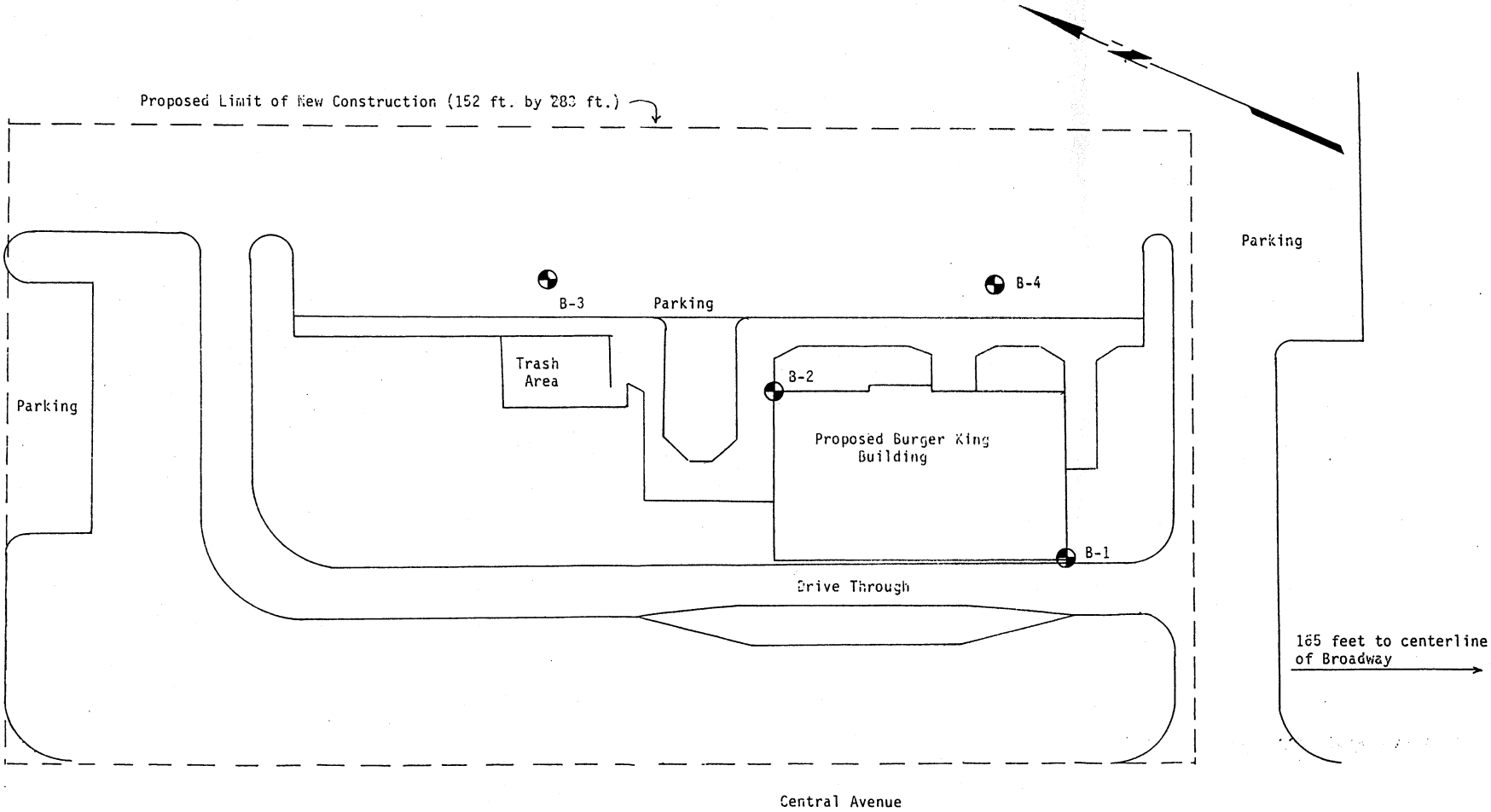
SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 1

Figure 1

ATTACHMENT A

Building 3315 Geotechnical Data and Site Map



Legend: B-1 Boring Location and Number

Approximate Scale: 1 inch = 25 feet

Note: This plan is based on Burger King preliminary sketch dated March 9, 1987 for building type AAFES Bk57

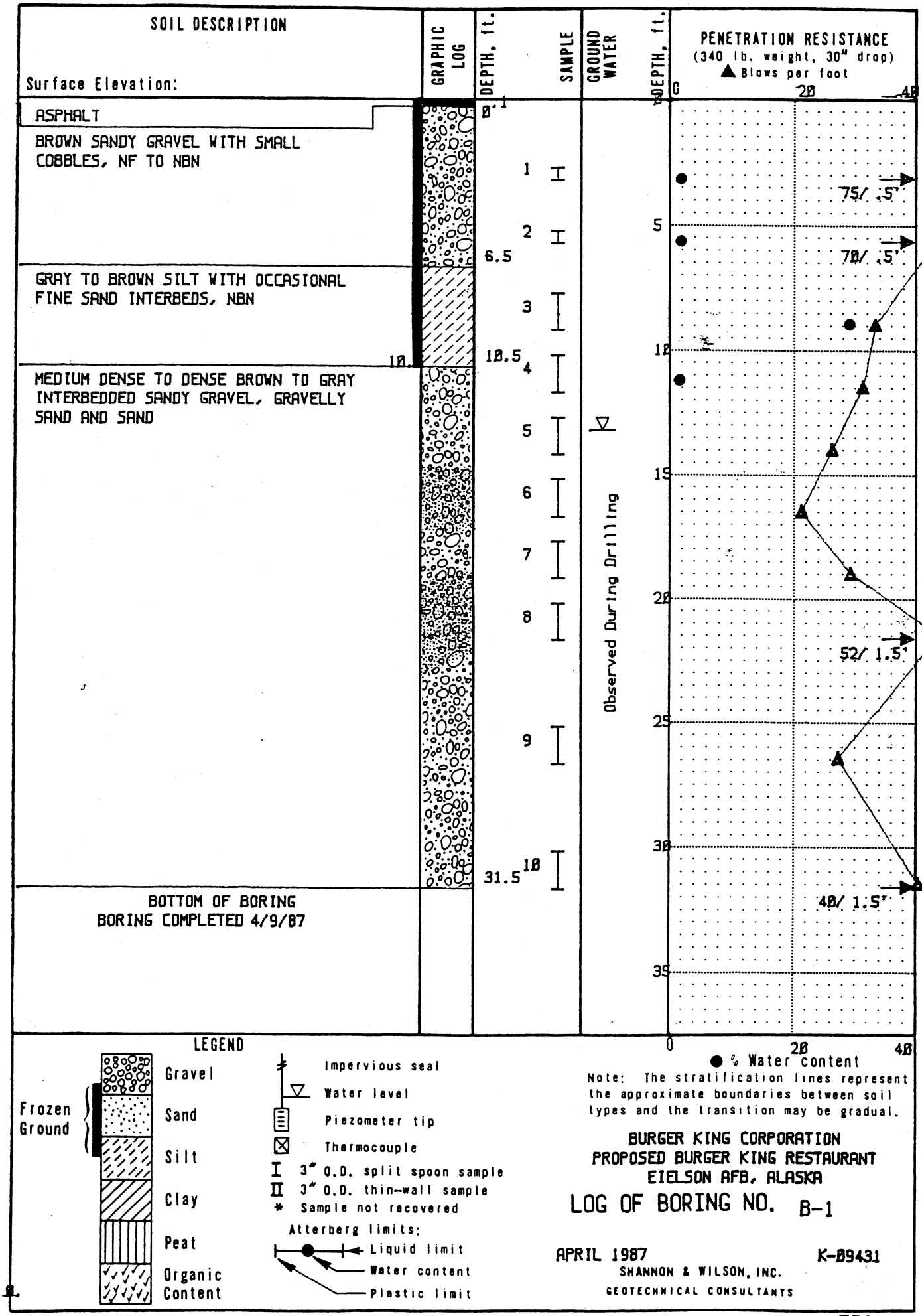
Burger King Corporation
Proposed Burger King Restaurant
Eielson AFB, Alaska

BORING LOCATION AND SITE PLAN

April 1987 K-0943

SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

FIG. 1



Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.

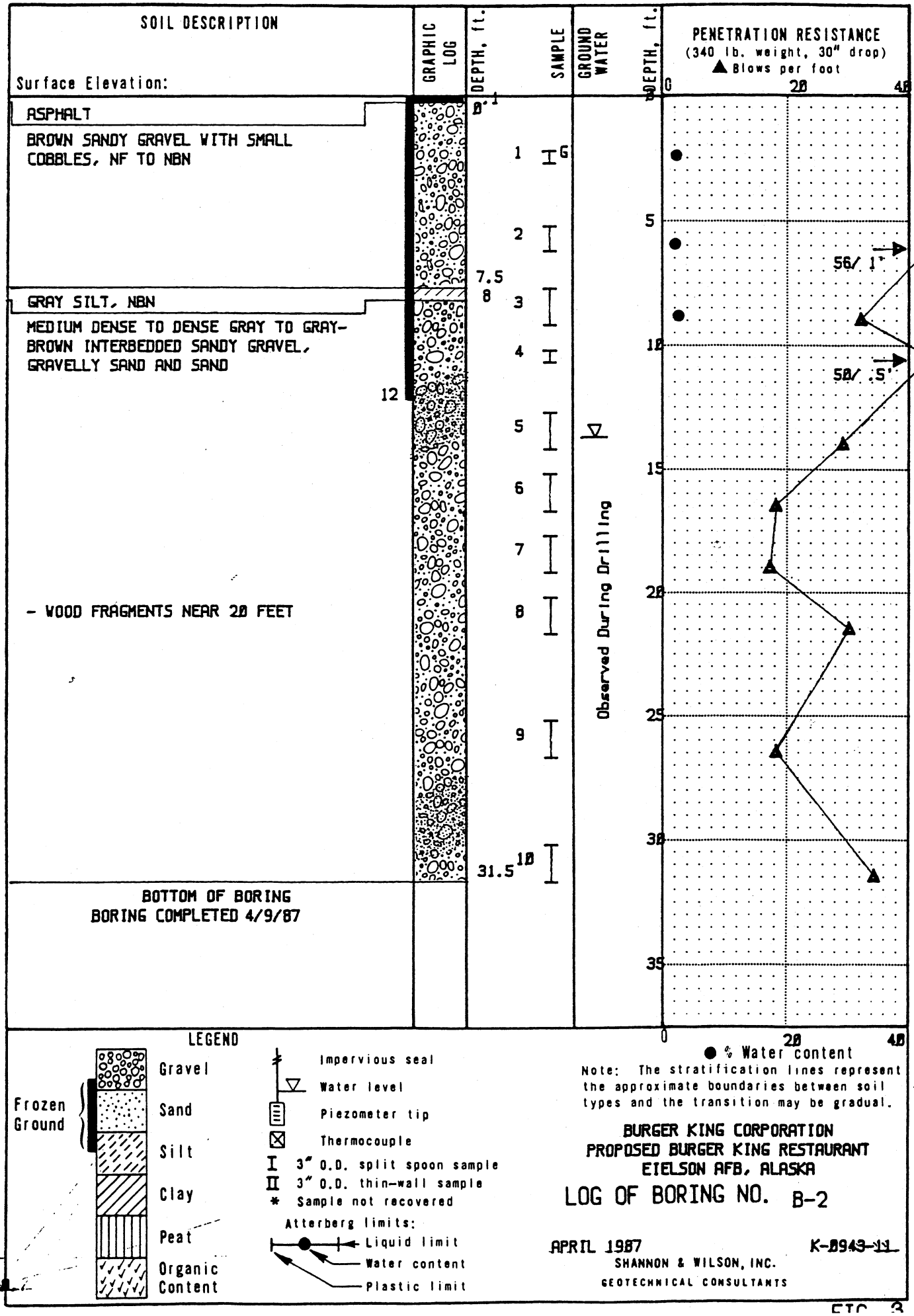
BURGER KING CORPORATION
PROPOSED BURGER KING RESTAURANT
EIELSON AFB, ALASKA

LOG OF BORING NO. B-1

APRIL 1987 K-89431

SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

FIG. 2


SOIL DESCRIPTION
Surface Elevation:
GRAPHIC LOG
DEPTH, ft.
SAMPLE
GROUND WATER
DEPTH, ft.
PENETRATION RESISTANCE
(340 lb. weight, 30" drop)
▲ Blows per foot
0
20
40
ASPHALT
BROWN SANDY GRAVEL WITH SMALL COBBLES, NF TO NBN
0.1
1 G
2
GRAY SILT, NBN
7.5
8
3
MEDIUM DENSE TO DENSE GRAY TO GRAY-BROWN INTERBEDDED SANDY GRAVEL, GRAVELLY SAND AND SAND
4
12
5
6
7
- WOOD FRAGMENTS NEAR 20 FEET
8
9
31.5
10
BOTTOM OF BORING
BORING COMPLETED 4/9/87
Observed During Drilling
56/ 1"
50/ .5"
5
10
15
20
25
30
35
LEGEND
Frozen Ground
Gravel
Sand
Silt
Clay
Peat
Organic Content
Impervious seal
Water level
Piezometer tip
Thermocouple
I 3" O.D. split spoon sample
II 3" O.D. thin-wall sample
* Sample not recovered
Atterberg limits:
Liquid limit
Water content
Plastic limit
● % Water content
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
BURGER KING CORPORATION
PROPOSED BURGER KING RESTAURANT
EIELSON AFB, ALASKA
LOG OF BORING NO. B-2
APRIL 1987
K-8943-11
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

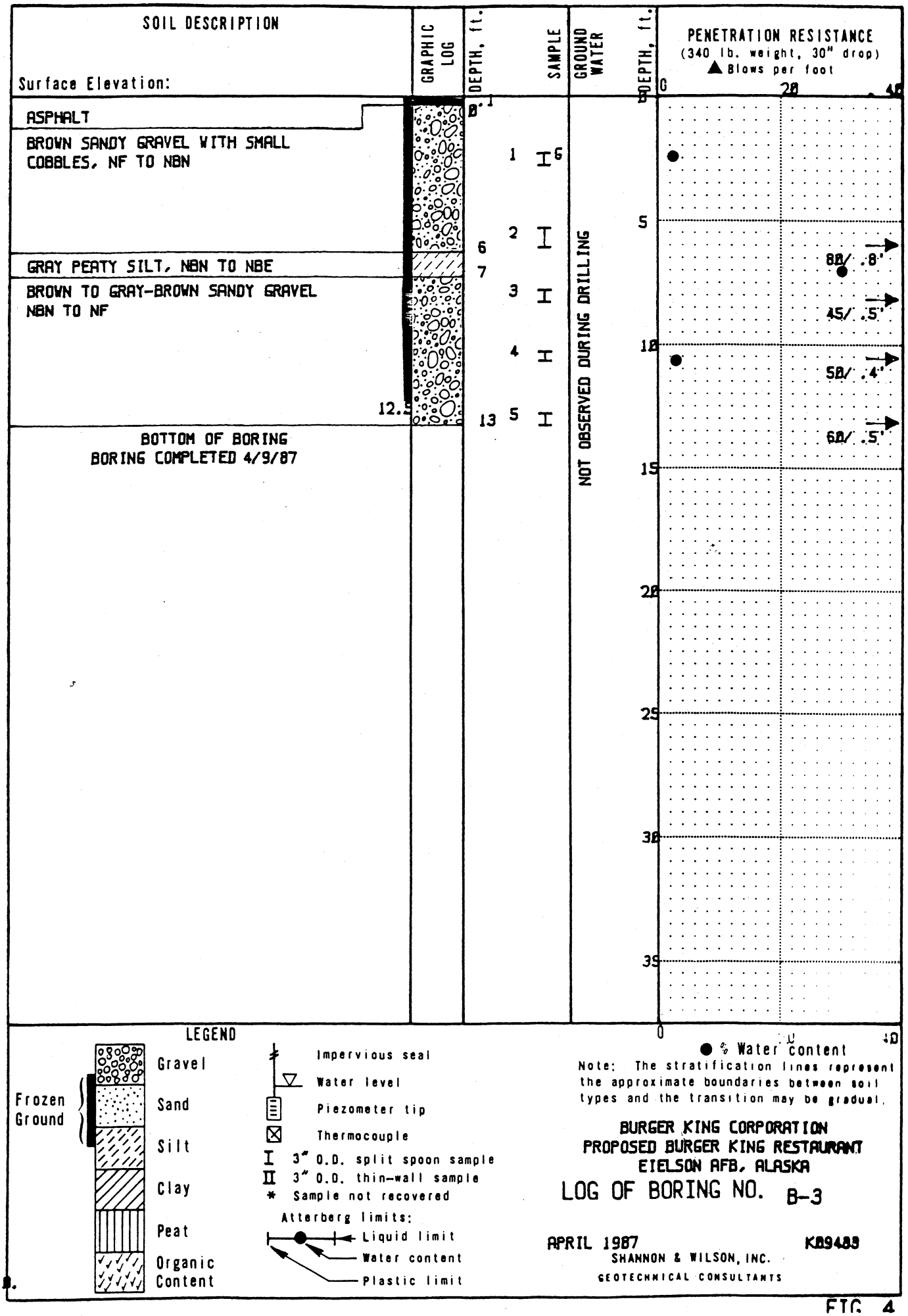

SOIL DESCRIPTION
Surface Elevation:
GRAPHIC LOG
DEPTH, ft.
SAMPLE
GROUND WATER
DEPTH, ft.
PENETRATION RESISTANCE
(340 lb. weight, 30" drop)
▲ Blows per foot
ASPHALT
0.1
BROWN SANDY GRAVEL WITH SMALL COBBLES, NF TO NBN
1
6
2
6
GRAY PEATY SILT, NBN TO NBE
7
BROWN TO GRAY-BROWN SANDY GRAVEL NBN TO NF
3
4
12.5
13
5
BOTTOM OF BORING
BORING COMPLETED 4/9/87
NOT OBSERVED DURING DRILLING
80/ .8"
45/ .5"
50/ .4"
60/ .5"
● % Water content
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
LEGEND
Gravel
Sand
Silt
Clay
Peat
Organic Content
Frozen Ground
Impervious seal
Water level
Piezometer tip
Thermocouple
I 3" O.D. split spoon sample
II 3" O.D. thin-wall sample
* Sample not recovered
Atterberg limits:
Liquid limit
Water content
Plastic limit
BURGER KING CORPORATION
PROPOSED BURGER KING RESTAURANT
EIELSON AFB, ALASKA
LOG OF BORING NO. B-3
APRIL 1987
KB9489
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

FIG. 4

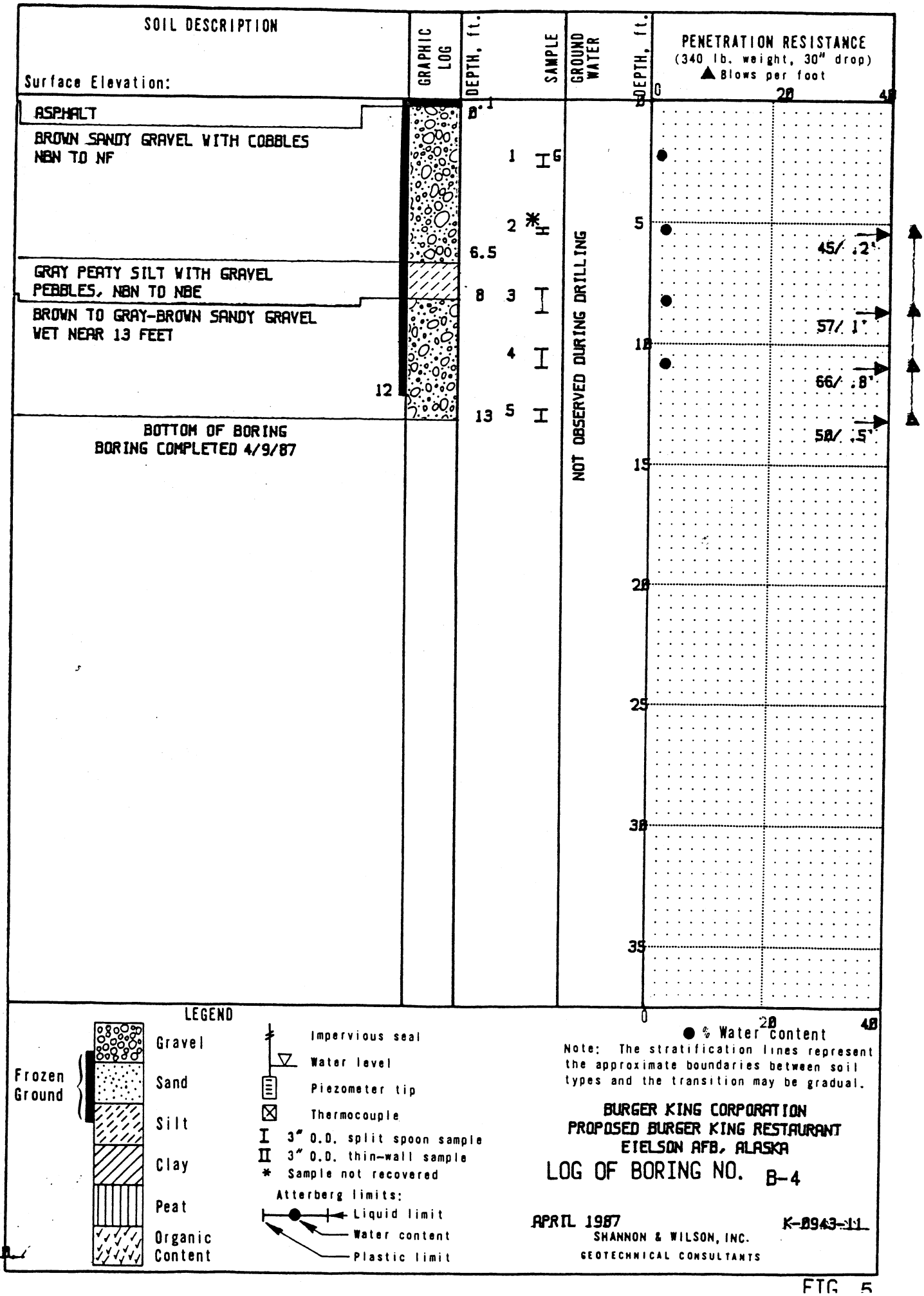
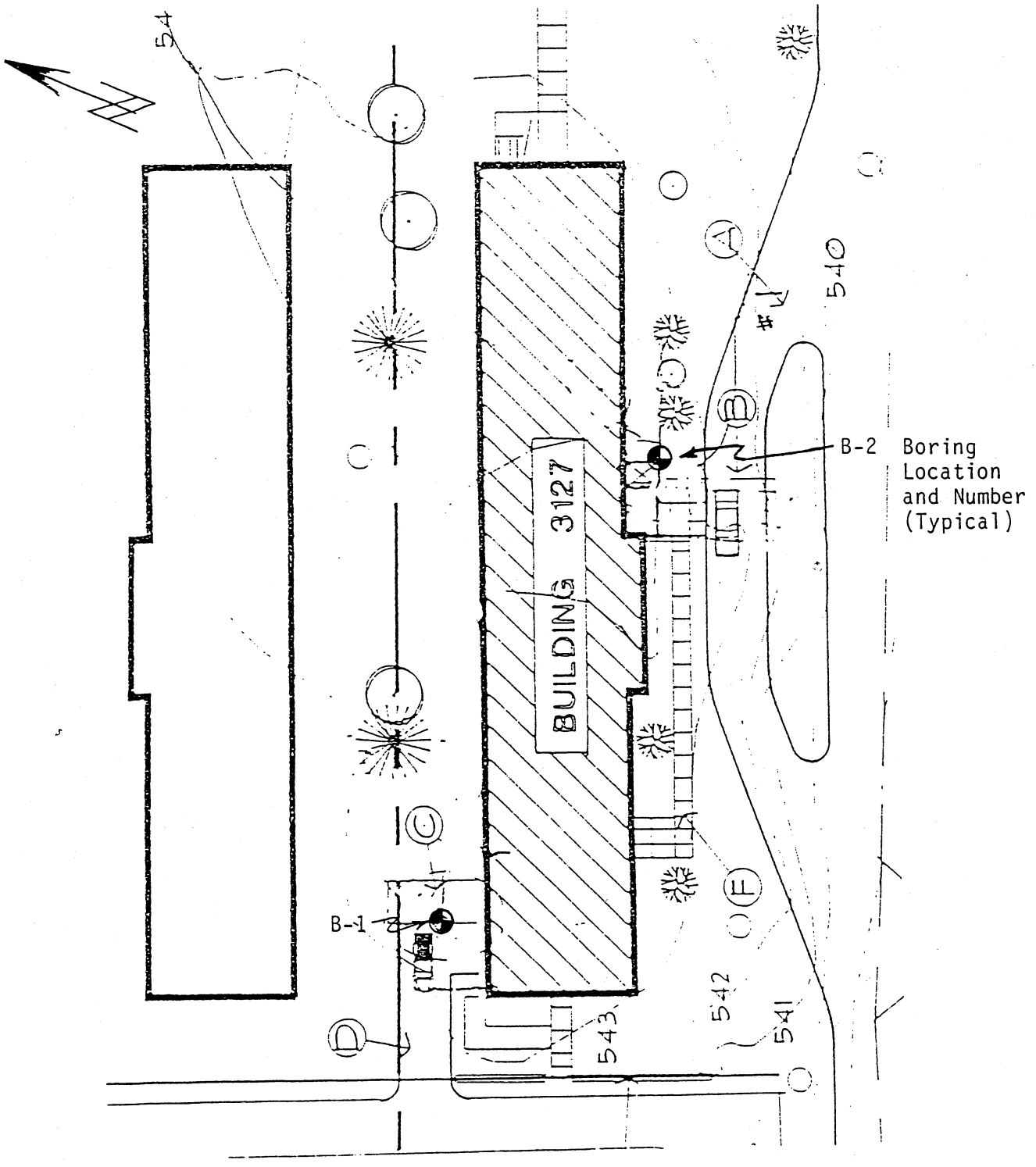

SOIL DESCRIPTION
Surface Elevation:
GRAPHIC LOG
DEPTH, ft.
SAMPLE
GROUND WATER
DEPTH, ft.
PENETRATION RESISTANCE
(340 lb. weight, 30" drop)
▲ Blows per foot
ASPHALT
BROWN SANDY GRAVEL WITH COBBLES
NBN TO NF
GRAY PEATY SILT WITH GRAVEL
PEBBLES, NBN TO NBE
BROWN TO GRAY-BROWN SANDY GRAVEL
WET NEAR 13 FEET
BOTTOM OF BORING
BORING COMPLETED 4/9/87
NOT OBSERVED DURING DRILLING
45/ .2'
57/ 1'
66/ .8'
50/ .5'
LEGEND
Gravel
Sand
Silt
Clay
Peat
Organic Content
Frozen Ground
Impervious seal
Water level
Piezometer tip
Thermocouple
3" O.D. split spoon sample
3" O.D. thin-wall sample
Sample not recovered
Atterberg limits:
Liquid limit
Water content
Plastic limit
● % Water Content
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
BURGER KING CORPORATION
PROPOSED BURGER KING RESTAURANT
EIELSON AFB, ALASKA
LOG OF BORING NO. B-4
APRIL 1987
K-8943-11
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

FIG 5

ATTACHMENT B

Building 3127 Geotechnical Data and Site Map



Approximate Scale: 1" = 40'

Note: This plan is based on Design Alaska Site Plan Project Number 41084 dated March 28, 1988

Design Alaska, Inc.
Proposed Additions to Building 3127
Eielson AFB, Alaska
BORING LOCATION AND SITE PLAN

May 1988 K-1014

SHANNON & WILSON, INC. | FIG. 1

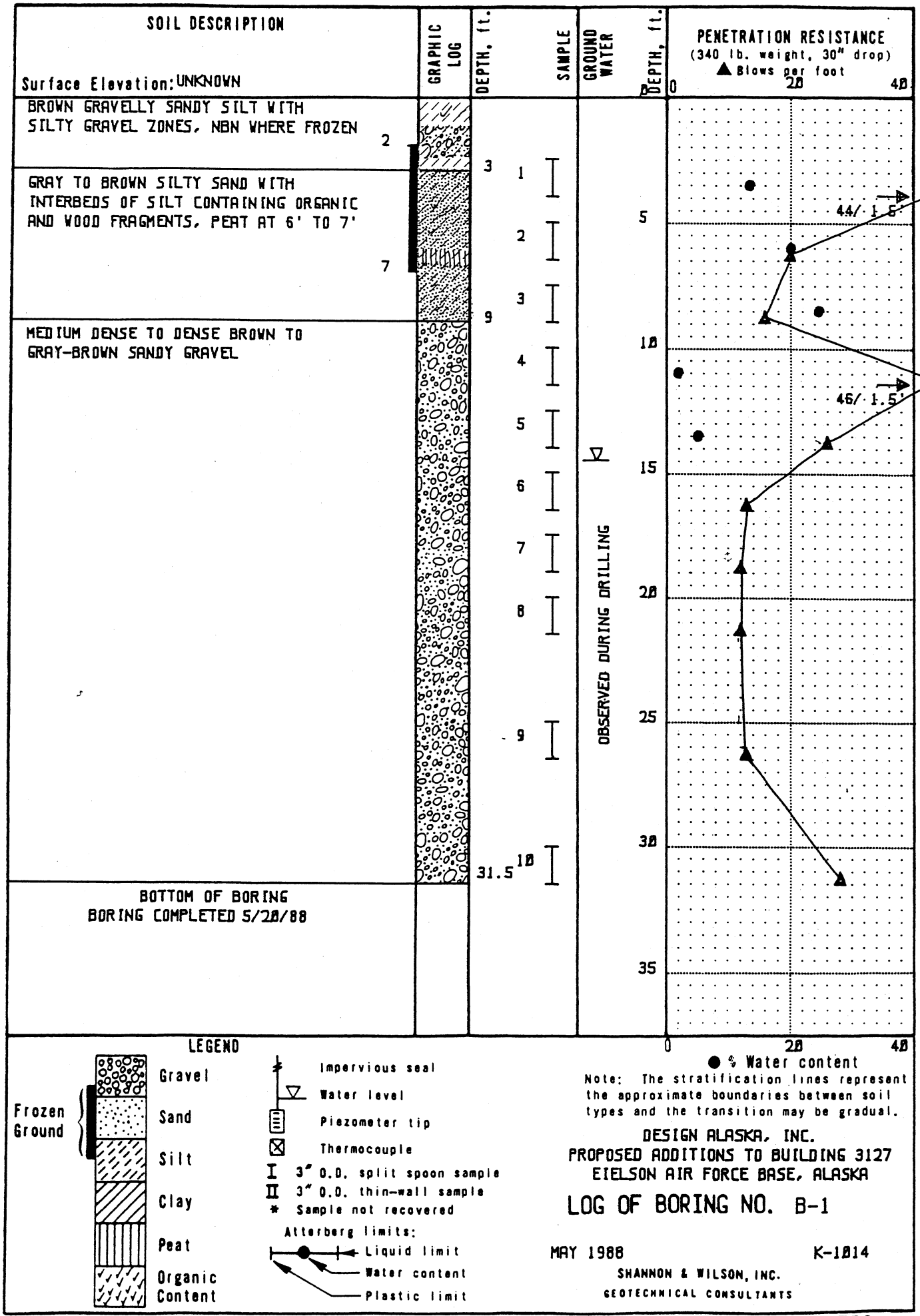

SOIL DESCRIPTION
Surface Elevation: UNKNOWN
GRAPHIC LOG
DEPTH, ft.
SAMPLE
GROUND WATER
DEPTH, ft.
PENETRATION RESISTANCE
(340 lb. weight, 30" drop)
▲ Blows per foot
0
20
40
BROWN GRAVELLY SANDY SILT WITH SILTY GRAVEL ZONES, NBN WHERE FROZEN
2
GRAY TO BROWN SILTY SAND WITH INTERBEDS OF SILT CONTAINING ORGANIC AND WOOD FRAGMENTS, PEAT AT 6' TO 7'
7
MEDIUM DENSE TO DENSE BROWN TO GRAY-BROWN SANDY GRAVEL
3
9
31.5
1
2
3
4
5
6
7
8
9
10
OBSERVED DURING DRILLING
5
10
15
20
25
30
35
44/ 1.5'
46/ 1.5'
BOTTOM OF BORING
BORING COMPLETED 5/20/88
LEGEND
Gravel
Sand
Silt
Clay
Peat
Organic Content
Frozen Ground
Impervious seal
Water level
Piezometer tip
Thermocouple
I 3" O.D. split spoon sample
II 3" O.D. thin-wall sample
* Sample not recovered
Atterberg limits:
Liquid limit
Water content
Plastic limit
● % Water content
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
DESIGN ALASKA, INC.
PROPOSED ADDITIONS TO BUILDING 3127
EIELSON AIR FORCE BASE, ALASKA
LOG OF BORING NO. B-1
MAY 1988
K-1014
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

FIG. 2

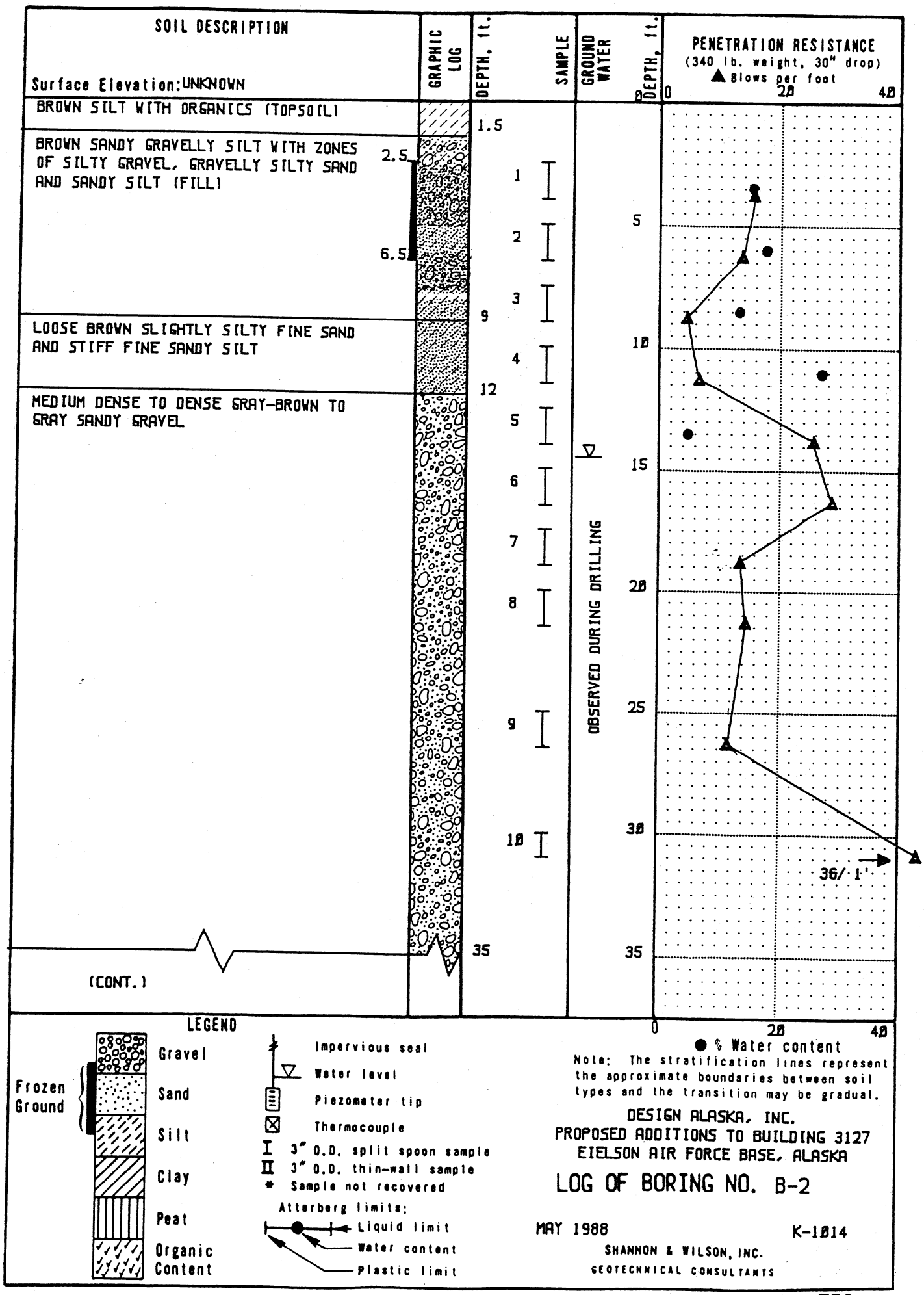

SOIL DESCRIPTION
Surface Elevation: UNKNOWN
GRAPHIC LOG
DEPTH, ft.
SAMPLE
GROUND WATER
DEPTH, ft.
PENETRATION RESISTANCE
(340 lb. weight, 30" drop)
▲ Blows per foot
0
20
40
BROWN SILT WITH ORGANICS (TOPSOIL)
1.5
BROWN SANDY GRAVELLY SILT WITH ZONES OF SILTY GRAVEL, GRAVELLY SILTY SAND AND SANDY SILT (FILL)
2.5
6.5
1
2
3
9
4
LOOSE BROWN SLIGHTLY SILTY FINE SAND AND STIFF FINE SANDY SILT
12
5
MEDIUM DENSE TO DENSE GRAY-BROWN TO GRAY SANDY GRAVEL
6
7
8
9
10
OBSERVED DURING DRILLING
35
(CONT.)
5
10
15
20
25
30
35
36/ 1'
LEGEND
Gravel
Sand
Silt
Clay
Peat
Organic Content
Frozen Ground
Impervious seal
Water level
Piezometer tip
Thermocouple
I 3" O.D. split spoon sample
II 3" O.D. thin-wall sample
* Sample not recovered
Atterberg limits:
Liquid limit
Water content
Plastic limit
● % Water content
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
DESIGN ALASKA, INC.
PROPOSED ADDITIONS TO BUILDING 3127
EIELSON AIR FORCE BASE, ALASKA
LOG OF BORING NO. B-2
MAY 1988
K-1014
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

FIG. 3

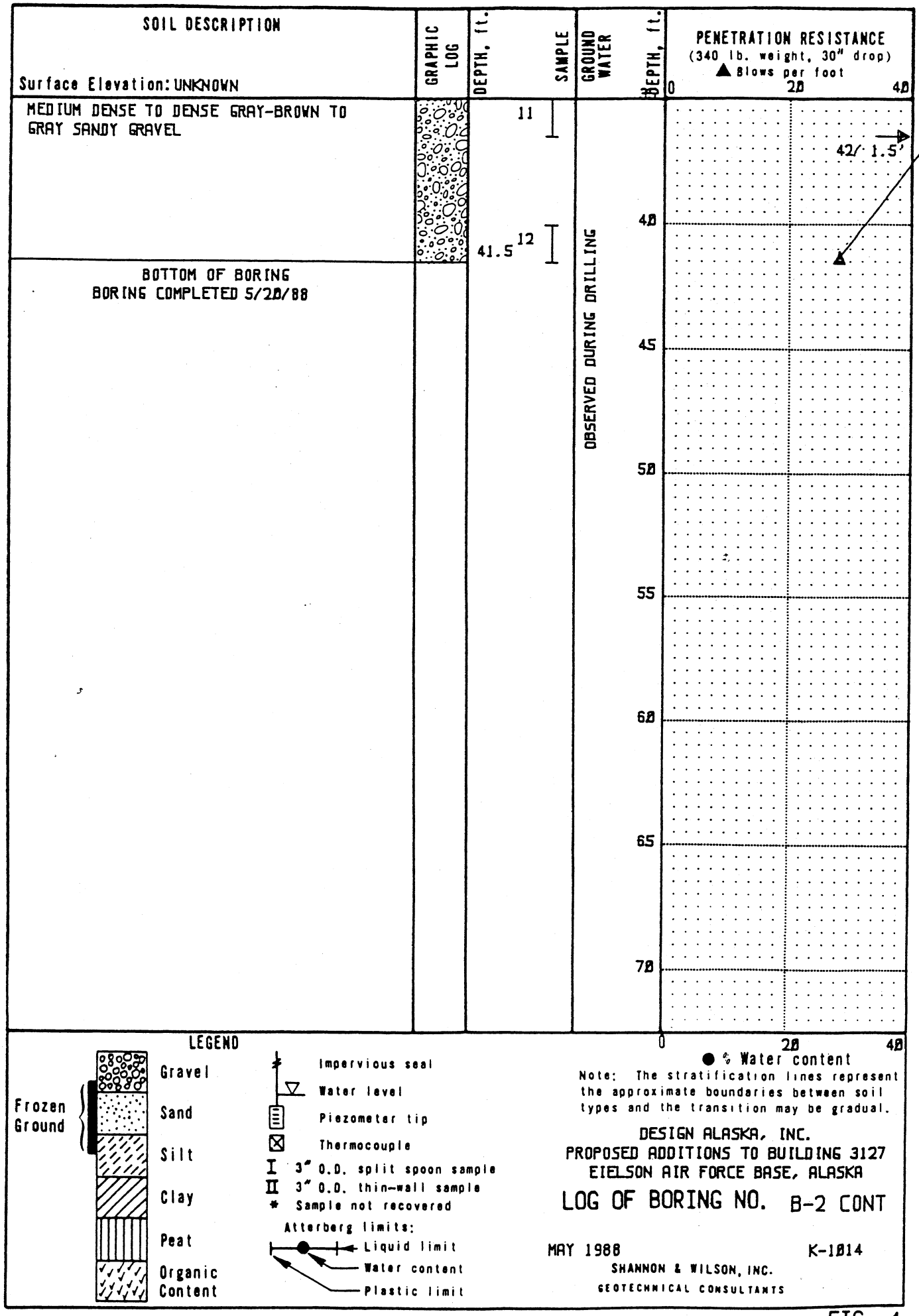

SOIL DESCRIPTION
Surface Elevation: UNKNOWN
GRAPHIC LOG
DEPTH, ft.
SAMPLE
GROUND WATER
DEPTH, ft.
PENETRATION RESISTANCE
(340 lb. weight, 30" drop)
▲ Blows per foot
0
20
40
MEDIUM DENSE TO DENSE GRAY-BROWN TO GRAY SANDY GRAVEL
11
41.5
12
42/ 1.5'
OBSERVED DURING DRILLING
40
45
50
55
60
65
70
BOTTOM OF BORING
BORING COMPLETED 5/20/88
LEGEND
Frozen Ground
Gravel
Sand
Silt
Clay
Peat
Organic Content
Impervious seal
Water level
Piezometer tip
Thermocouple
I 3" O.D. split spoon sample
II 3" O.D. thin-wall sample
* Sample not recovered
Atterberg limits:
Liquid limit
Water content
Plastic limit
● % Water content
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
DESIGN ALASKA, INC.
PROPOSED ADDITIONS TO BUILDING 3127
EIELSON AIR FORCE BASE, ALASKA
LOG OF BORING NO. B-2 CONT
MAY 1988
K-1014
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

FIG. 4

ATTACHMENT C

Records of Decision (RODS), Environmental Source Area DP 44

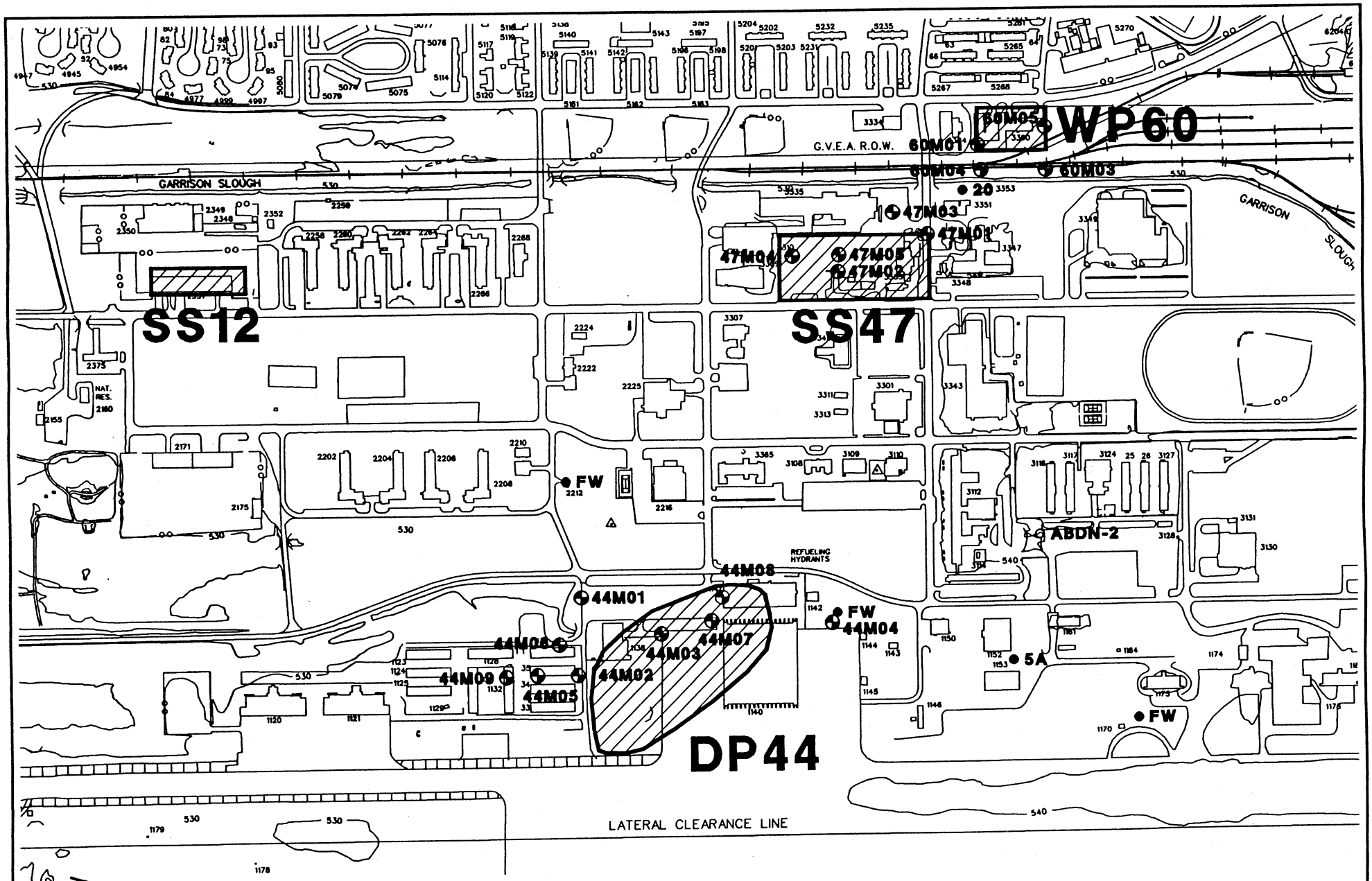


FIGURE 14.1 Source Areas SS12, DP44, SS47, and WP60 Monitoring Wells, and Water Supply Wells

Source Evaluation Report, Eielson Air Force Base

6.0 Nature and Extent of Contamination at Operable Unit 3

OU 3 includes source areas DP44, WP45/SS57, ST56, and SS61. The source areas are primarily contaminated with solvents. The principal contaminants of concern for the OU 3 source areas include 1) TCE and its associated degradation product DCE, and 2) benzene, toluene, ethylbenzene, and xylene (BTEX). Other substances detected less frequently and at lower concentrations (such as 1,1,1-trichloroethane (1,1,1-TCA), tetrachloroethane, polycyclic aromatic hydrocarbons (PAHs), and lead) may be potential concerns. No vinyl chloride was detected in OU 3 source areas.

6.1 Source Area DP44

Source area DP44 is located near the Large Aircraft Maintenance Hangar. As originally defined, DP44 included wastewater disposal leach field from the battery shop (Building 1141) and the area around Building 1138 between the runway taxiway and Flightline Avenue west of the North Street intersection (see Figure 2.1). DP44 was identified as a source area because, in the past, the battery shop and Building 1138 may have discharged waste into a leach field system within the area. However, subsequent investigations have not confirmed the existence of this leach field. Most of the contamination in this source area is located south of the hangar, and is probably related to past jet-engine maintenance activities in the hangar. Identified contaminants of concern are fuel-related compounds and solvents in groundwater and soil.

6.1.1 Soil Contamination at DP44

Soil contaminants greater than EPA risk-based screening levels or background concentrations for DP44 are summarized in Table 6.1. Soil samples were collected and analyzed for the constituents shown in Table 5.1. A summary of soils data for source area DP44 can be found in Appendix A.

Soil contaminants listed in Table 6.1 are PAHs that were found at maximum concentrations in a surface soil sample collected during drilling of Well 44M03. This sample was collected in a gravel parking lot that contained fragments of asphalt. Because the parking lot is in close proximity to the runway, it was routinely maintained by spraying oil for dust suppression. The source of PAHs could be from exhaust from vehicles parked in the lot, exhaust from aircraft on the nearby runway, or asphalt residue. These contaminants are highly sorptive and immobile.

While solvent and benzene contamination was the reason for designating DP44 as a source area, the concentrations of these two constituents did not exceed screening levels. Subsurface concentrations of solvent and benzene were estimated to be sufficiently high to leach into the groundwater to yield concentrations that exceed groundwater screening levels. Therefore, even though solvent and benzene contamination in soils does not exceed screening levels based on direct exposure to the soil, it may be the source of groundwater contamination through the leaching pathway.

In August 1994, 13 soil borings were drilled in the vicinity of Well 44M04 to determine the extent and concentration of chlorinated solvents in soils south of the large aircraft maintenance hangar. Locations for the borings were determined using a soil-gas survey. The soil-gas survey indicated that contaminated soils extended to the west under the aircraft parking ramp. The borings were completed through the vadose zone to the water table, located at approximately 3 m (10 ft) below land surface in this vicinity. Samples were taken at three depth intervals, 0.6 to 1.2 m (2 to 4 ft), 1.2 to 1.8 m (4 to

Table 6.1. Surface and Subsurface Soil Contaminants Greater Than Screening Levels, DP44

Chemical	Detection Limit (μg/kg)	Analyzed/ Detected	Concentration Range (μg/kg)	Location of Maximum
Anthracene	20	4/1	5500 - 5500	44M03
Benzo(a)anthracene	10	4/3	200 - 48,000	44M03
Benzo(a)pyrene	9	3/2	470 - 18,000	44M03
Benzo(b)fluoranthene	30	4/3	460 - 210,000	44M03
Benzo(g,h,i)perylene	40	4/3	280 - 14,000	44M03
Chrysene	70	4/2	280 - 21,000	44M03
Dibenzo(a,h)anthracene	50	4/1	6500 - 6500	44M03
Indeno(1,2,3-cd)pyrene	50	4/3	270 - 15,000	44M03

6 ft), and 2.4 to 3 m (8 to 10 ft) below land surface. The samples were analyzed for chlorinated solvents and BTEX compounds. TCE and total DCE results are illustrated in Figures 6.1 through 6.3. Low levels (less than screening level) of toluene were detected in some of the soil samples, as shown in Appendix A.

6.1.2 Groundwater Contamination

Groundwater contaminants in samples collected from monitoring wells that are greater than EPA risk-based screening levels or background concentrations for DP44 are summarized in Table 6.2. Groundwater samples were collected and analyzed for the constituents listed in Table 5.1. A summary of the sample concentrations can be found in Appendix A.

During field investigations at DP44 prior to 1994, benzene and TCE were found in the groundwater above their 5-μg/L maximum contaminant levels (MCLs). Toluene, ethylbenzene, and xylene were also detected, but at concentrations below their MCLs. Benzene contamination above 5 μg/L covered an area of approximately 3300 m^2 (3947 yd^2), with Well 44M02 displaying the highest benzene concentration. Groundwater probe data collected in 1988 indicated that benzene concentrations up to 4000 μg/L existed near the top of the water table. Benzene concentrations detected in 1990 had diminished fourfold since the 1988 sampling. By 1992 and 1994, benzene levels decreased to just above the MCL. For details on 1992 and 1994 benzene concentrations at DP44, refer to Figures 6.4 and 6.5. The 1992 data were used in the risk assessment and are reported in Table 6.2 and Appendix A.

Two areas of TCE contamination were detected in the groundwater above the 5-μg/L MCL, including Well 44M03 and Well 44M04, with TCE concentrations above 100 μg/L in Well 44M04. The two sites of TCE contamination appeared to be unrelated and relatively limited, based on groundwater probe results, which showed no detectable TCE between the sites or at adjacent probes or wells. The distribution of contamination near Well 44M04 indicated the source of TCE may be upgradient of DP44.

In August 1994, TCE and total DCE were still present in the vicinity of Well 44M04 in concentrations similar to previous years. These concentrations, as shown in Figures 6.6 and 6.7, were 109 ppb and 121 ppb, respectively. Results from the groundwater probe samples taken during the soil borings are also shown in Figures 6.6 and 6.7. They also show that chlorine solvent contamination extends away from Well 44M04 to the west under the aircraft parking ramp and to the north toward the hangar.

The distributions for TCE and DCE are slightly different. Vinyl chloride has never been detected in any of the groundwater samples from DP44. No groundwater samples are available from underneath the hangar. Wells 44M03, 44M07, and 44M08, to the north of the hangar, show low levels of TCE and DCE contamination. The concentrations in all three wells are below MCLs. It is not known whether this contamination results from a second low-level source or is the leading edge of a plume located underneath the hangar. The total area of TCE-contaminated soils is approximately 6500 m^2 (69,000 ft^2) with a volume of 20,000 m^3 (25,500 cu yd) containing an estimated 3.2 kg of TCE.

All contaminants detected at DP44 were in aqueous form. No free-phase solvent or fuel was encountered.

Table 6.2. Groundwater Contaminants Greater Than Screening Levels, DP44

Chemical	Detection Limit (μg/L)	Analyzed/ Detected	Concentration Range (μg/L)	Location of Maximum
Benzene	2	15/2	3.7 - 5.3	44M05
Trichloroethane	1	15/3	1.2 - 2500	44M04

6.2 Source Area WP45/SS57

The photo laboratory and dry well at Building 1183 were designated as Source Area WP45. Building 1183 is located near the main taxiway along the west side of Flightline Avenue (see Figure 2.1). The operational history of the dry well is not known. It was originally believed the dry well was the source of the solvent concentration found at WP45. However, in August 1992, two new wells were added upgradient from the dry well. Contaminant concentrations were higher on the two new wells than in the monitoring well downgradient of the dry well.

The dry well located at the west corner of Building 1183 has not been removed because removal would compromise the structure of the building. Standing groundwater in the well and sludge at the bottom of the well were sampled on April 1993, and the drain leading to the well was plugged with cement. Results indicated low levels of TCE in the water (3 μg/L) and low levels of chromium (1.2 μg/L) and silver (1.9 μg/L) in the sludge. Based on these results, the dry well appears to be a secondary source of groundwater contamination at WP45. The suspected primary source of contamination is currently believed to be a former maintenance shed that was located at the northwest corner of the fire station, Building 1206. No specific information explains the cause of the source of contaminants at WP45. The identified contaminants of concern are solvents in groundwater and soil.

Source Area SS57 is the area surrounding the fire station, Building 1206 (see Figure 2.1). SS57 is considered with Source Area WP45 because they are closely related and the groundwater contamination from the two sites overlap. Soils beneath the pavement in the parking lot of Building 1206 are contaminated with fuel. The primary contaminants of concern in SS57 are fuel-related compounds associated with spills of gasoline and jet propulsion fuel (JP-4) from fuel handling activities.

An independent study of natural attenuation by Utah State University (USU) was conducted concurrently with the remedial investigation at WP45/SS57. A meeting was held 6 July 95, during which USU presented their preliminary findings and modeling of site data collected at WP45/SS57. These findings are presented in Section 16.0, Explanation of Significant Differences.

6.0 Nature and Extent of Contamination at Operable Unit 3

OU 3 includes source areas DP44, WP45/SS57, ST56, and SS61. The source areas are primarily contaminated with solvents. The principal contaminants of concern for the OU 3 source areas include 1) TCE and its associated degradation product DCE, and 2) benzene, toluene, ethylbenzene, and xylene (BTEX). Other substances detected less frequently and at lower concentrations (such as 1,1,1-trichloroethane (1,1,1-TCA), tetrachloroethane, polycyclic aromatic hydrocarbons (PAHs), and lead) may be potential concerns. No vinyl chloride was detected in OU 3 source areas.

6.1 Source Area DP44

Source area DP44 is located near the Large Aircraft Maintenance Hangar. As originally defined, DP44 included wastewater disposal leach field from the battery shop (Building 1141) and the area around Building 1138 between the runway taxiway and Flightline Avenue west of the North Street intersection (see Figure 2.1). DP44 was identified as a source area because, in the past, the battery shop and Building 1138 may have discharged waste into a leach field system within the area. However, subsequent investigations have not confirmed the existence of this leach field. Most of the contamination in this source area is located south of the hangar, and is probably related to past jet-engine maintenance activities in the hangar. Identified contaminants of concern are fuel-related compounds and solvents in groundwater and soil.

6.1.1 Soil Contamination at DP44

Soil contaminants greater than EPA risk-based screening levels or background concentrations for DP44 are summarized in Table 6.1. Soil samples were collected and analyzed for the constituents shown in Table 5.1. A summary of soils data for source area DP44 can be found in Appendix A.

Soil contaminants listed in Table 6.1 are PAHs that were found at maximum concentrations in a surface soil sample collected during drilling of Well 44M03. This sample was collected in a gravel parking lot that contained fragments of asphalt. Because the parking lot is in close proximity to the runway, it was routinely maintained by spraying oil for dust suppression. The source of PAHs could be from exhaust from vehicles parked in the lot, exhaust from aircraft on the nearby runway, or asphalt residue. These contaminants are highly sorptive and immobile.

While solvent and benzene contamination was the reason for designating DP44 as a source area, the concentrations of these two constituents did not exceed screening levels. Subsurface concentrations of solvent and benzene were estimated to be sufficiently high to leach into the groundwater to yield concentrations that exceed groundwater screening levels. Therefore, even though solvent and benzene contamination in soils does not exceed screening levels based on direct exposure to the soil, it may be the source of groundwater contamination through the leaching pathway.

In August 1994, 13 soil borings were drilled in the vicinity of Well 44M04 to determine the extent and concentration of chlorinated solvents in soils south of the large aircraft maintenance hangar. Locations for the borings were determined using a soil-gas survey. The soil-gas survey indicated that contaminated soils extended to the west under the aircraft parking ramp. The borings were completed through the vadose zone to the water table, located at approximately 3 m (10 ft) below land surface in this vicinity. Samples were taken at three depth intervals, 0.6 to 1.2 m (2 to 4 ft), 1.2 to 1.8 m (4 to

Table 6.1. Surface and Subsurface Soil Contaminants Greater Than Screening Levels, DP44

Chemical	Detection Limit (μg/kg)	Analyzed/ Detected	Concentration Range (μg/kg)	Location of Maximum
Anthracene	20	4/1	5500 - 5500	44M03
Benzo(a)anthracene	10	4/3	200 - 48,000	44M03
Benzo(a)pyrene	9	3/2	470 - 18,000	44M03
Benzo(b)fluoranthene	30	4/3	460 - 210,000	44M03
Benzo(g,h,i)perylene	40	4/3	280 - 14,000	44M03
Chrysene	70	4/2	280 - 21,000	44M03
Dibenzo(a,h)anthracene	50	4/1	6500 - 6500	44M03
Indeno(1,2,3-cd)pyrene	50	4/3	270 - 15,000	44M03

6 ft), and 2.4 to 3 m (8 to 10 ft) below land surface. The samples were analyzed for chlorinated solvents and BTEX compounds. TCE and total DCE results are illustrated in Figures 6.1 through 6.3. Low levels (less than screening level) of toluene were detected in some of the soil samples, as shown in Appendix A.

6.1.2 Groundwater Contamination

Groundwater contaminants in samples collected from monitoring wells that are greater than EPA risk-based screening levels or background concentrations for DP44 are summarized in Table 6.2. Groundwater samples were collected and analyzed for the constituents listed in Table 5.1. A summary of the sample concentrations can be found in Appendix A.

During field investigations at DP44 prior to 1994, benzene and TCE were found in the groundwater above their 5-μg/L maximum contaminant levels (MCLs). Toluene, ethylbenzene, and xylene were also detected, but at concentrations below their MCLs. Benzene contamination above 5 μg/L covered an area of approximately 3300 m^2 (3947 yd^2), with Well 44M02 displaying the highest benzene concentration. Groundwater probe data collected in 1988 indicated that benzene concentrations up to 4000 μg/L existed near the top of the water table. Benzene concentrations detected in 1990 had diminished fourfold since the 1988 sampling. By 1992 and 1994, benzene levels decreased to just above the MCL. For details on 1992 and 1994 benzene concentrations at DP44, refer to Figures 6.4 and 6.5. The 1992 data were used in the risk assessment and are reported in Table 6.2 and Appendix A.

Two areas of TCE contamination were detected in the groundwater above the 5-μg/L MCL, including Well 44M03 and Well 44M04, with TCE concentrations above 100 μg/L in Well 44M04. The two sites of TCE contamination appeared to be unrelated and relatively limited, based on groundwater probe results, which showed no detectable TCE between the sites or at adjacent probes or wells. The distribution of contamination near Well 44M04 indicated the source of TCE may be upgradient of DP44.

In August 1994, TCE and total DCE were still present in the vicinity of Well 44M04 in concentrations similar to previous years. These concentrations, as shown in Figures 6.6 and 6.7, were 109 ppb and 121 ppb, respectively. Results from the groundwater probe samples taken during the soil borings are also shown in Figures 6.6 and 6.7. They also show that chlorine solvent contamination extends away from Well 44M04 to the west under the aircraft parking ramp and to the north toward the hangar.

The distributions for TCE and DCE are slightly different. Vinyl chloride has never been detected in any of the groundwater samples from DP44. No groundwater samples are available from underneath the hangar. Wells 44M03, 44M07, and 44M08, to the north of the hangar, show low levels of TCE and DCE contamination. The concentrations in all three wells are below MCLs. It is not known whether this contamination results from a second low-level source or is the leading edge of a plume located underneath the hangar. The total area of TCE-contaminated soils is approximately 6500 m^2 (69,000 ft^2) with a volume of 20,000 m^3 (25,500 cu yd) containing an estimated 3.2 kg of TCE.

All contaminants detected at DP44 were in aqueous form. No free-phase solvent or fuel was encountered.

Table 6.2. Groundwater Contaminants Greater Than Screening Levels, DP44

Chemical	Detection Limit (μg/L)	Analyzed/ Detected	Concentration Range (μg/L)	Location of Maximum
Benzene	2	15/2	3.7 - 5.3	44M05
Trichloroethane	1	15/3	1.2 - 2500	44M04

6.2 Source Area WP45/SS57

The photo laboratory and dry well at Building 1183 were designated as Source Area WP45. Building 1183 is located near the main taxiway along the west side of Flightline Avenue (see Figure 2.1). The operational history of the dry well is not known. It was originally believed the dry well was the source of the solvent concentration found at WP45. However, in August 1992, two new wells were added upgradient from the dry well. Contaminant concentrations were higher on the two new wells than in the monitoring well downgradient of the dry well.

The dry well located at the west corner of Building 1183 has not been removed because removal would compromise the structure of the building. Standing groundwater in the well and sludge at the bottom of the well were sampled on April 1993, and the drain leading to the well was plugged with cement. Results indicated low levels of TCE in the water (3 μg/L) and low levels of chromium (1.2 μg/L) and silver (1.9 μg/L) in the sludge. Based on these results, the dry well appears to be a secondary source of groundwater contamination at WP45. The suspected primary source of contamination is currently believed to be a former maintenance shed that was located at the northwest corner of the fire station, Building 1206. No specific information explains the cause of the source of contaminants at WP45. The identified contaminants of concern are solvents in groundwater and soil.

Source Area SS57 is the area surrounding the fire station, Building 1206 (see Figure 2.1). SS57 is considered with Source Area WP45 because they are closely related and the groundwater contamination from the two sites overlap. Soils beneath the pavement in the parking lot of Building 1206 are contaminated with fuel. The primary contaminants of concern in SS57 are fuel-related compounds associated with spills of gasoline and jet propulsion fuel (JP-4) from fuel handling activities.

An independent study of natural attenuation by Utah State University (USU) was conducted concurrently with the remedial investigation at WP45/SS57. A meeting was held 6 July 95, during which USU presented their preliminary findings and modeling of site data collected at WP45/SS57. These findings are presented in Section 16.0, Explanation of Significant Differences.

ATTACHMENT D

Records of Decision (RODS), Environmental Source Area SS 47

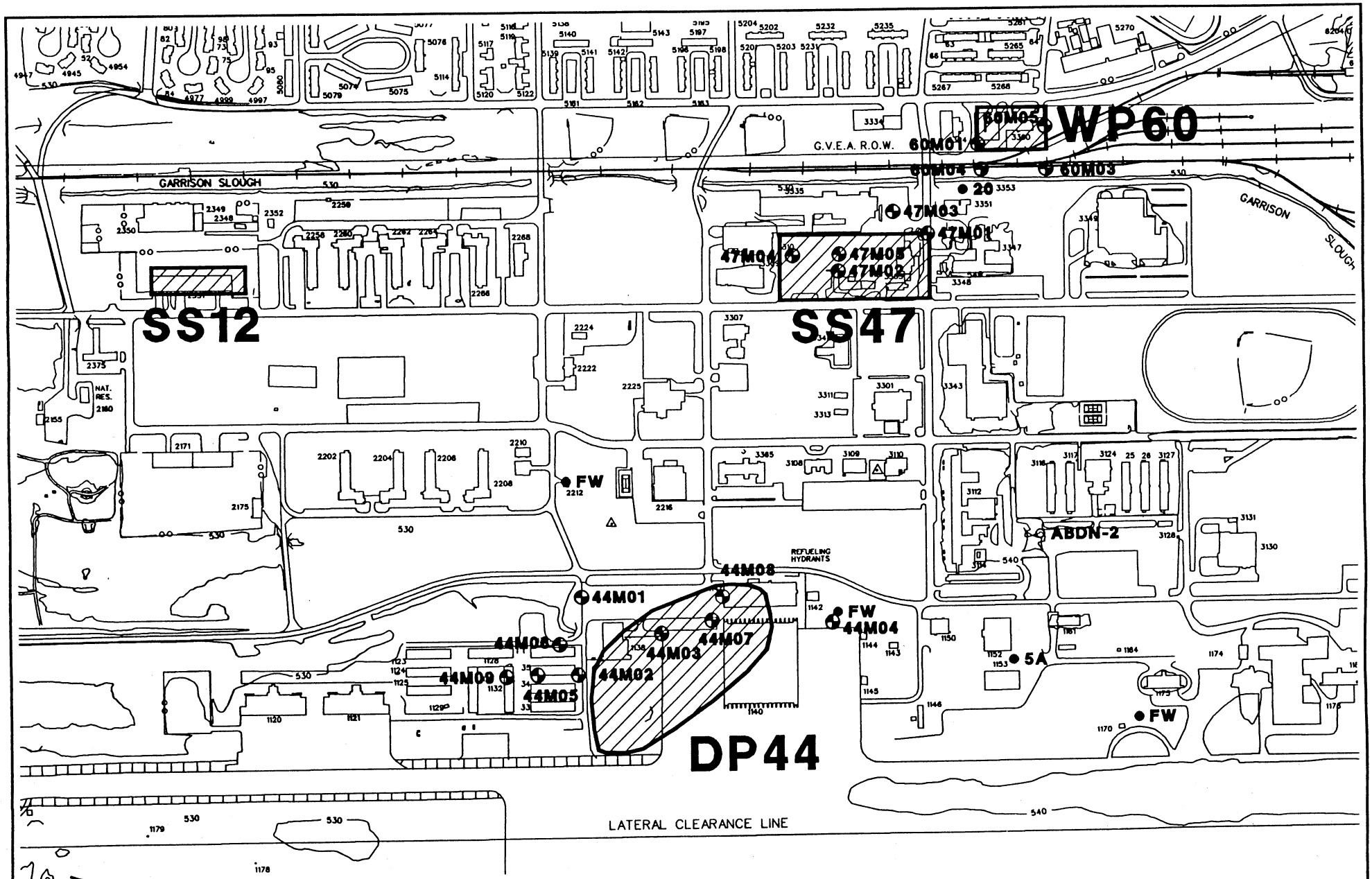


FIGURE 14.1 Source Areas SS12, DP44, SS47, and WP60 Monitoring Wells, and Water Supply Wells

Source Evaluation Report, Eielson Air Force Base

small quantities of industrial solvents were reportedly used. The drums were removed between 1982 and 1986. The building was demolished, and the area regraded.

Groundwater in this area contains benzene, apparently from another spill at ST13 and DP26. This contamination is addressed as part of cleanup for ST13 and DP26. Site investigations and analysis of groundwater and soil indicate that all constituents, except benzene in the groundwater, are well below screening criteria. Benzene in the groundwater will be treated as part of the ST13 and DP26 cleanup.

5.19 Source Area SS42 (Miscellaneous Storage and Disposal Area)

Source area SS42 was used during the 1960s for storage and disposal of miscellaneous small equipment and construction equipment. SS42 also has empty drums that contained waste oil, lubricants, and solvents. This area is now covered with trees and vegetation. Site investigations and analysis of groundwater, sediment, soil, and surface water show that only iron and manganese in groundwater exceeded screening criteria. High iron and manganese are found throughout the area, but these data are likely compromised because of inclusion of sediment particles in the water sample during collection. Background wells sampled by the same group contained similar and higher concentrations that were greatly reduced with filtration.

5.20 Source Area SS47 (Commissary Parking Lot Fuel Spill)

During a preconstruction soil investigation in 1987 for an addition to the Commissary, some fuel-contaminated soil was found at a depth of about 9 feet near the center of the paved parking lot. The source of contamination is unknown; there are no known or reported spills in this area. Field investigations of groundwater and soil in the center of the parking lot showed that constituents were below screening criteria. TPH was detected in soils mid-way between the ground surface and the water table at a 95% upper confidence level of 5,255 mg/kg. Above and below this horizon, TPH averaged less than 100 mg/kg. Lead was detected in the groundwater at two wells located on the southern, upgradient part of the parking lot, indicating the possibility of another source of contamination south of the parking lot.

5.21 Source Area WP60 (New Auto Hobby Shop)

Source area WP60 is used by base personnel for maintaining personal vehicles. Remodeling activities conducted in 1988 and 1990 resulted in the removal of waste disposal structures and contaminated soil. Base policies were and are in place for recycling and disposing hazardous materials. Site investigations and analysis of groundwater, sediment, soil, and surface water show that all constituents except benzo(k)fluoranthene in soils (0.17 mg/kg) were below screening criteria. The benzo(k)fluoranthene concentration corresponds to a 2×10^{-6} carcinogenic risk for ingestion of soil under a residential scenario.

5.22 Source Area SS62 (Garrison Slough)

Garrison Slough, which begins at the south end of Eielson AFB, flows north through the developed portion of the base and into Moose Creek. The slough is not a domestic or industrial water supply; however, the water is used to water family garden plots and for recreational fishing. Garrison Slough was incorrectly listed as a contamination source. Though the slough may have received contamination from several different sources at the base, it is not itself a potential source of contamination. The impacts to Garrison Slough

ATTACHMENT E

Alaska Department of Environmental Conservation, No Further Action Statement, Environmental Source Area SS 59

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
FAIRBANKS, ALASKA

REVIEW COMMENTS
DRAFT PHASE 1 SOURCE EVALUATION REPORT
EIELSON AIR FORCE BASE, ALASKA

State Water Quality Standard:

I. NO FURTHER ACTION SITES

Based on this Source Evaluation Report and the information discussed at a meeting August 31, 1992 through September 3, 1992, the Department considers the following source areas no further action:

1. Source Area LF05 - Old Army Landfill
2. Source Area LF07 - Test Landfill
3. Source Area FT08 - Fire Training Area (Past)
4. Source Area SS12 - JP-4 Spill, Bldg. 2351
5. Source Area ST15 - Multiproduct Fuel Line
6. Source Area ST17 - Canol Pipeline Spill
7. Source Area SD21 - Road Oiling at Quarry Road
8. Source Area SD22 - Road Oiling at Industrial Drive
9. Source Area SD23 - Road Oiling at Manchu Road
10. Source Area SD24 - Road Oiling at Gravel Haul Road
11. Source Area DP28 - Fly Ash Disposal Site
12. Source Area SS42 - Miscellaneous Storage and Disposal Area
13. Source Area LF43 - Asbestos Landfill
14. Source Area SS46 - KC-135 Crash Site
15. Source Area SS59 - Dining Hall Diesel Spill
16. Source Area WP60 - New Auto Hobby Shop
17. Source Area SS62 - Garrison Slough

RESPONSE: No response required.

II. Additional Information or Sampling Requested

The Department has concerns regarding the following SER sites and requests more information, and in some cases additional sampling be conducted to resolve outstanding issues:

NFA OK!

1. Source Area LF06 - Old Landfill — Water Quality Standard in Text Background Data Check

This source was not included in last fall's discussion. In evaluating the information presented, Dichlorodifluoromethane was detected in four (4) out of six (6) monitoring wells during both sampling events (1988 and 1990). The highest concentrations were found at 3.38 ug/L. MCLs have not been established for this contaminant, however 55FR 30798 - Proposed Rule RCRA Corrective Action for SWMUs 40 CFR (Appendix A), lists Dichlorodifluoromethane as a systemic ~~toxicant with~~ proposed regulatory levels of 20,000 mg/kg soils and 7 mg/L water. Due to the close proximity of Well D, a main well at ~~0.19 mile and~~ Wells A and B located at 0.23 mile northwest (the expected direction of groundwater

ATTACHMENT F

Sitewide Water Table Data

Conrad

[redacted]

United States Air Force

Environmental Restoration Program

Eielson Air Force Base, Alaska

Sitewide Water-Table Elevations at Eielson Air Force Base September 1991 - September 1993

Draft

December 1993

SITEWIDE WATER-TABLE ELEVATIONS AT EIELSON AIR FORCE BASE SEPTEMBER 1991 - SEPTEMBER 1993

DRAFT
December 1993

Prepared for U.S. Air Force
Eielson Air Force Base
Environmental Restoration Program
Fairbanks, Alaska

by

Pacific Northwest Laboratory
Richland, Washington 99352

INTRODUCTION

To support the U.S. Air Force Environmental Restoration Program, water levels in selected wells at Eielson Air Force Base (AFB) have been measured on a monthly basis for more than one year. The purpose of these measurements was to determine sitewide ground-water flow directions and gradients for the uppermost aquifer underlying the industrial area of the base, where the majority of contaminant source areas are located. Monthly measurements taken over a one-year period were used to construct maps showing water-table elevation contours. The water-level measurements and more frequent data collected from pressure transducers at selected wells were used to evaluate seasonal changes in the ground-water flow system.

METHODS AND EQUIPMENT

Data used to construct the contour plots are presented in Appendix A. Depth-to-water was measured from the top of each well casing using an electric sounding tape (E-tape). These measurements were subtracted from the surveyed casing elevations to determine the elevation of the water table at each well. A few wells sometimes contained a layer of floating petroleum product. For these wells, the depth to the top of the product layer was measured with an oil/water interface probe and the water-table elevation was corrected by adding a thickness of water equivalent to the weight of the product layer. The equivalent water thickness was calculated by multiplying the product thickness by 0.81, which is the ratio of the product and water densities. Water-table elevations were then used to construct elevation contour maps of water table for each month over the one-year period July 1992 through June 1993.

Potential sources of error in the water-table contour maps include errors in the measured water-table elevations, errors in surveyed casing elevations, and errors in the plotting of contours. According to the surveyor, uncertainty in the elevation survey results is about $\pm$0.015 m.

Accuracy of the E-tapes and oil/water interface probes used to measure depth to water is also about ±0.015 m. Therefore, the combined uncertainty in most of the measured water-table elevations is about ±0.03 m. Wells with floating product will have a higher uncertainty of about ±0.05 m. Some measurements may also be affected by vertical movement of the well casing caused by frost heave that occurred during the period between the elevation survey and water-level measurement. To help eliminate this source of error, wells that have obviously been affected by frost heave were not measured and the most recent available elevation survey was used to calculate water-table elevations. A few water-level measurements were outside the expected reasonable range for the well, possibly because of a measurement or recording error. These measurements, as noted in Appendix A, were not used in plotting elevation contours. Plotted elevation contours have been interpolated between available measurement data and extrapolated in areas where no measurements are available based on the assumption that aquifer hydraulic properties are relatively homogeneous. This assumption generally results in evenly spaced contours, except at areas of recharge or discharge. Contours that are uncertain have been plotted as a dashed line.

RESULTS

Monthly water-table contour maps for a one-year period are presented in Figures 1 through 12. The maps show the locations of water-level measurements used in constructing the water-table contours. Water-level measurements were also made in most other months during the period September 1991 to September 1993. All the available monthly water-level measurements are tabulated in Appendix A. Measurements were originally recorded in English units and converted to metric for plotting the water-table maps.

In addition to the manual water-level measurements, pressure transducers and data loggers were installed at selected wells to automatically record water levels. A description of the automatic water-level measurement system and results for the period September 1991 to August 1992 are provided in USAF

(1993). Figure 13 shows a comparison of water-level elevations recorded automatically at three wells over a period of about two years. Manual measurements at these wells are also shown. Data from the pressure transducers show seasonal variations in water-table elevation that are also reflected on the water-table maps. Water-table elevations increased during the snow-melt period each spring, peaking during late May of 1992 and early May of 1993. Water levels generally declined through the summer and fall, although smaller peaks associated with rainfall events were observed. However, from the beginning of August 1993 until the last available measurement on September 24, 1993, the water table was rising, probably because of infiltration from rainfall. During the winter months, water levels generally increased slightly. The increase during winter is attributed to the freezing of stream channels, which prevents ground-water from effectively draining. However, some ground water discharges to the rivers and sloughs throughout the winter, as evidenced by the presence of overflow ice and stretches of open water in streams.

In addition to seasonal and precipitation related variations in the water table, water levels in some wells were affected by man-made influences such as the pumping of base water-supply wells and discharge to ponds. The effect of nearby pumping is clearly seen at Well 48M04 (Figure 13), which is located near a base water-supply well and the power plant cooling wells. Pumping of these supply wells causes changes in ground-water flow direction and gradient in the vicinity of the pumped well.

The aquifer is also influenced by Garrison slough and by discharge of water to the slough at the treatment-plant pond. Above the treatment plant pond, Garrison Slough has no source except local runoff and inflow of ground-water. Springs have also been observed along the slough at certain times of the year. Therefore, the slough is believed to be a discharge area for ground water and the water table maps have been drawn to reflect this interpretation. That is, elevation contours are distorted at the slough, indicating a lower water-table elevation immediately adjacent to the slough. The density of

water-level data near the slough is generally not great enough to show that this is actually the case. At the water treatment plant, excess water from the base water supply is discharged to the treatment plant pond, which is part of Garrison Slough. Water-level measurements at Source Area ST11, adjacent to the slough and immediately downstream from the treatment plant pond, indicate that the increased flow in the slough causes the slough to recharge the aquifer in this area during most of the year (USAF 1993). Water levels measured in wells near the slough were higher than the water level measured at the Central Avenue staff gage except during the spring peak in the water table elevation. However, this phenomenon is believed to occur for only a short distance downstream from the treatment plant pond.

REFERENCE

USAF. 1993. Automatic Water-Level Measurements, Eielson Air Force Base, Alaska, September 1991 - August 1992, U.S. Air Force Environmental Resoration Program, March 1993 Draft Report, Eielson Air Force Base, Alaska.

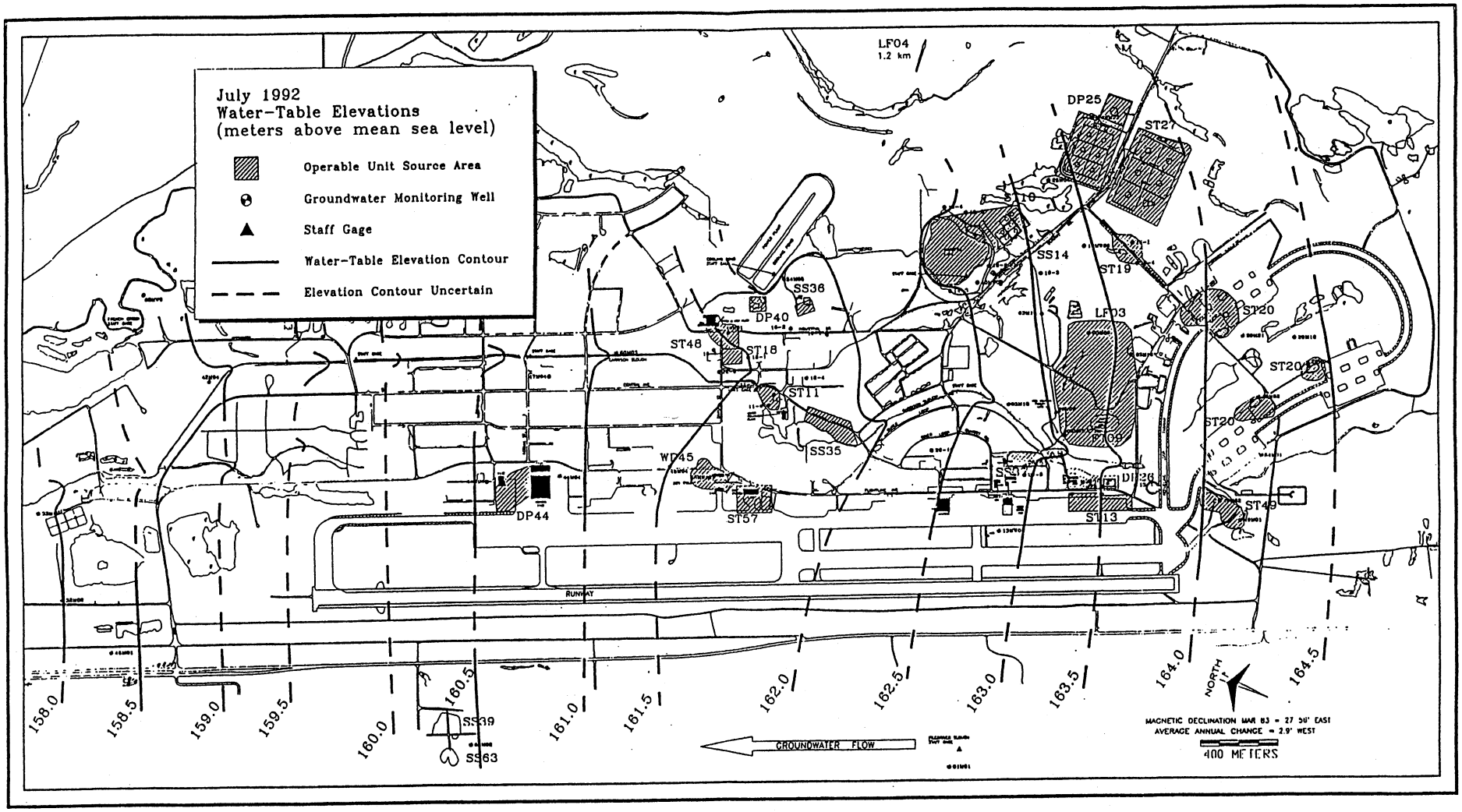


FIGURE 1. July 1992 Water-Table Elevations

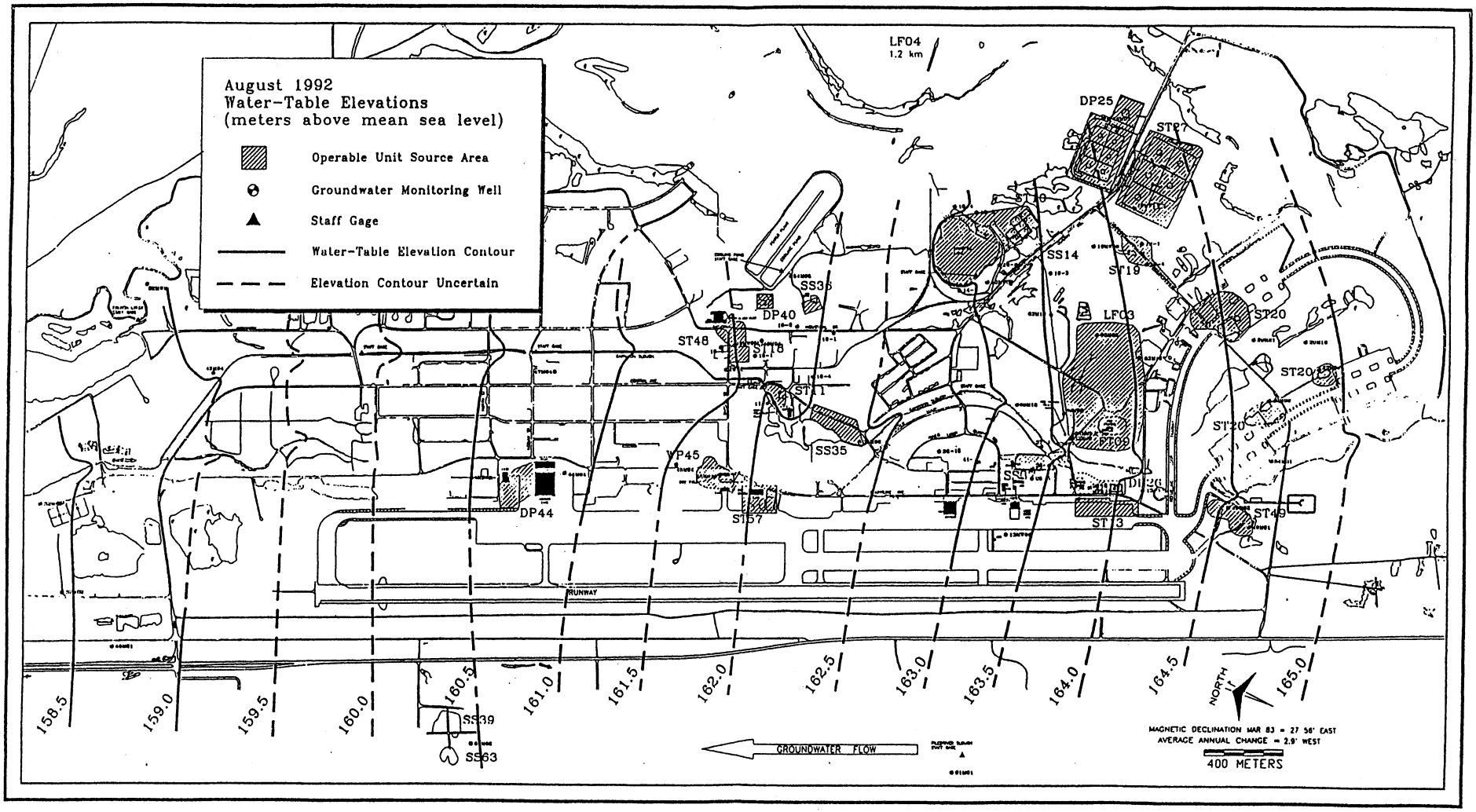


FIGURE 2. August 1992 Water-Table Elevations

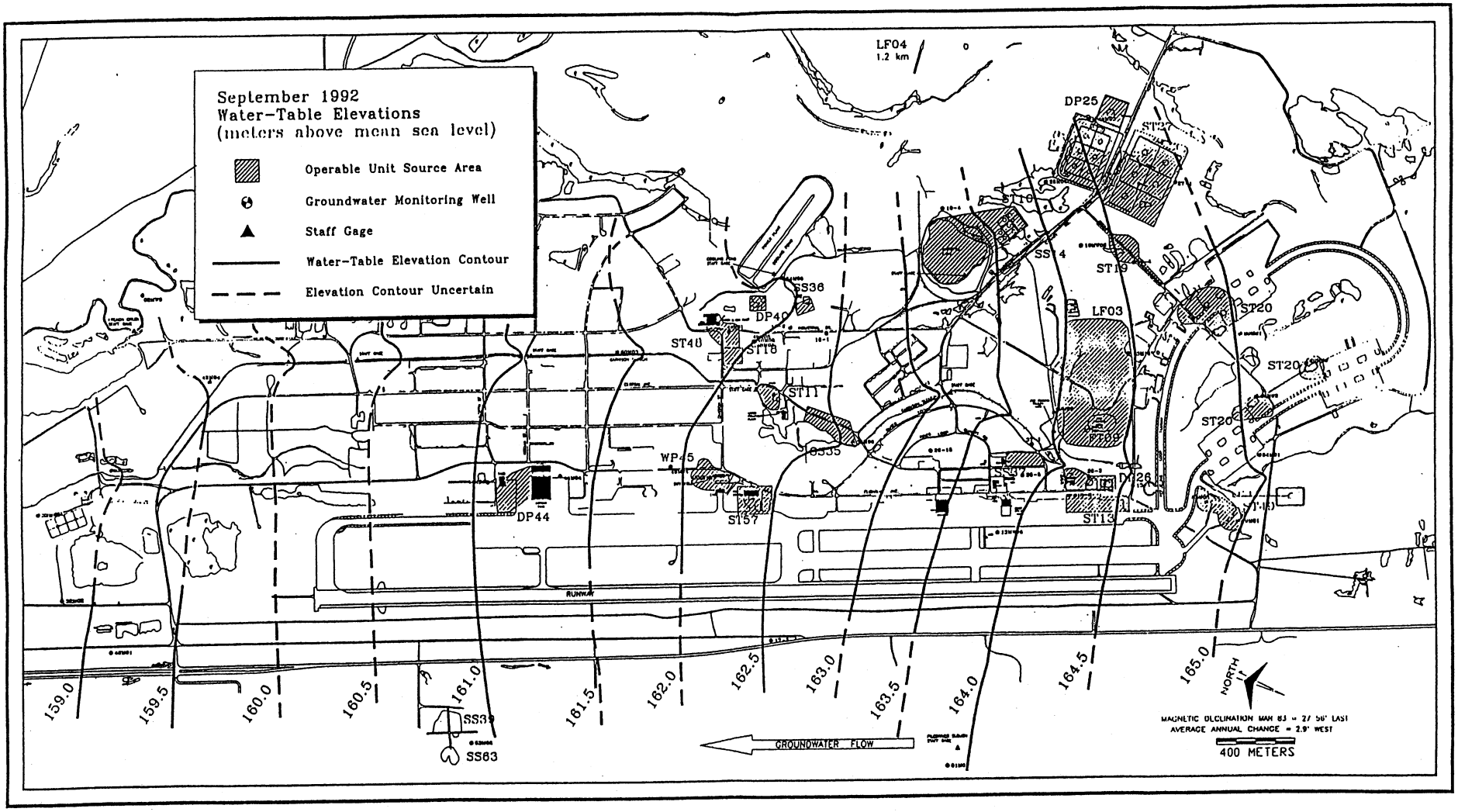


FIGURE 3. September 1992 Water-Table Elevations

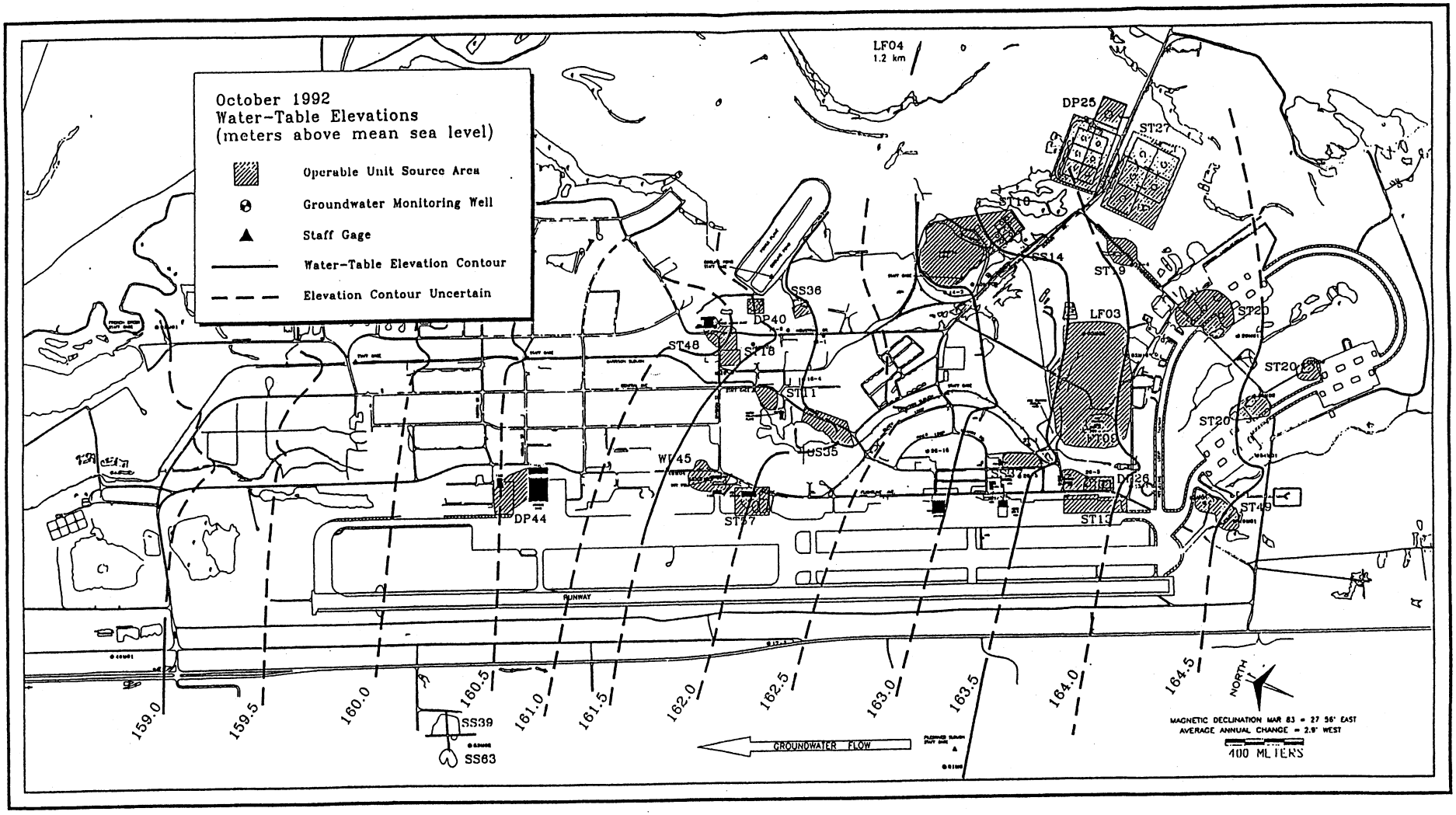


FIGURE 4. October 1992 Water-Level Elevations

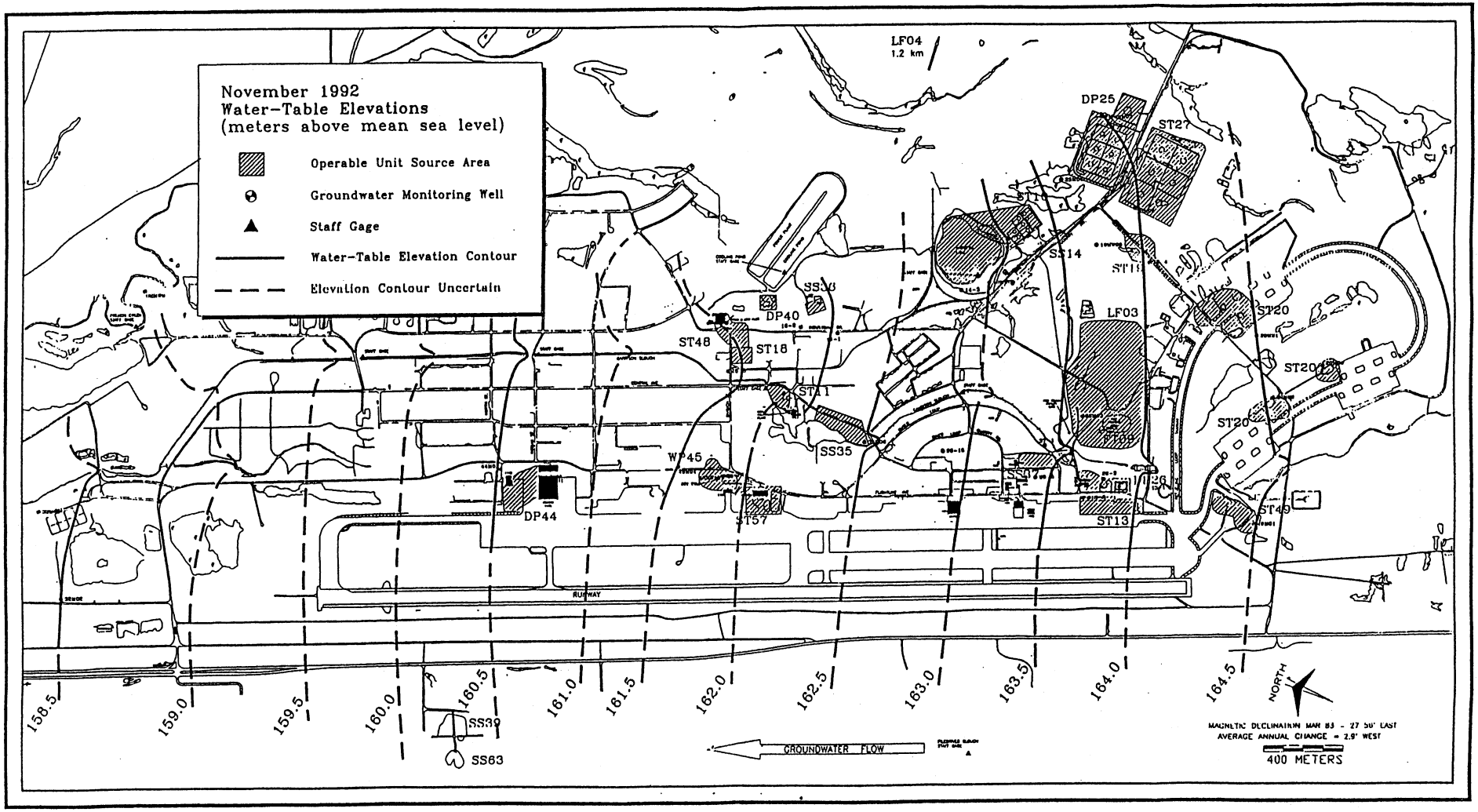


FIGURE 5. November 1992 Water-Level Elevations

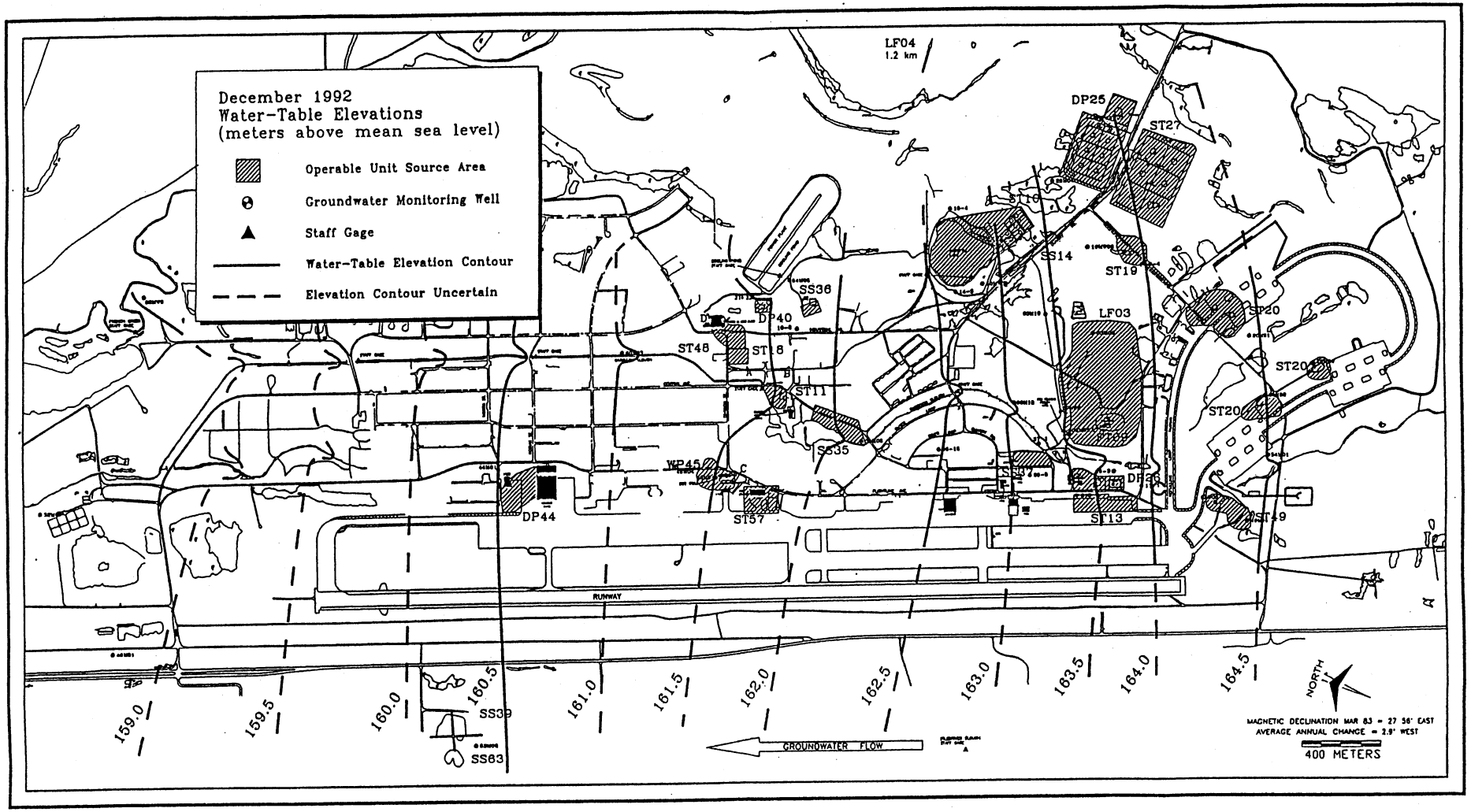


FIGURE 6. December 1992 Water-Level Elevations

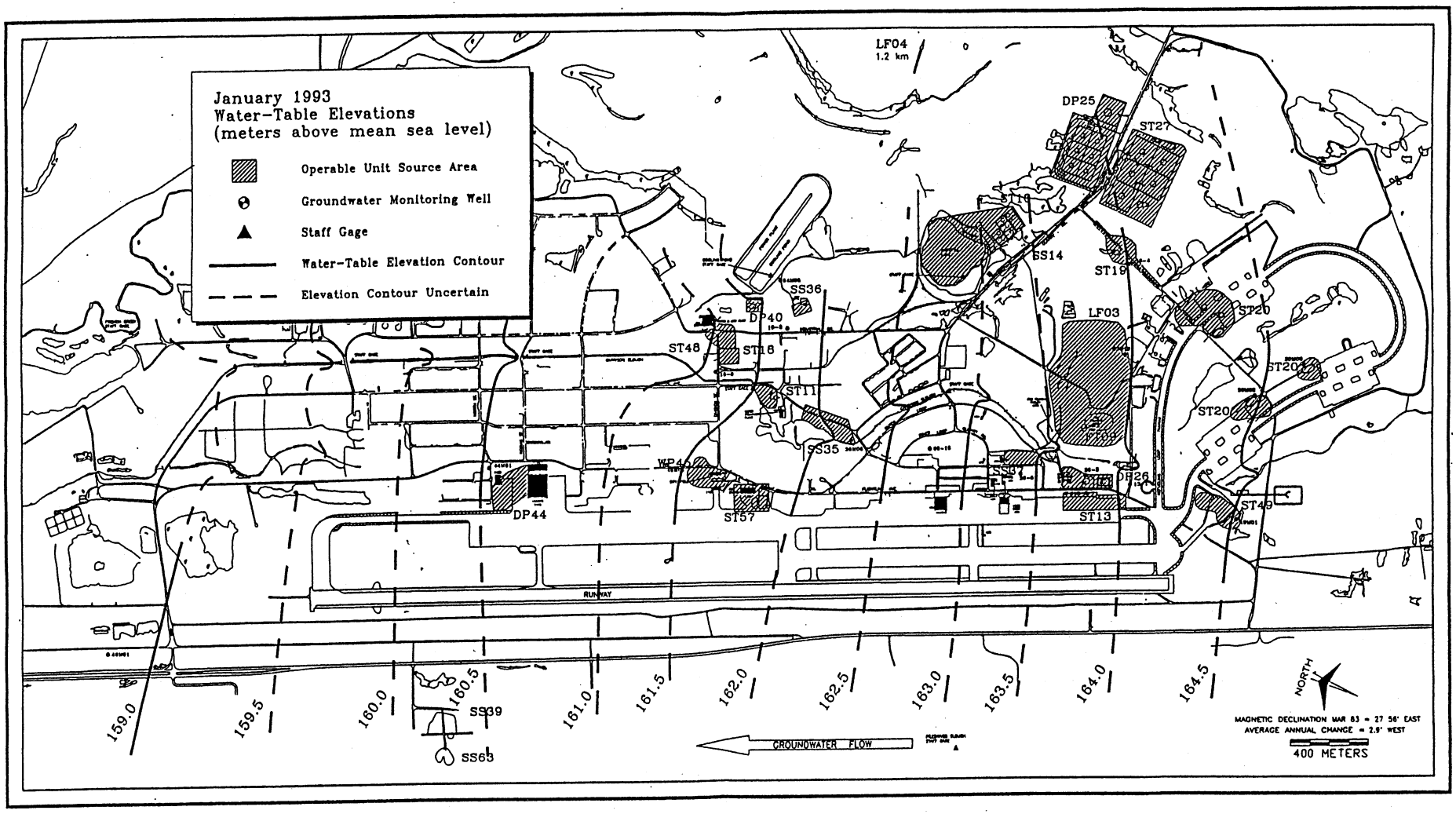


FIGURE 7. January 1993 Water-Level Elevations

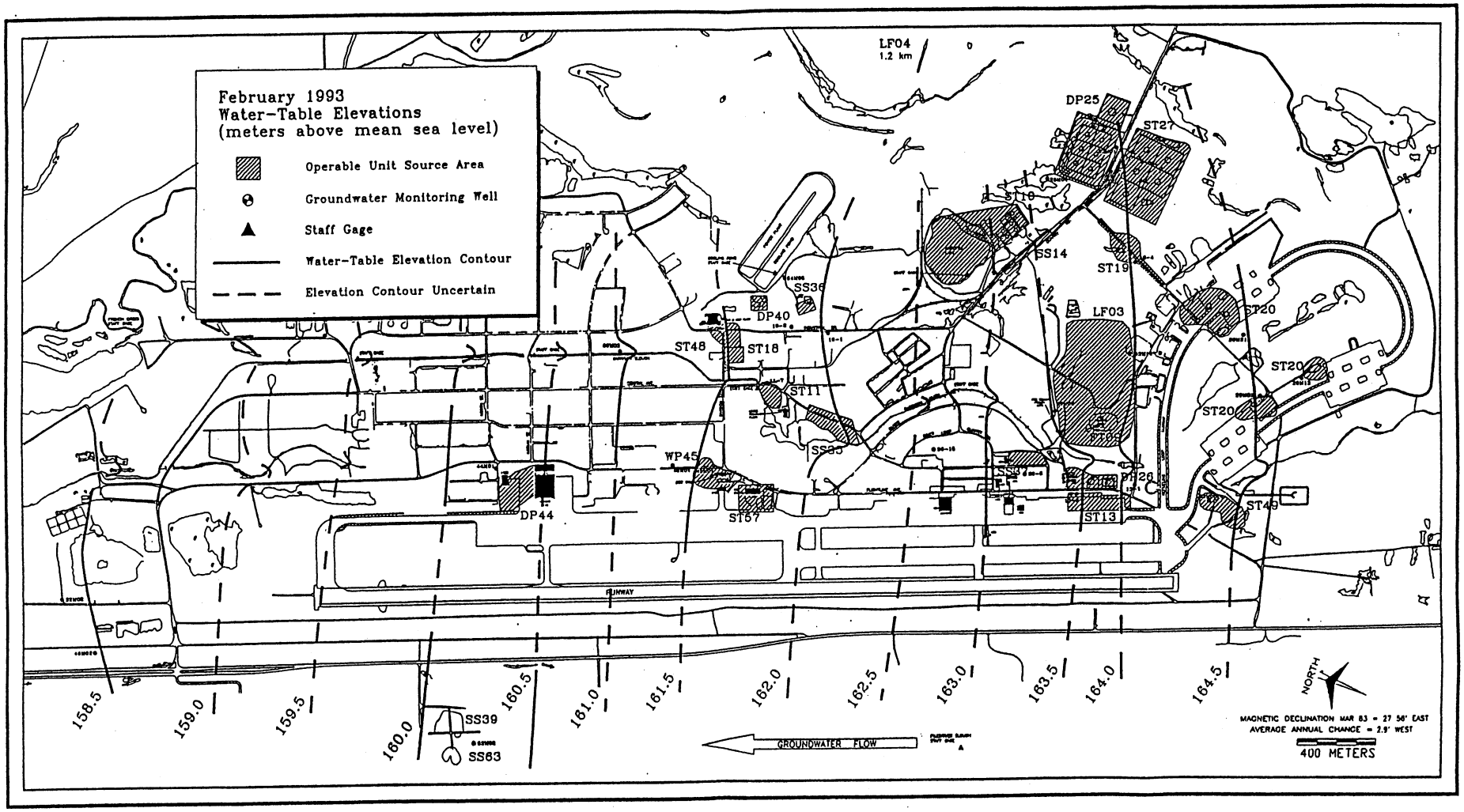


FIGURE 8. February 1993 Water-Table Elevations

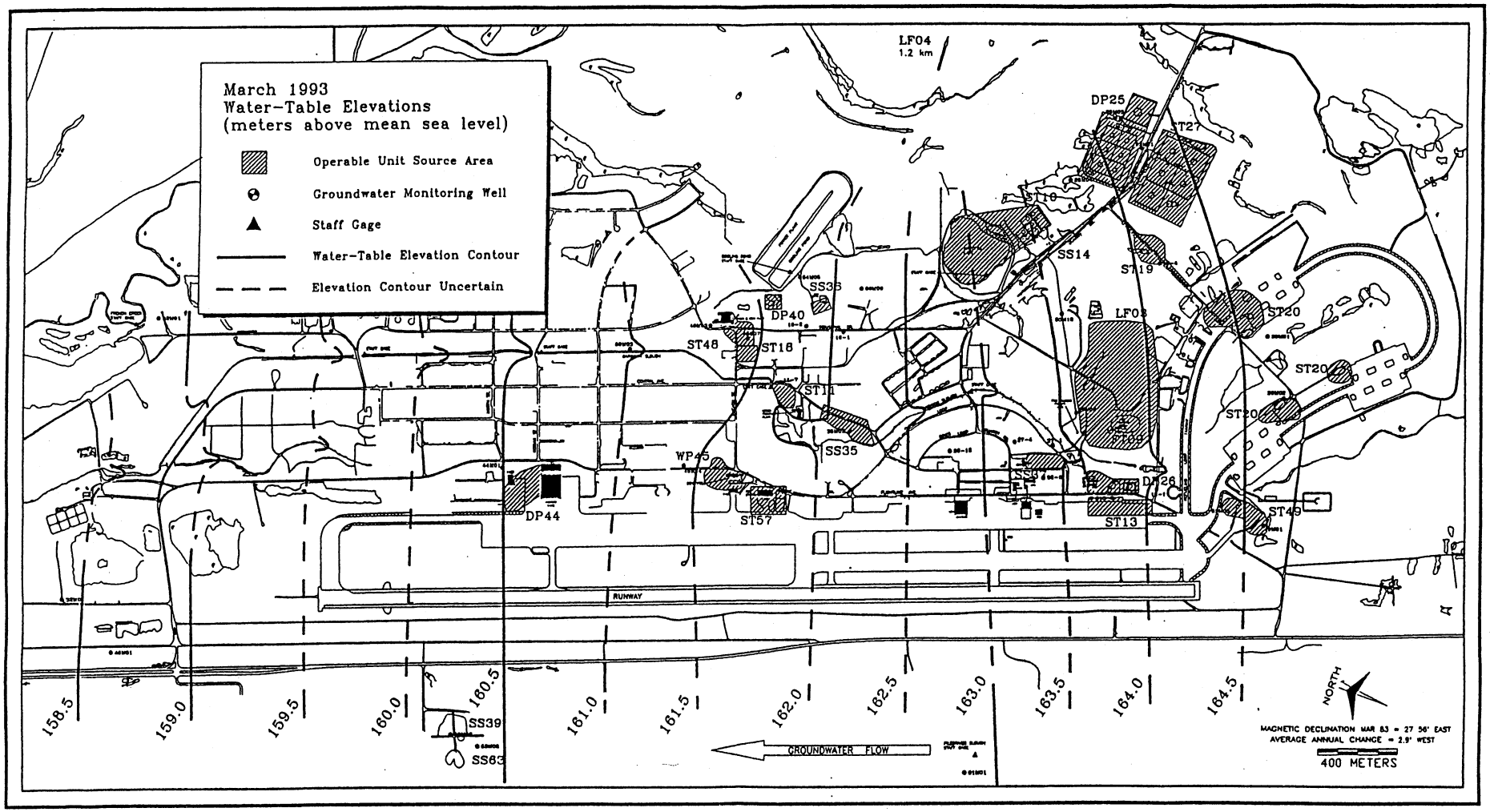


FIGURE 9. March 1993 Water-Table Elevations

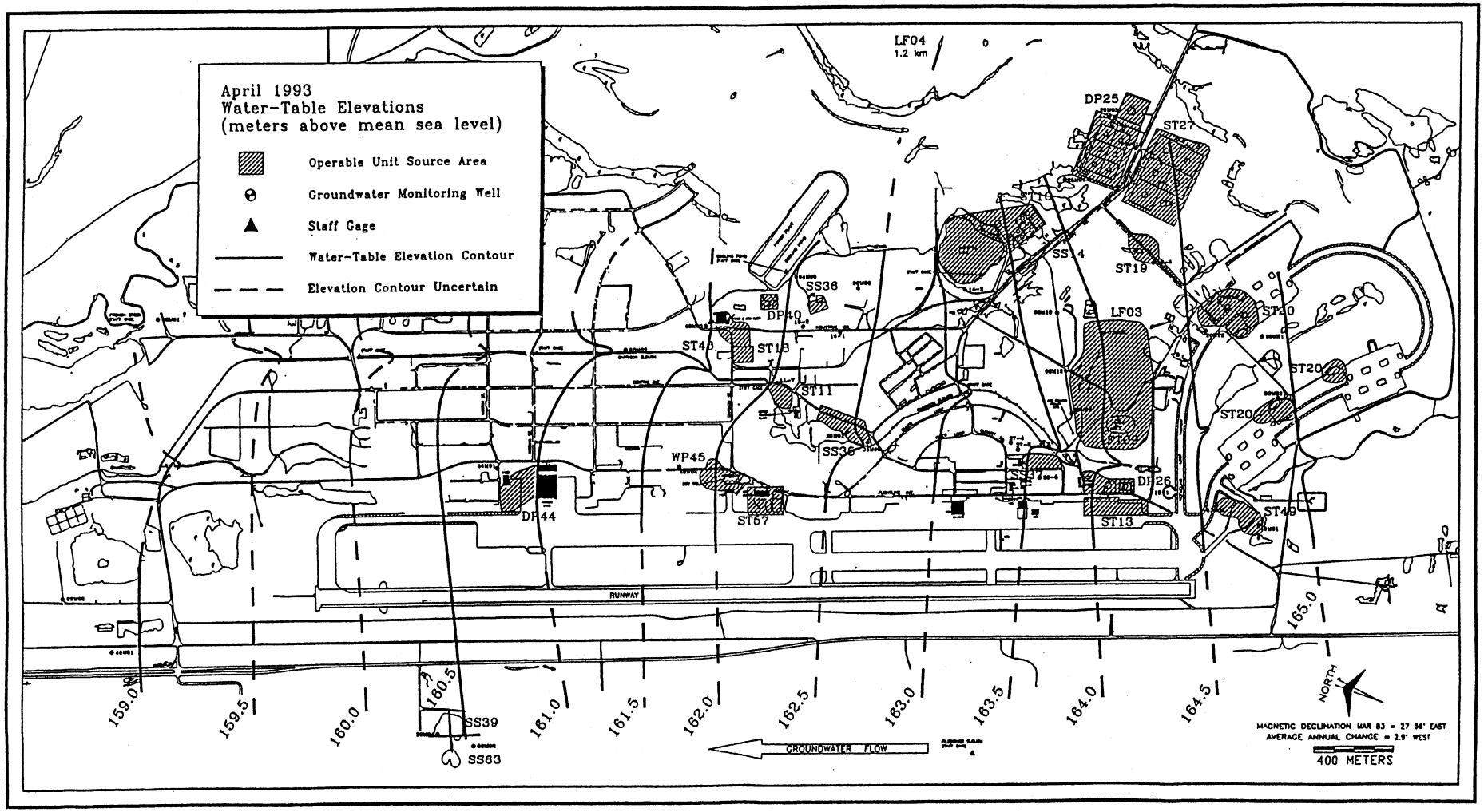


FIGURE 10. April 1993 Water-Table Elevations

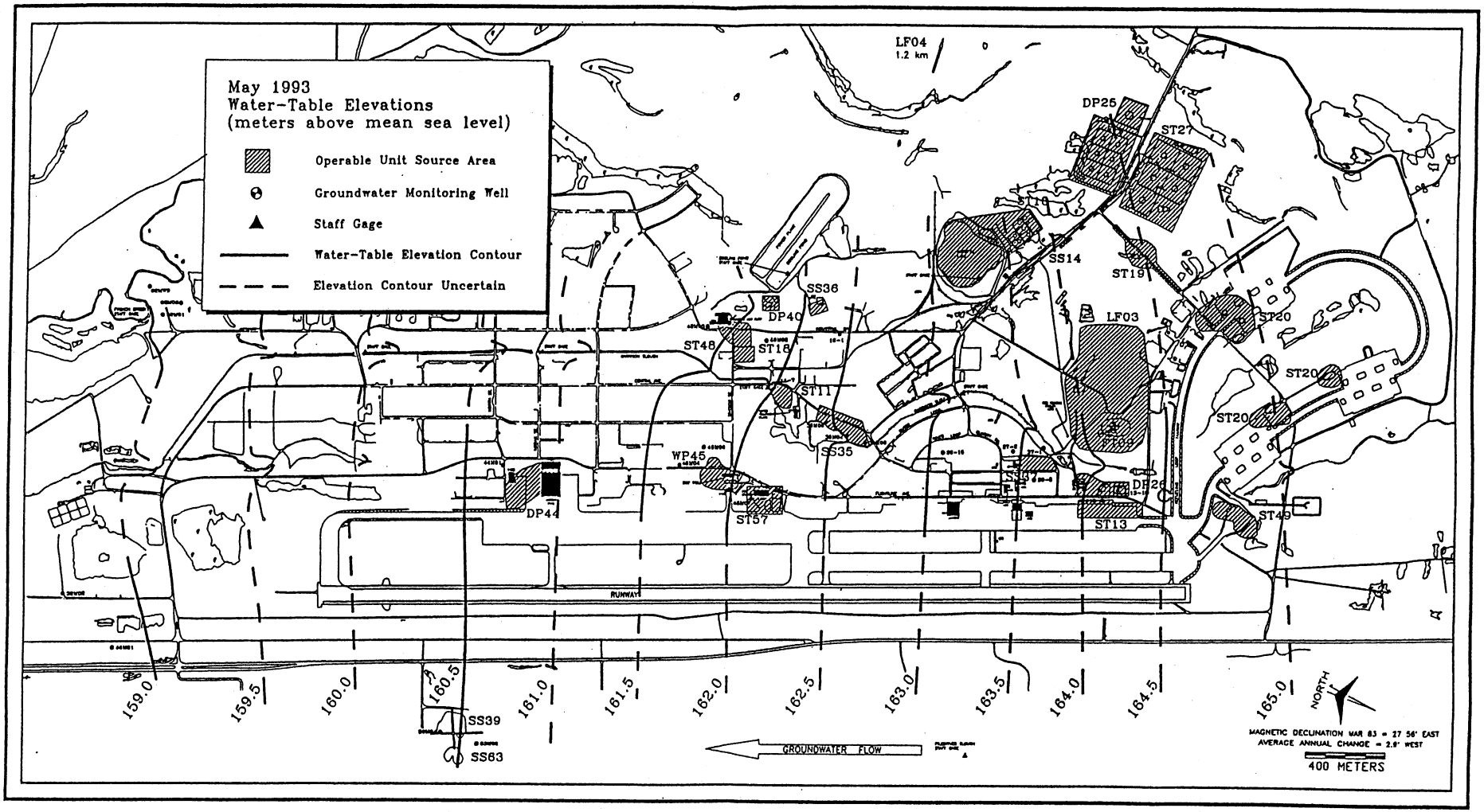


FIGURE 11. May 1993 Water-Table Elevations

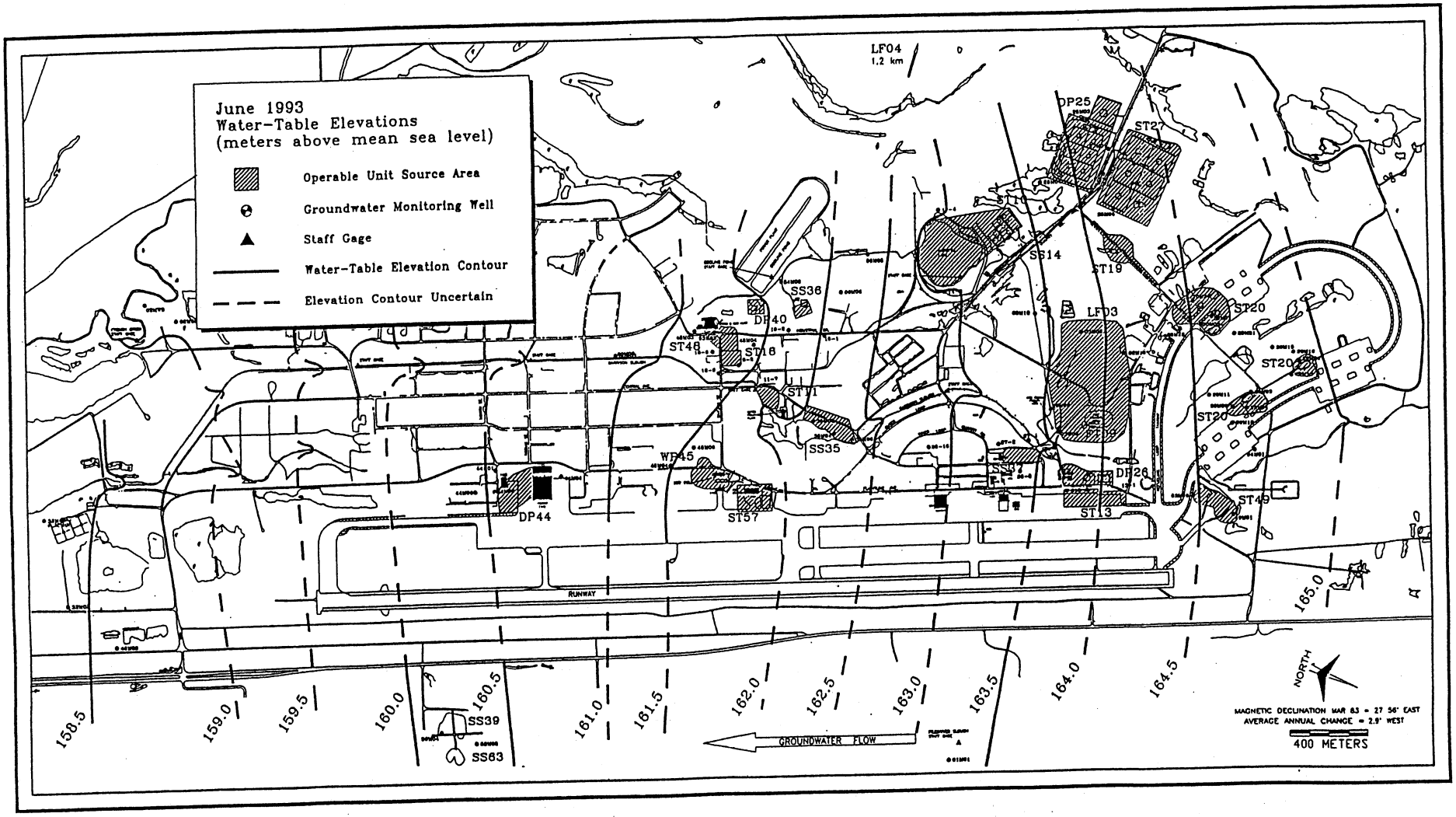


FIGURE 12. June 1993 Water-Level Elevations

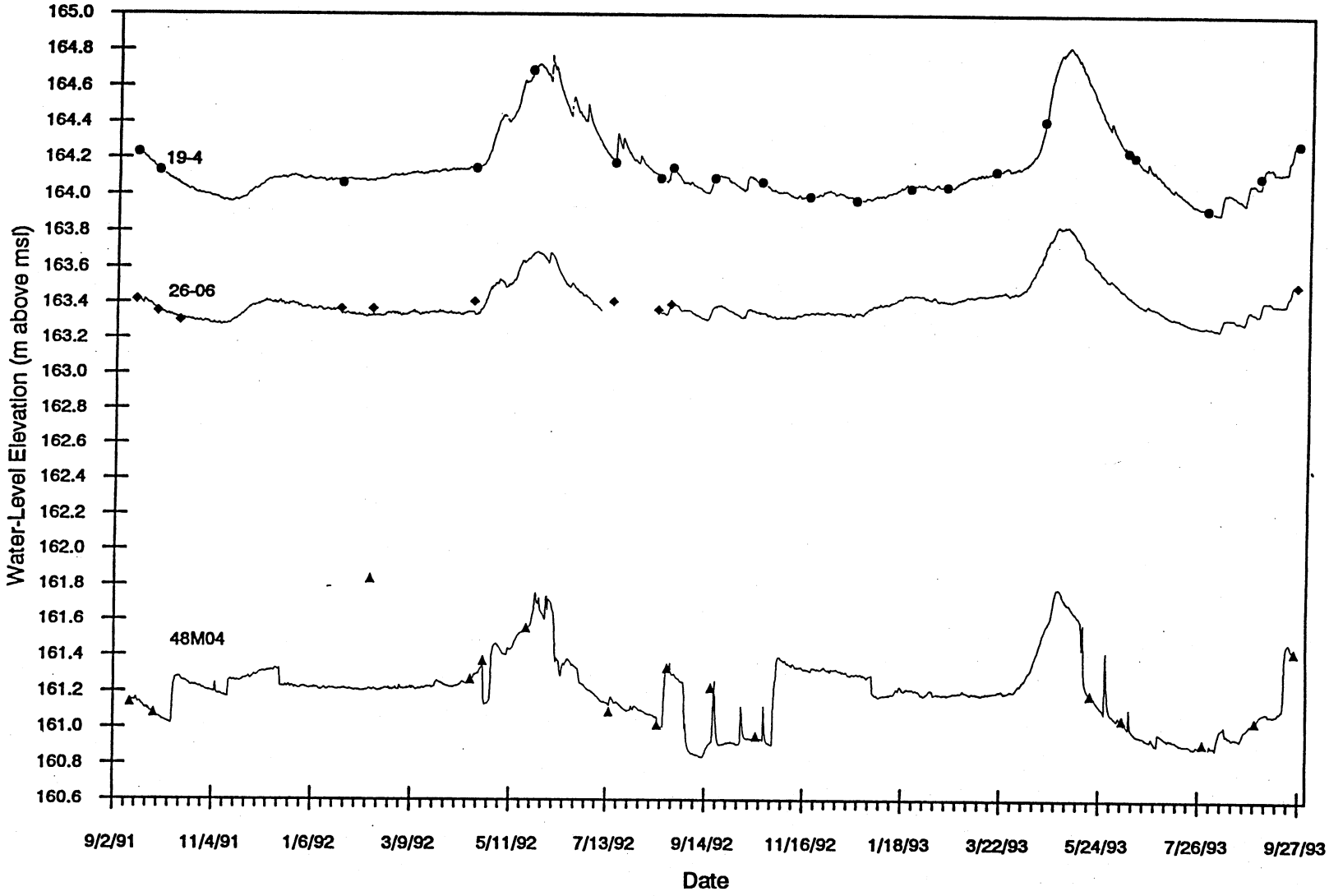


FIGURE 13. Automatically Recorded Water-Level Elevations and Periodic Manual Measururements at Three Wells.

GEOTECHNICAL SUMMARY
PHASE III UTILIDOR REPAIR
EIELSON AFB, ALASKA
DACA85-99-D-0005

June 2001

SHANNON & WILSON, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

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31-1-01667-001

GEOTECHNICAL SUMMARY
PHASE III, UTILIDOR REPAIR DACA85-99-D-0005
EIELSON AFB, ALASKA

1.0 INTRODUCTION

The utilidors at Eielson AFB were constructed 45 to 50 years ago. The maintenance crews are currently experiencing increased incidences of repair. Critical areas were identified and prioritized. The initial Scope of the Phase III effort consisted of the following:

1. Remove and replace water and sewer mains from MH510 to MH507 with laterals
2. LS507 update and upgrade pumps and RV dump
3. Add MH211 to MH214 with laterals
4. Add MH507 to MH140 with laterals
5. Add laterals on Wabash from MH333 to MH214 and replace expansion loops with joints
6. MH214 - enlarge manhole and install shut-off valves on steam, condensate, and water
7. Add all lines from Building 3228 to MH548
8. Add back pressure valves in raw water lines at wellhead
9. MH208 - replace condensate station (Roth Duplex Condensate System)
10. MH208 enlarge manhole
11. Include laterals to Buildings 3224, 3408, and 3430
12. Raw water lines from MH516 to Building 3228
13. Relocate communications cables outside utilidor
14. MH530 - completely renovate
15. Pressure crack seal all utilidors
16. Replace raw water lines from Building 1201 to MH140

After the design charette the week of May 21, 2001, the scope of work was refined and prioritized. The charette process developed and optimized the scope of work to include priority 6, 9, 10, S1, and S2 Phase III utility repairs. A site plan depicting approximate locations of each of the priorities is shown in the attached Figure 1. The following elements are included in this work:

1. Priority 6 work, which includes 2,200 feet of main utilidor and 220 feet of service utilidor along Flightline Avenue between MH 507 and MH 704. Service for buildings 1206, 1209, 3240, and 3242 will be addressed.
2. Priority 9 work, which includes 1,800 feet of main utilidor and 670 feet of service utilidor between MH 516 and MH 548. Services for buildings 3408, 3224, 3430, and 3228 will be replaced.
3. A second water supply line between MH 548 and the water treatment plant may be added to the work.
4. Priority 10 work, which includes 1,050 feet of main utilidor between MH 548 and 551-1, located along Central Avenue.
5. Priority S1 work, which includes 670 feet of main utilidor from MH 507 to MH 510 along Division Street and includes replacement of only the water and sewer piping. This priority may include replacement of the service to Building 3180. This work is considered Additive Alternate Number 1.
6. Priority S2 work, which includes 320 feet of main utilidor from MH 140 to MH 507 West of Division Street and includes replacement of only the water and sewer piping. This priority includes the raw water service from Building 1201. This work is considered Additive Alternate Number 2.

2.0 GENERAL SITE CONDITIONS

Eielson Air Force base is located in the Tanana River Valley about 30 miles southeast of Fairbanks. The valley at the base is a wide, flat plane, generally forested with birch and spruce. The Eielson area is located in the Tanana Lowlands physiographic province. The lowlands consist of vegetated floodplains and low benches cut by the Tanana River, and sloughs and oxbow lakes representing former channel positions of the Tanana River or its tributaries. Soils in the lowlands typically consist of interbedded alluvial sands and gravels covered by silty overbank deposits. The thickness of the alluvial sediments overlying bedrock in the vicinity of the project is unknown, but estimated to be as great as 125 meters in the Fairbanks area.

The Fairbanks area is located within a subarctic zone underlain by discontinuous permafrost. Permafrost is defined as that part of the earth's surface where a temperature below 0°C has existed for two or more years. The maximum depth of permafrost measured in the Fairbanks area exceeds 50 meters. The thickness of the active layer (the near-surface ground that undergoes an annual freeze-thaw cycle) is largely dependent upon soil type, ground cover, and snow depth. Frost penetration beneath roads, parking lots, and

other areas kept clear of snow can exceed 3 meters; whereas, frost penetration in areas covered by organic material or snow is typically 1 meter or less.

The base is located on the northeast side of the Tanana River. Most of the base development is east of the runway. Phase III of the utilidor project includes a section of utilidor and services along Flightline Avenue West of Division Street; a section of utilidor, services, and manholes near the Alaska Railroad tracks east of and along Central Avenue near the Water Treatment Plant, and sections of utilidor, services, and manholes along Division Street near Flightline Avenue.

3.0 PREVIOUS EXPLORATIONS AND OBSERVATIONS

Geotechnical explorations have not been specifically conducted for this project. The geotechnical information presented herein was obtained from reports of previous explorations for nearby projects. This information was reviewed and summarized for this document. Copies of site plans, pertinent boring logs, and groundwater information are presented in the attachments for reference.

Geotechnical

Building 3225

Previous geotechnical explorations performed in September of 1994 in the vicinity of Building 3225 were reviewed for this work. We reviewed a total of eight boring logs, four of which were completed as groundwater monitoring wells for this project. The site plan and logs are presented in Attachment A. The soils encountered in the eight borings consisted of 3 to 5.5 feet of medium-dense to very dense, slightly to trace silty, sandy gravel fill underlain by 1 to 2.5 feet of medium-dense to stiff, silty sand, silt, and/or organic silt. The organic silt and silt were underlain by medium-dense, interbedded, sandy gravel and gravelly sand.

Groundwater was observed at depths of 10.5 to 11.5 feet below ground surface at the time of drilling.

Soil and groundwater samples were collected and analyzed for diesel range organics (DRO), gasoline range organics, pesticides and RCRA metals. Test results indicate that a low concentration of diesel range organics and no gasoline range organics (GRO) were encountered in soil samples, at the time of sampling. In addition, detected concentrations

of RCRA metals were well below the levels that might pose a health risk, and pesticides concentrations were noted to "pose no significant health risk."

Building 3240

Previous geotechnical exploration data performed in June of 1998 for addition to Building 3240 were reviewed for this work. We reviewed a total of three boring logs. The site plan and logs are presented in Attachment B. The soils encountered in the exploratory borings were relatively uniform. In general, soils consisted of 2 to 4 feet of sandy gravel fill over 3 feet of silty to slightly silty sand (fill). These soils were underlain by gravelly sand and sandy gravel to the depths explored. In general, the relative density of soils throughout the boring was medium dense.

The groundwater table was encountered in the borings between 8.5 to 9 feet below the ground surface. Permafrost was not encountered within the depths explored. Seasonal frost was encountered in one boring (B-1) from 6 to 8 feet.

Analytical test results for Boring B-1 indicate that DRO, benzene, ethylbenzene, xylene, and total lead were below laboratory detection limits (Table 1). GRO was detected at 1.96 mg/kg (milligrams per kilogram) and toluene at 0.0600 mg/kg.

Test results from Boring B-2 indicated DRO from 111 to 629 mg/kg; GRO from 57 to 1,840 mg/kg; benzene from undetected to 6.71 mg/kg; and lead from 4.35 to 6.16 mg/kg (Table 1).

The test results from Boring B-3 were 182 mg/kg DRO; 1,160 mg/kg GRO; 5.19 mg/kg benzene; 2.44 mg/kg toluene; 1.46 mg/kg ethylbenzene; and, 7.35 mg/kg xylenes.

Groundwater contamination may be inferred based on the presence of soil contamination below the water table; however, no water samples were collected.

Building 3133

Previous geotechnical explorations performed in January 1992 in the vicinity of Building 3133 were reviewed for this work. We reviewed a total of eight boring logs, all of which were completed as groundwater monitoring wells for this project. The site plan and logs are presented in Attachment C. The soils encountered in the eight borings consisted of 3 to 10 feet of silt, silty sand, and fine sandy silt underlain by medium-dense, interbedded, sandy gravel and gravelly sand.

Groundwater was observed at depths of 9 to 10 feet below ground surface at the time of drilling.

In general, the measured levels of the contaminants found in the groundwater samples were below the Federal Maximum Contamination Levels (MCL) with the exception of benzene. Benzene was detected in groundwater samples at levels that exceeded the MCL in four of the borings.

Environmental

The Phase III project includes sections of utilidor and associated facilities that pass through or adjacent to several identified areas that have or have had environmental contamination. These source areas and sites are identified below. Selected records of decision (RODS) and summaries of these source areas from the Eielson Air Force Base Operable Unit 2 and Operable Units 3, 4, and 5, Declaration of the Amended Record of Decision, dated September 1995, are presented in Attachments D through H.

Source Area ST11

This site includes Building 3224 and the area along Garrison Slough north of Warehouse Court. Fuel oil contamination at this site is suspected to originate from leaking 4-pipeline that used to support a bakery. A cleanup action occurred from 1977 to 1980. The current extent of a potential contamination plume is defined as the area north of Central Avenue, between Central Avenue and Garrison Slough in the vicinity of Building 3224. It is not expected that the utilidor work will impact the groundwater.

Source Area ST18

This site includes Buildings 3405, 3409, 3411, and 3386. Contamination in this area is suspected to originate from leaking underground diesel fuel storage tanks. Contamination of groundwater above screening risk assessment levels was not detected. This site has low level TCE and DCE groundwater contamination and fuel-contaminated soil. It is not expected that the utilidor work will impact the groundwater.

Source Area WP45/SS57

This site includes Buildings 1183 and 1206. Theses sites are located west of Flightline Avenue near the intersection of Division Street. Contamination from these two sites is closely related. Contamination of groundwater above screening risk assessment levels for TCE, DCE, and benzene were detected. Low level, below EPA risk-based screening

levels, TCE and BTEX contamination of soil was also noted. The contaminant plume extends across Flightline Avenue north of Division Street. It is not expected that the utilidor work will impact the groundwater.

Source Area SS61

This site is north of the water treatment pond on Garrison Slough, on the east and south sides of the Vehicle Maintenance Facility. Identified contaminants of concern are fuel related compounds and solvents in the soil and groundwater. TCE and BTEX contaminated groundwater are noted in the ROD. The contaminant plume extends from dry wells on the south side of Building 3213 to Division Street and extending beyond and across Division Street at lower concentrations.

Source Area SS64

This site, the Transportation Maintenance Drum Storage Area, is located north of the water treatment pond on Garrison Slough on the west side of the Vehicle Maintenance Shop (Building 3213). This area was formerly used as a hazardous materials and waste storage area. The hazardous waste and materials were removed in 1989. Observed surface contamination was also excavated and removed in 1989. Groundwater sampling detected low levels of TCE contamination. However, the contamination detected may be a result of SS61. It is not expected that the utilidor work will impact the groundwater.

Groundwater

In addition to the site-specific exploration studies, an areawide groundwater study was performed for the base. Two years of monitoring well groundwater levels were plotted. The study shows a consistent groundwater gradient flowing to the northwest, generally parallel to the Tanana River. Seasonal fluctuation appears to be consistent throughout the base, with about 2.5 feet of variation. Groundwater surface plots and seasonal fluctuation plots are presented in Attachment I.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The soils along the utilidor alignment and in the vicinity of Phase III manholes will likely consist of a surficial layer of sand and gravel fill or silt underlain by primarily sand and gravel. A silty zone at about 5 to 10 feet below the surface may be encountered in areas overlain by fill.

Trenching

During any deep trenching the trench sidewalls should not be expected to stand at a steep angle, especially below the groundwater. Groundwater volumes may be significant, such that dewatering may be needed operate in a deep trench. We understand most of the utilidor repair will involve opening the lids and working within the existing concrete corridor. As such, there is little chance that groundwater or contamination will be encountered.

Street/Road Crossings

Where the utilidor crosses streets or roads, new material should be imported to reconstruct the street section. No records were found showing the current section. The upper materials need to be nonfrost susceptible. During the excavation the depth of the current street section should be determined. The same section will be appropriate for the backfilling. Nonfrost-susceptible backfill near and extending out from the utilidor beneath roads should be tapered. The fill taper is intended to prevent differential frost-jacking of pavement section due to subsurface silty soils.

Potential Contaminated Soils

The soils excavated from any deep trenches may be contaminated, especially those soils removed from near the groundwater zone. Soils should be screened. Backfilling, stockpiling, testing, treating, and disposing of the potentially contaminated soils should be conducted in accordance with Eielson Air Force base policies and agreements and in accordance with State requirements (18AAC 75, 18 AAC 78). Laboratories used to comply with the above procedures and policies should be COE validated for the methods used.

Groundwater

Groundwater may be a concern, especially where the utilidor or manholes are deep. The highest groundwater levels occur immediately following breakup. There appears to be some short-term impact on the groundwater from rain during the summer. It is not known what lag time or magnitude of rise is associated with rainfall events. Flow volumes in the trench will be dependent on the soil type. With clean gravels, dewatering could be needed to maintain trench stability. We do not recommend dewatering in contaminated areas, and suggest the contractor pursue other construction methods if groundwater is encountered. Dewatering on the base will require permits and possibly contaminant testing prior to discharge.

Dewatering may entail contaminated water or migration of contaminated water. This water cannot be disposed of under the current Eielson dewatering permit. Regulations regarding dewatering with contaminated water present are included in 18 AAC 72.

Seismic

The site is located in seismic zone 3. For the 1997 UBC code the soil profile is S_D. The near source factors N_a and N_V will both be 1.0 for all source types. The potential for liquefaction at the site is low to moderate. There are relatively loose granular soils and groundwater; however, the sand and gravel are generally more coarse than would be typical for liquefaction to occur.

5.0 LIMITATIONS

The information and conclusions presented above are based on previous information compiled for different project. The data was not obtained for the purpose of construction or repair of a utilidor. Additionally, some of the data is more than 10 years old. Subsequent activities in the project area could have changed the subsurface conditions interpreted. As such, there may be differences in the soil descriptions, soil types, and groundwater conditions.

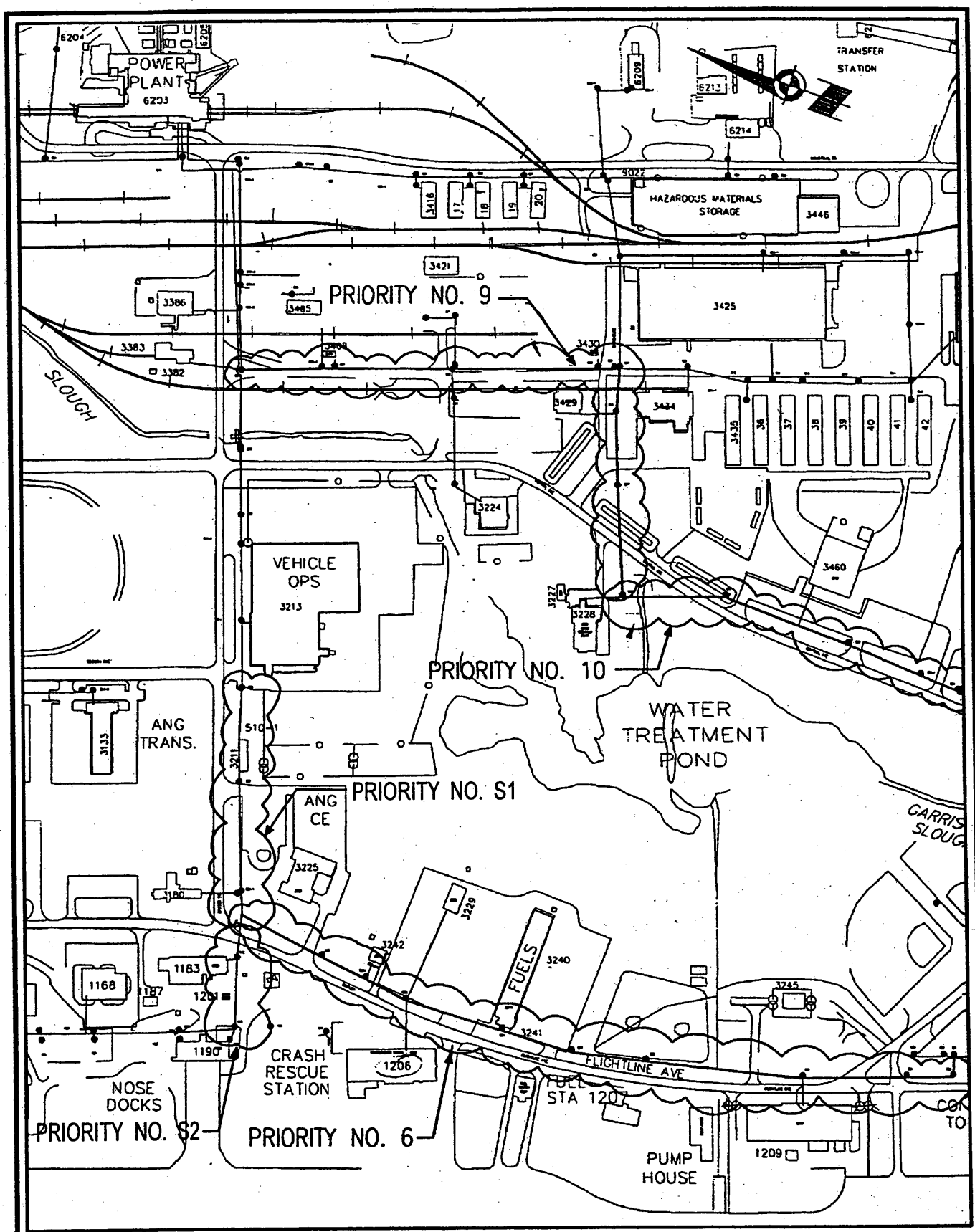
This opportunity to be of service has been appreciated.

Sincerely,

SHANNON & WILSON, INC.

Stephen Adamczak, Jr., P.E.
Vice President

Att: Figure 1 Site Plan and Utilidor Priorities
Attachment A Building 3225 Geotechnical Data and Site Map
Attachment B Building 3240 Geotechnical Data and Site Map
Attachment C Building 3133 Geotechnical Data and Site Map
Attachment D Records of Decision (RODS), Environmental Source Area ST 11
Attachment E Records of Decision (RODS), Environmental Source Areas ST 18
Attachment F Records of Decision (RODS), Environmental Source Areas WP 45/SS 57
Attachment G Records of Decision (RODS), Environmental Source Areas SS 61
Attachment H Records of Decision (RODS), Environmental Source Areas SS 64
Attachment I Sitewide Water Table Data



Approximate Scale: 1 inch = 400 feet

This site plan is based on a PDC, Inc Drawing

Repair Utilidor, Phase III
Eielson Air Force Base, Alaska

Site Plan and Utilidor Priorities

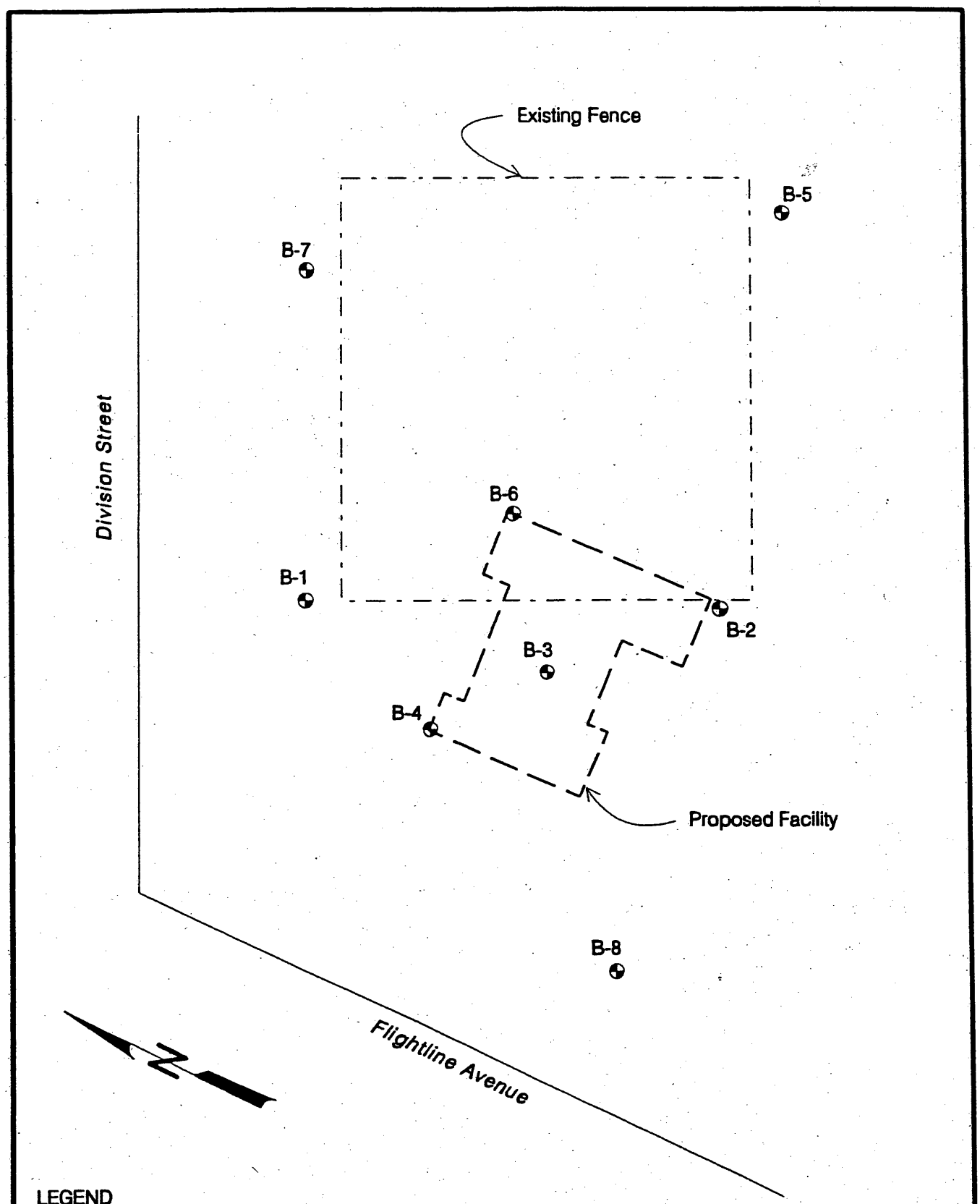
31-1-01667-001 June 2001

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 1

ATTACHMENT A

Building 3225 Geotechnical Data and Site Map



LEGEND

B-3 Boring Location and Number

Note: Borings B-5, B-6, B-7, and B-8 were completed as groundwater sampling wells.

Drawing based on sketches provided by Booker Lawlor Architects and Tryck Nyman Hayes.

Approximate scale: 1 inch = 80 feet

Base Composite Engineering Maintenance Facility
Eielson Air Force Base, Alaska

SITE MAP AND BORING LOCATIONS

K-1339 1994

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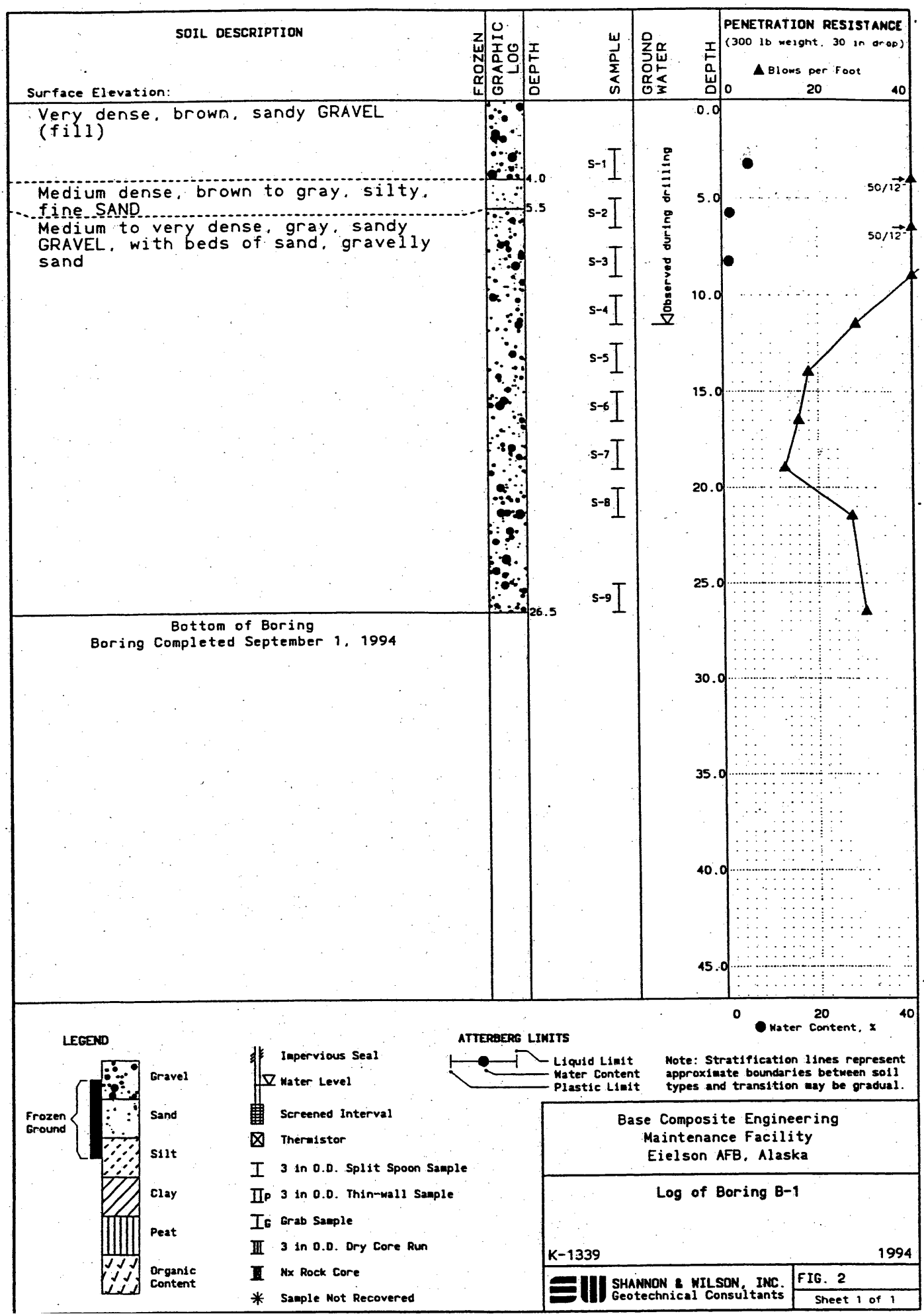
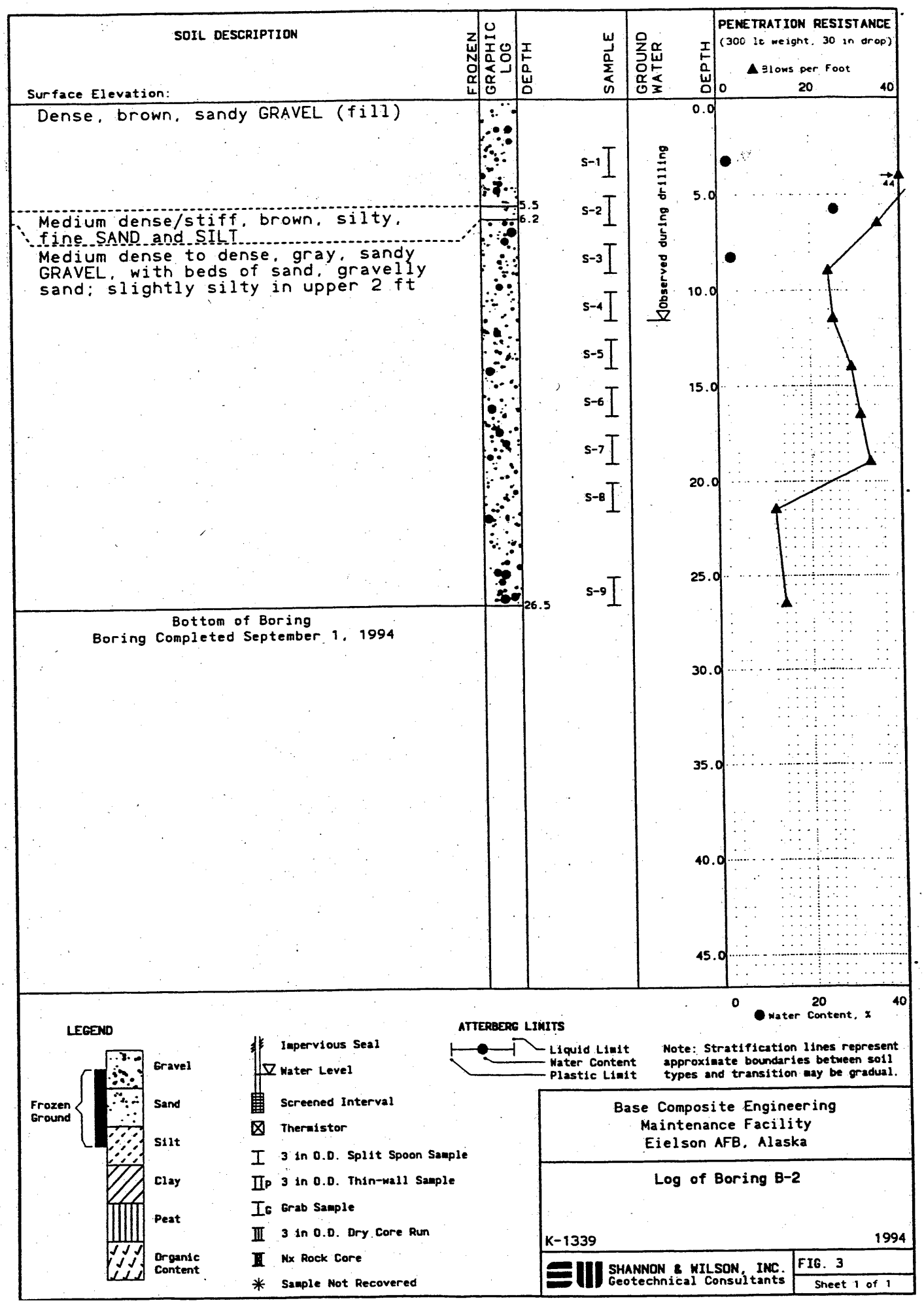
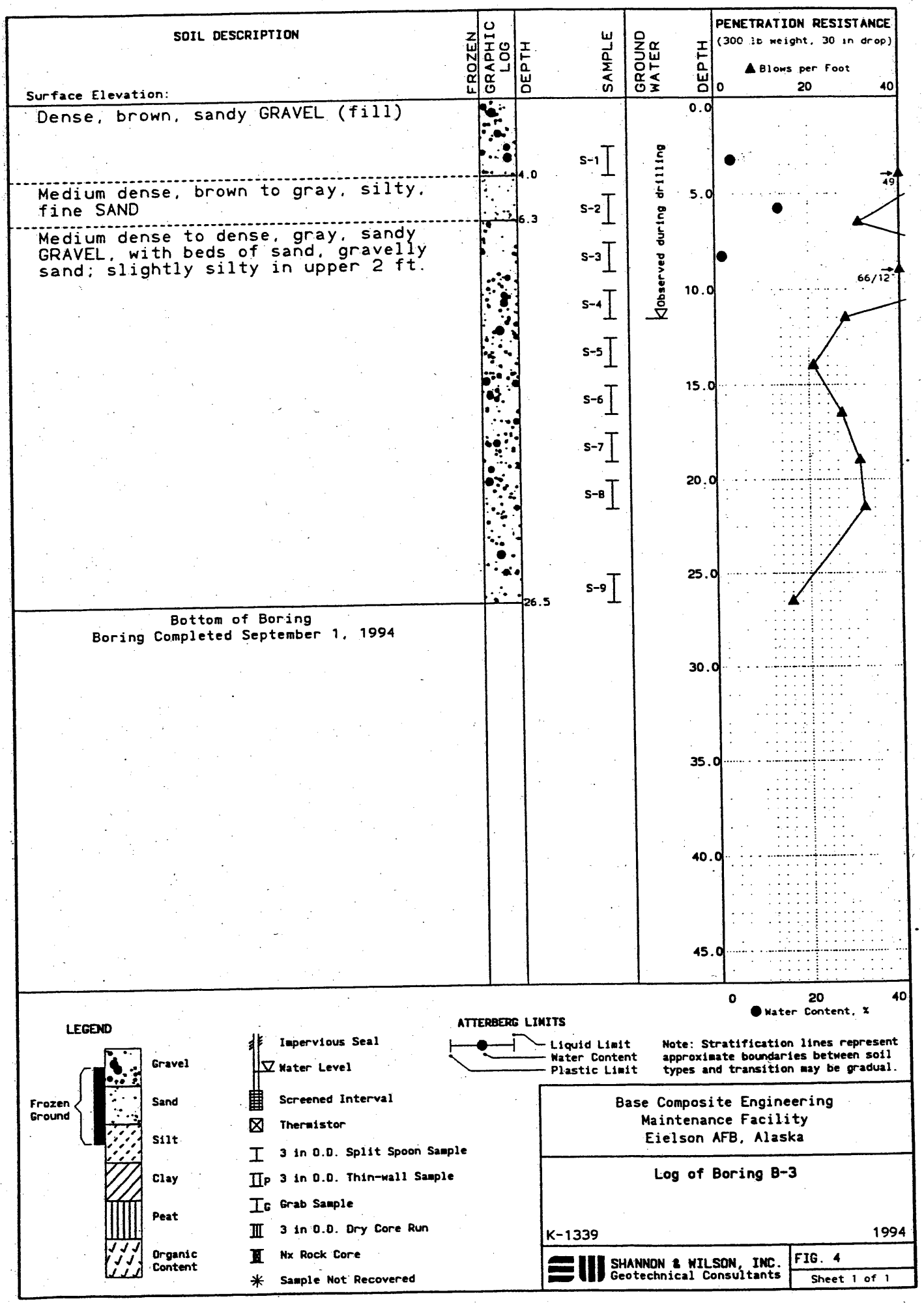
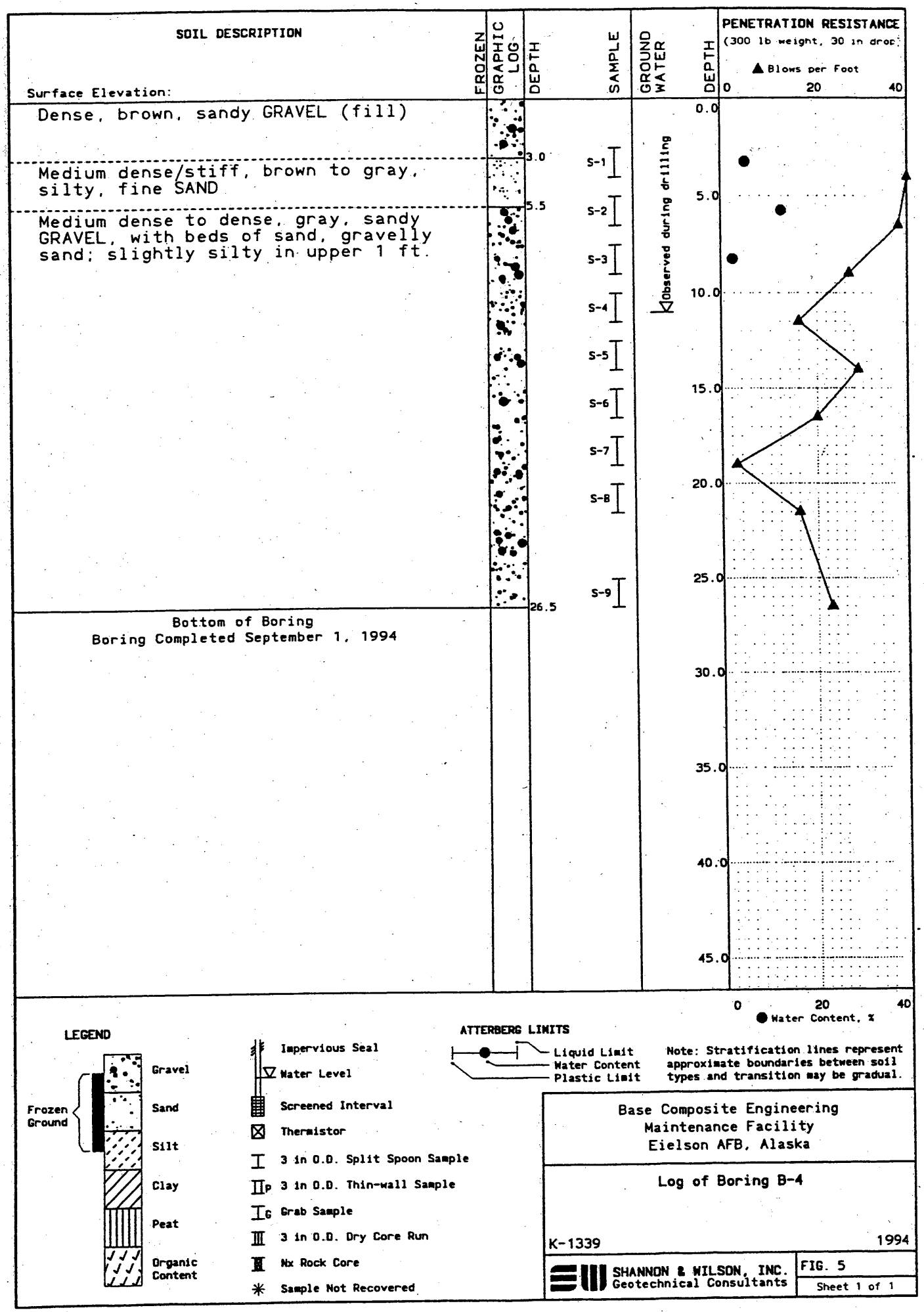
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

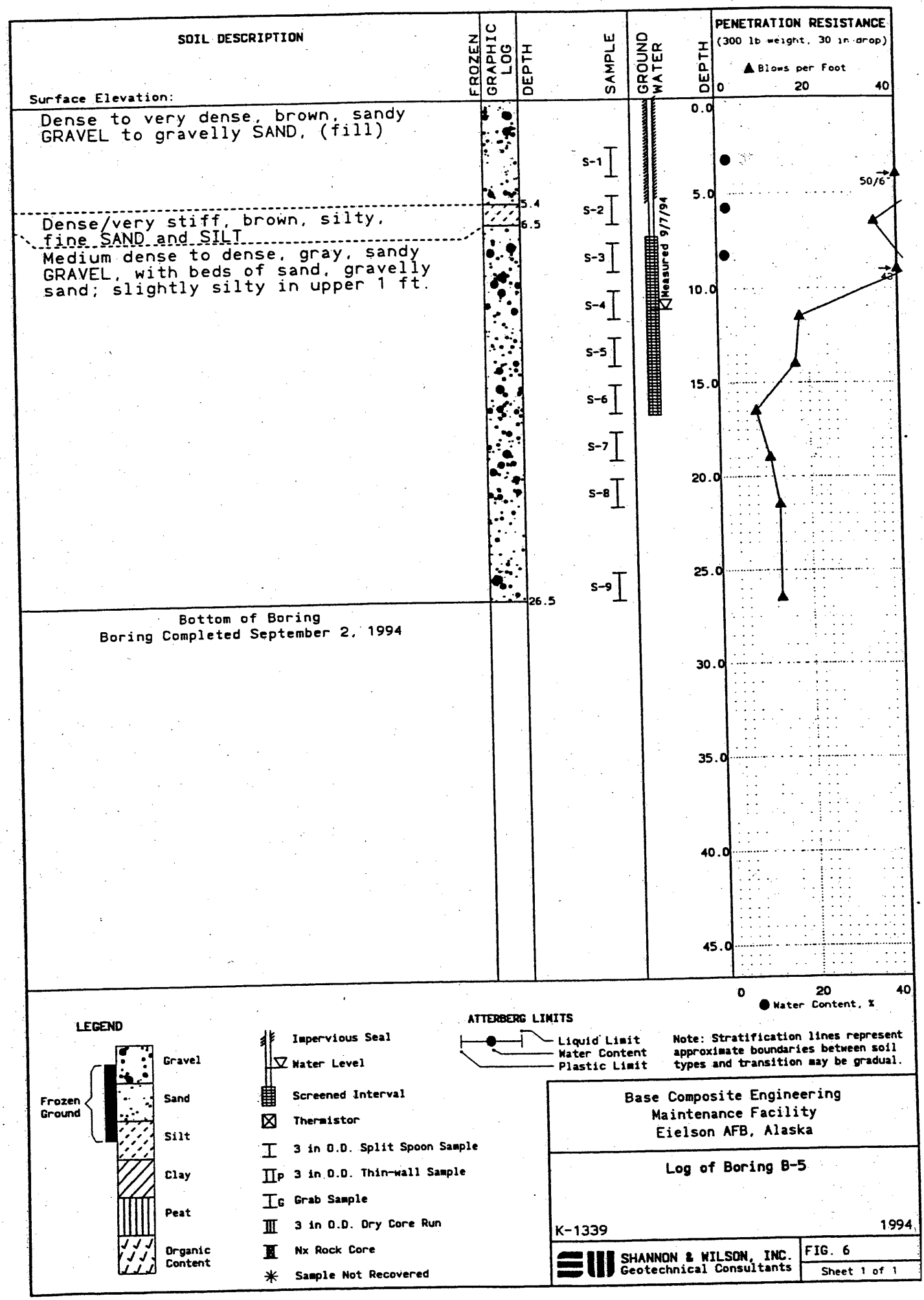
Figure 1

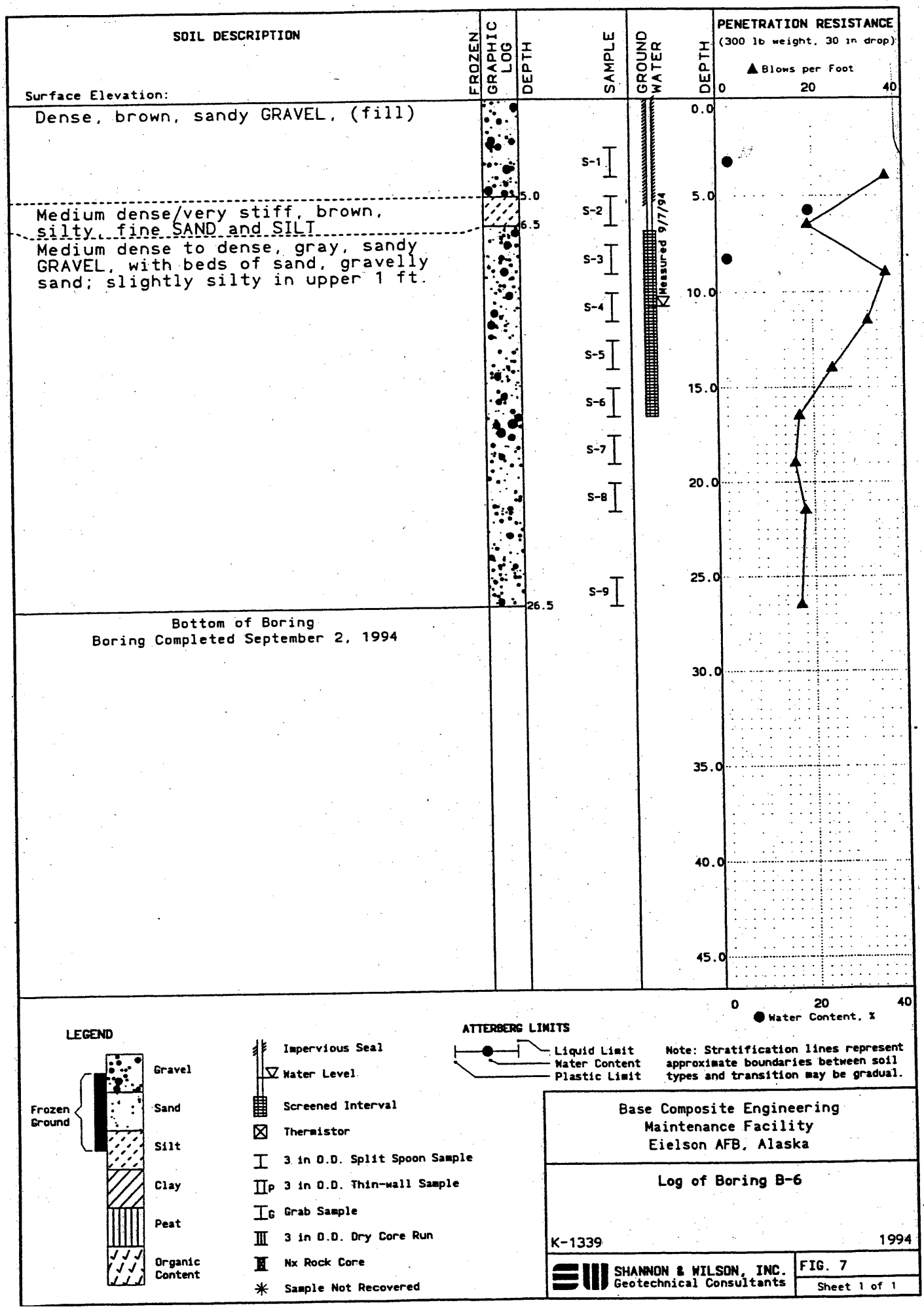

SOIL DESCRIPTION
Surface Elevation:
FROZEN
GRAPHIC LOG
DEPTH
SAMPLE
GROUND WATER
DEPTH
PENETRATION RESISTANCE
(300 lb weight, 30 in drop)
Blows per Foot
0
20
40
Very dense, brown, sandy GRAVEL (fill)
4.0
Medium dense, brown to gray, silty, fine SAND
5.5
Medium to very dense, gray, sandy GRAVEL, with beds of sand, gravelly sand
26.5
S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8
S-9
Observed during drilling
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50/12
50/12
Bottom of Boring
Boring Completed September 1, 1994
0
20
40
Water Content, %
LEGEND
Gravel
Sand
Silt
Clay
Peat
Organic Content
Frozen Ground
Impervious Seal
Water Level
Screened Interval
Thermistor
3 in O.D. Split Spoon Sample
3 in O.D. Thin-wall Sample
Grab Sample
3 in O.D. Dry Core Run
Nx Rock Core
Sample Not Recovered
ATTERBERG LIMITS
Liquid Limit
Water Content
Plastic Limit
Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.
Base Composite Engineering
Maintenance Facility
Eielson AFB, Alaska
Log of Boring B-1
K-1339
1994
SHANNON & WILSON, INC.
Geotechnical Consultants
FIG. 2
Sheet 1 of 1

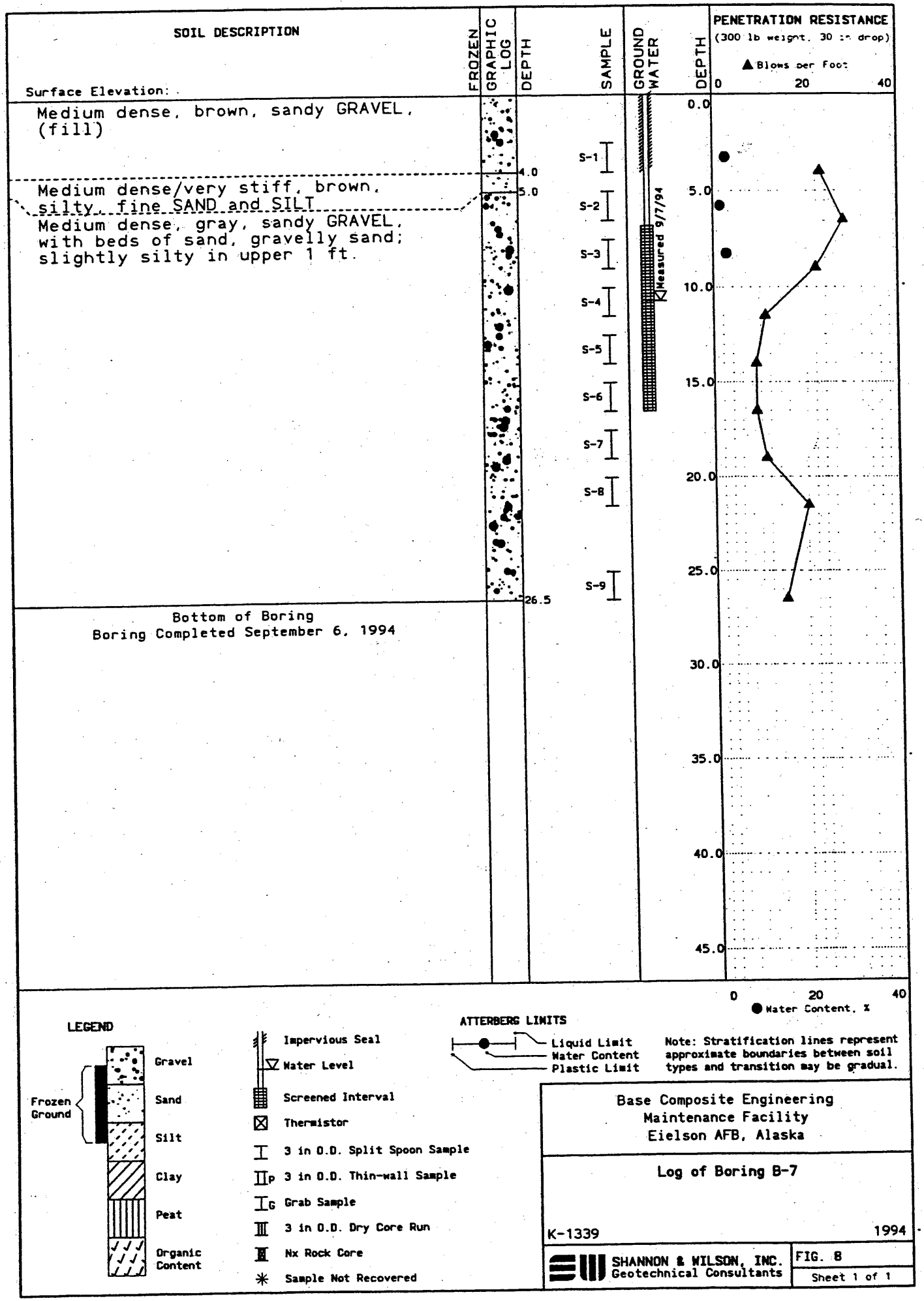

SOIL DESCRIPTION
Surface Elevation:
FROZEN
GRAPHIC LOG
DEPTH
SAMPLE
GROUND WATER
DEPTH
PENETRATION RESISTANCE
(300 lb weight, 30 in drop)
Blows per Foot
0
20
40
Dense, brown, sandy GRAVEL (fill)
5.5
Medium dense/stiff, brown, silty, fine SAND and SILT
6.2
Medium dense to dense, gray, sandy GRAVEL, with beds of sand, gravelly sand; slightly silty in upper 2 ft
26.5
S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8
S-9
Observed during drilling
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
44
Bottom of Boring
Boring Completed September 1, 1994
Water Content, %
LEGEND
Frozen Ground
Gravel
Sand
Silt
Clay
Peat
Organic Content
Impervious Seal
Water Level
Screened Interval
Thermistor
3 in O.D. Split Spoon Sample
3 in O.D. Thin-wall Sample
Grab Sample
3 in O.D. Dry Core Run
Nx Rock Core
Sample Not Recovered
ATTERBERG LIMITS
Liquid Limit
Water Content
Plastic Limit
Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.
Base Composite Engineering
Maintenance Facility
Eielson AFB, Alaska
Log of Boring B-2
K-1339
1994
SHANNON & WILSON, INC.
Geotechnical Consultants
FIG. 3
Sheet 1 of 1


SOIL DESCRIPTION
Surface Elevation:
FROZEN
GRAPHIC LOG
DEPTH
SAMPLE
GROUND WATER
DEPTH
PENETRATION RESISTANCE
(300 lb weight, 30 in drop)
Blows per Foot
0
20
40
Dense, brown, sandy GRAVEL (fill)
4.0
Medium dense, brown to gray, silty, fine SAND
6.3
Medium dense to dense, gray, sandy GRAVEL, with beds of sand, gravelly sand; slightly silty in upper 2 ft.
26.5
S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8
S-9
Observed during drilling
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
49
66/12
Bottom of Boring
Boring Completed September 1, 1994
0
20
40
Water Content, %
LEGEND
Frozen Ground
Gravel
Sand
Silt
Clay
Peat
Organic Content
Impervious Seal
Water Level
Screened Interval
Thermistor
3 in O.D. Split Spoon Sample
3 in O.D. Thin-wall Sample
Grab Sample
3 in O.D. Dry Core Run
Nx Rock Core
Sample Not Recovered
ATTERBERG LIMITS
Liquid Limit
Water Content
Plastic Limit
Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.
Base Composite Engineering
Maintenance Facility
Eielson AFB, Alaska
Log of Boring B-3
K-1339
1994
SHANNON & WILSON, INC.
Geotechnical Consultants
FIG. 4
Sheet 1 of 1


SOIL DESCRIPTION
Surface Elevation:
FROZEN
GRAPHIC LOG
DEPTH
SAMPLE
GROUND WATER
DEPTH
PENETRATION RESISTANCE
(300 lb weight, 30 in drop)
Blows per Foot
0
20
40
Dense, brown, sandy GRAVEL (fill)
3.0
Medium dense/stiff, brown to gray, silty, fine SAND
5.5
Medium dense to dense, gray, sandy GRAVEL, with beds of sand, gravelly sand; slightly silty in upper 1 ft.
S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8
S-9
Observed during drilling
26.5
Bottom of Boring
Boring Completed September 1, 1994
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
0
20
40
Water Content, %
LEGEND
Gravel
Sand
Silt
Clay
Peat
Organic Content
Frozen Ground
Impervious Seal
Water Level
Screened Interval
Thermistor
3 in O.D. Split Spoon Sample
3 in O.D. Thin-wall Sample
Grab Sample
3 in O.D. Dry Core Run
Nx Rock Core
Sample Not Recovered
ATTERBERG LIMITS
Liquid Limit
Water Content
Plastic Limit
Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.
Base Composite Engineering
Maintenance Facility
Eielson AFB, Alaska
Log of Boring B-4
K-1339
1994
SHANNON & WILSON, INC.
Geotechnical Consultants
FIG. 5
Sheet 1 of 1


SOIL DESCRIPTION
Surface Elevation:
FROZEN GRAPHIC LOG
DEPTH
SAMPLE
GROUND WATER
DEPTH
PENETRATION RESISTANCE
(300 lb weight, 30 in drop)
Blows per Foot
0
20
40
Dense to very dense, brown, sandy GRAVEL to gravelly SAND, (fill)
5.4
Dense/very stiff, brown, silty, fine SAND and SILT
6.5
Medium dense to dense, gray, sandy GRAVEL, with beds of sand, gravelly sand; slightly silty in upper 1 ft.
26.5
Bottom of Boring
Boring Completed September 2, 1994
S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8
S-9
Measured 9/7/94
50/6
43
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
0
20
40
Water Content, %
LEGEND
Gravel
Sand
Silt
Clay
Peat
Organic Content
Frozen Ground
Impervious Seal
Water Level
Screened Interval
Thermistor
3 in O.D. Split Spoon Sample
3 in O.D. Thin-wall Sample
Grab Sample
3 in O.D. Dry Core Run
Nx Rock Core
Sample Not Recovered
ATTERBERG LIMITS
Liquid Limit
Water Content
Plastic Limit
Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.
Base Composite Engineering Maintenance Facility
Eielson AFB, Alaska
Log of Boring B-5
K-1339
1994
SHANNON & WILSON, INC.
Geotechnical Consultants
FIG. 6
Sheet 1 of 1


SOIL DESCRIPTION
Surface Elevation:
FROZEN GRAPHIC LOG
DEPTH
SAMPLE
GROUND WATER
DEPTH
PENETRATION RESISTANCE
(300 lb weight, 30 in drop)
Blows per Foot
0
20
40
Dense, brown, sandy GRAVEL, (fill)
5.0
Medium dense/very stiff, brown, silty, fine SAND and SILT
6.5
Medium dense to dense, gray, sandy GRAVEL, with beds of sand, gravelly sand; slightly silty in upper 1 ft.
26.5
S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8
S-9
Measured 9/7/94
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
Bottom of Boring
Boring Completed September 2, 1994
Water Content, %
LEGEND
Frozen Ground
Gravel
Sand
Silt
Clay
Peat
Organic Content
Impervious Seal
Water Level
Screened Interval
Thermistor
3 in O.D. Split Spoon Sample
3 in O.D. Thin-wall Sample
Grab Sample
3 in O.D. Dry Core Run
Nx Rock Core
Sample Not Recovered
ATTERBERG LIMITS
Liquid Limit
Water Content
Plastic Limit
Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.
Base Composite Engineering
Maintenance Facility
Eielson AFB, Alaska
Log of Boring B-6
K-1339
1994
SHANNON & WILSON, INC.
Geotechnical Consultants
FIG. 7
Sheet 1 of 1


SOIL DESCRIPTION
Surface Elevation:
FROZEN
GRAPHIC LOG
DEPTH
SAMPLE
GROUND WATER
DEPTH
PENETRATION RESISTANCE
(300 lb weight, 30 in drop)
Blows per Foot
0
20
40
Medium dense, brown, sandy GRAVEL, (fill)
4.0
Medium dense/very stiff, brown, silty, fine SAND and SILT
5.0
Medium dense, gray, sandy GRAVEL, with beds of sand, gravelly sand; slightly silty in upper 1 ft.
26.5
S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8
S-9
Measured 9/7/94
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
Bottom of Boring
Boring Completed September 6, 1994
0
20
40
Water Content, %
LEGEND
Gravel
Sand
Silt
Clay
Peat
Organic Content
Frozen Ground
Impervious Seal
Water Level
Screened Interval
Thermistor
3 in O.D. Split Spoon Sample
3 in O.D. Thin-wall Sample
Grab Sample
3 in O.D. Dry Core Run
Nx Rock Core
Sample Not Recovered
ATTERBERG LIMITS
Liquid Limit
Water Content
Plastic Limit
Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.
Base Composite Engineering
Maintenance Facility
Eielson AFB, Alaska
Log of Boring B-7
K-1339
1994
SHANNON & WILSON, INC.
Geotechnical Consultants
FIG. 8
Sheet 1 of 1

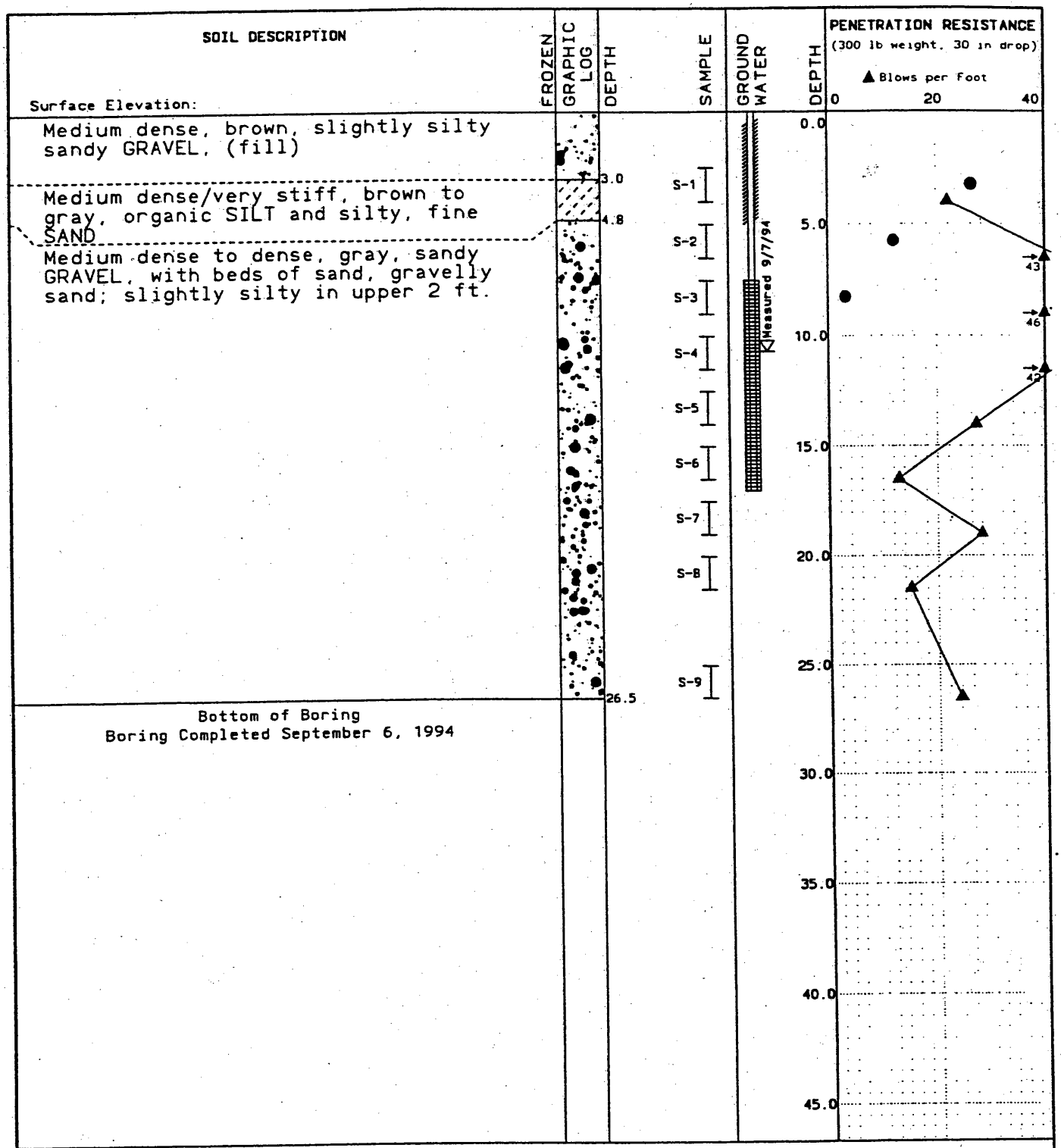

SOIL DESCRIPTION
Surface Elevation:
FROZEN
GRAPHIC LOG
DEPTH
SAMPLE
GROUND WATER
DEPTH
PENETRATION RESISTANCE
(300 lb weight, 30 in drop)
Blows per Foot
0
20
40
Medium dense, brown, slightly silty sandy GRAVEL, (fill)
3.0
Medium dense/very stiff, brown to gray, organic SILT and silty, fine SAND
4.8
Medium dense to dense, gray, sandy GRAVEL, with beds of sand, gravelly sand; slightly silty in upper 2 ft.
26.5
S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8
S-9
Measured 9/7/94
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
43
46
42
0
20
40
Water Content, %
Bottom of Boring
Boring Completed September 6, 1994
LEGEND
Frozen Ground
Gravel
Sand
Silt
Clay
Peat
Organic Content
Impervious Seal
Water Level
Screened Interval
Thermistor
3 in O.D. Split Spoon Sample
3 in O.D. Thin-wall Sample
Grab Sample
3 in O.D. Dry Core Run
Nx Rock Core
Sample Not Recovered
ATTERBERG LIMITS
Liquid Limit
Water Content
Plastic Limit
Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.
Base Composite Engineering
Maintenance Facility
Eielson AFB, Alaska
Log of Boring B-8
K-1339
1994
SHANNON & WILSON, INC.
Geotechnical Consultants
FIG. 9
Sheet 1 of 1

TABLE 1 - SAMPLE LOCATIONS AND DESCRIPTIONS

SOIL SAMPLES

Sample Number	Date	Sample Location (See Figure 1)	Depth (ft.)	Sample Classification
K-1339-500	9/2/94	Boring B-5	Surface	Sandy Gravel
K-1339-501	9/2/94	Boring B-5	5	Silt to Silty Sand
K-1339-502	9/2/94	Boring B-5	10	Sandy Gravel
K-1339-600	9/2/94	Boring B-6	Surface	Sandy Gravel
K-1339-601	9/2/94	Boring B-6	5	Silt to Silty Sand
K-1339-602	9/2/94	Boring B-6	10	Sandy Gravel
K-1339-700	9/7/94	Boring B-7	Surface	Sandy Gravel
K-1339-701	9/7/94	Boring B-7	5	Sandy Gravel
K-1339-702	9/7/94	Boring B-7	10	Sandy Gravel
K-1339-800	9/7/94	Boring B-8	Surface	Sandy Gravel
K-1339-801	9/7/94	Boring B-8	5	Sandy Gravel
K-1339-802	9/7/94	Boring B-8	10	Sandy Gravel

WATER SAMPLES

Sample Number	Date	Sample Location (See Figure 1)	Depth (ft.)	Sample Classification
K-1339-W5	9/7/94	Sampling Well B-5	~	Water
K-1339-W6	9/7/94	Sampling Well B-6	~	Water
K-1339-W7	9/7/94	Sampling Well B-7	~	Water
K-1339-W8	9/7/94	Sampling Well B-8	~	Water

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS

SOIL SAMPLES		Sample Number (See Table 1, Figure 1, and Appendix A)					
Parameter Tested	**Method***	K-1339-500	K-1339-501	K-1339-502	K-1339-600	K-1339-601	K-1339-602
PID Headspace Reading - ppm	MicroTIP 2000	0.1	2.2	1.4	2.3	1.2	2.8
Diesel Range Organics (DRO) - ppm	EPA 8100 Mod.	4.8	4.6	4.0	7.4	4.3	4.2
Gasoline Range Organics (GRO) - ppm	EPA 8015 Mod.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Volatile Aromatic Organics (BTEX)							
Benzene - ppm	EPA 8020	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Toluene - ppm	EPA 8020	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethylbenzene - ppm	EPA 8020	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes - ppm	EPA 8020	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total BTEX - ppm	EPA 8020	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pesticides							
4,4'-DDD - ppb	EPA 8081	N.D.	~	~	5.1	~	~
4,4'-DDE - ppb	EPA 8081	N.D.	~	~	3.6	~	~
4,4'-DDT - ppb	EPA 8081	7.3	~	~	24	~	~
Others*- ppb	EPA 8081	N.D.	~	~	N.D.	~	~
PCB Series - ppb	EPA 8081	N.D.	~	~	N.D.	~	~
TCLP Extraction Metals							
Barium - ppm	EPA 1311/7000	N.D.	N.D.	N.D.	1.1	N.D.	N.D.
Chromium - ppm	EPA 1311/7000	N.D.	N.D.	N.D.	N.D.	N.D.	0.016
Others* - ppm	EPA 1311/7000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Key	Description
*	See Appendix A for compounds tested and limits of detection
~	Sample not analyzed for this parameter
N.D.	Not detected

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS

SOIL SAMPLES

Parameter Tested	Method*	Sample Number (See Table 1, Figure 1, and Appendix A)					
		K-1339-700	K-1339-701	K-1339-702	K-1339-800	K-1339-801	K-1339-802
PID Headspace Reading - ppm	MicroTIP 2000	2.6	4.5	2.2	3.5	1.9	5.3
Diesel Range Organics (DRO) - ppm	EPA 8100 Mod.	9.4	4.2	4.8	17	4.6	4.5
Gasoline Range Organics (GRO) - ppm	EPA 8015 Mod.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Volatile Aromatic Organics (BTEX)							
Benzene - ppm	EPA 8020	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Toluene - ppm	EPA 8020	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethylbenzene - ppm	EPA 8020	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes - ppm	EPA 8020	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total BTEX - ppm	EPA 8020	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pesticides							
4,4'-DDD - ppb	EPA 8081	2.1	~	~	25	~	~
4,4'-DDE - ppb	EPA 8081	N.D.	~	~	3.9	~	~
4,4'-DDT - ppb	EPA 8081	9.3	~	~	44	~	~
Others* - ppb	EPA 8081	N.D.	~	~	N.D.	~	~
PCB Series - ppb	EPA 8081	N.D.	~	~	N.D.	~	~
TCLP Extraction Metals							
Barium - ppm	EPA 1311/7000	1.4	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium - ppm	EPA 1311/7000	N.D.	0.022	N.D.	N.D.	0.013	N.D.
Others* - ppm	EPA 1311/7000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Key	Description
*	See Appendix A for compound tested and limits of detection
~	Sample not analyzed for this parameter
N.D.	Not detected

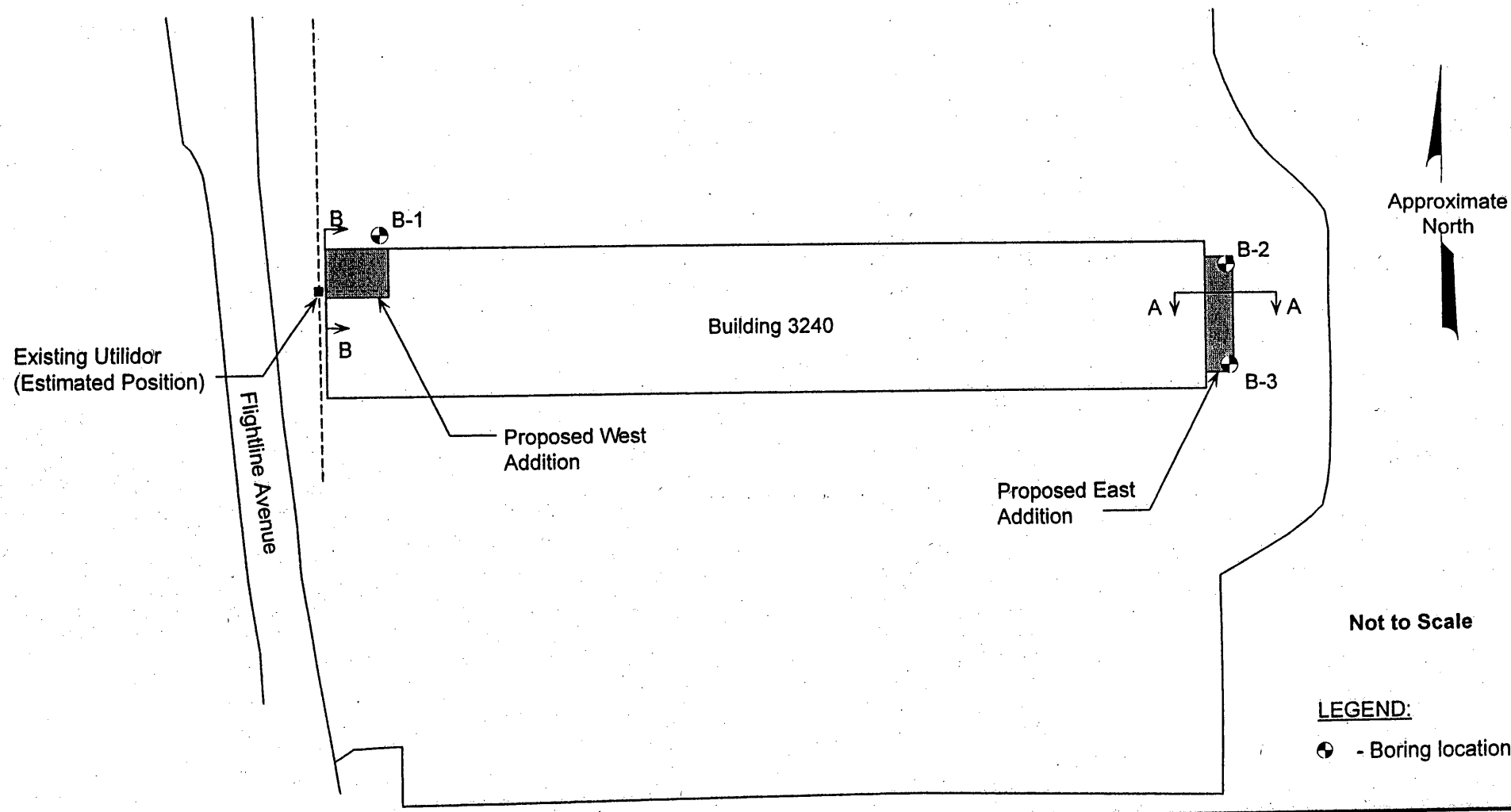
TABLE 2 - SUMMARY OF ANALYTICAL RESULTS

WATER SAMPLES		Sample Number (See Table 1, Figure 1, and Appendix A)					
Parameter Tested	**Method***	K-1339-W5	K-1339-W6	K-1339-W7	K-1339-W8		
PID Headspace Reading - ppm	MicroTIP 2000	~	~	~	~		
Diesel Range Organics (DRO) - ppm	EPA 8100 Mod.	~	~	~	~		
Gasoline Range Organics (GRO) - ppm	EPA 8015 Mod.	~	~	~	~		
Volatile Aromatic Organics (BTEX)							
Benzene - ppb	EPA 8020	N.D.	N.D.	N.D.	0.56		
Toluene - ppb	EPA 8020	N.D.	N.D.	N.D.	N.D.		
Ethylbenzene - ppb	EPA 8020	N.D.	N.D.	N.D.	N.D.		
Total Xylenes - ppb	EPA 8020	N.D.	N.D.	N.D.	N.D.		
Total BTEX - ppb	EPA 8020	N.D.	N.D.	N.D.	0.56		

Key	Description
*	See Appendix A for compound tested and limits of detection
~	Sample not analyzed for this parameter
N.D.	Not detected

ATTACHMENT B

Building 3240 Geotechnical Data and Site Map



Note:
1. The proposed addition locations are based on drawings provided by Coffman Engineers.
2. Cross sections AA and BB are shown in Figures 5 and 6.

Proposed Additions
Repair Fuels Vehicle Maintenance Facility
Eielson Air Force Base, Alaska

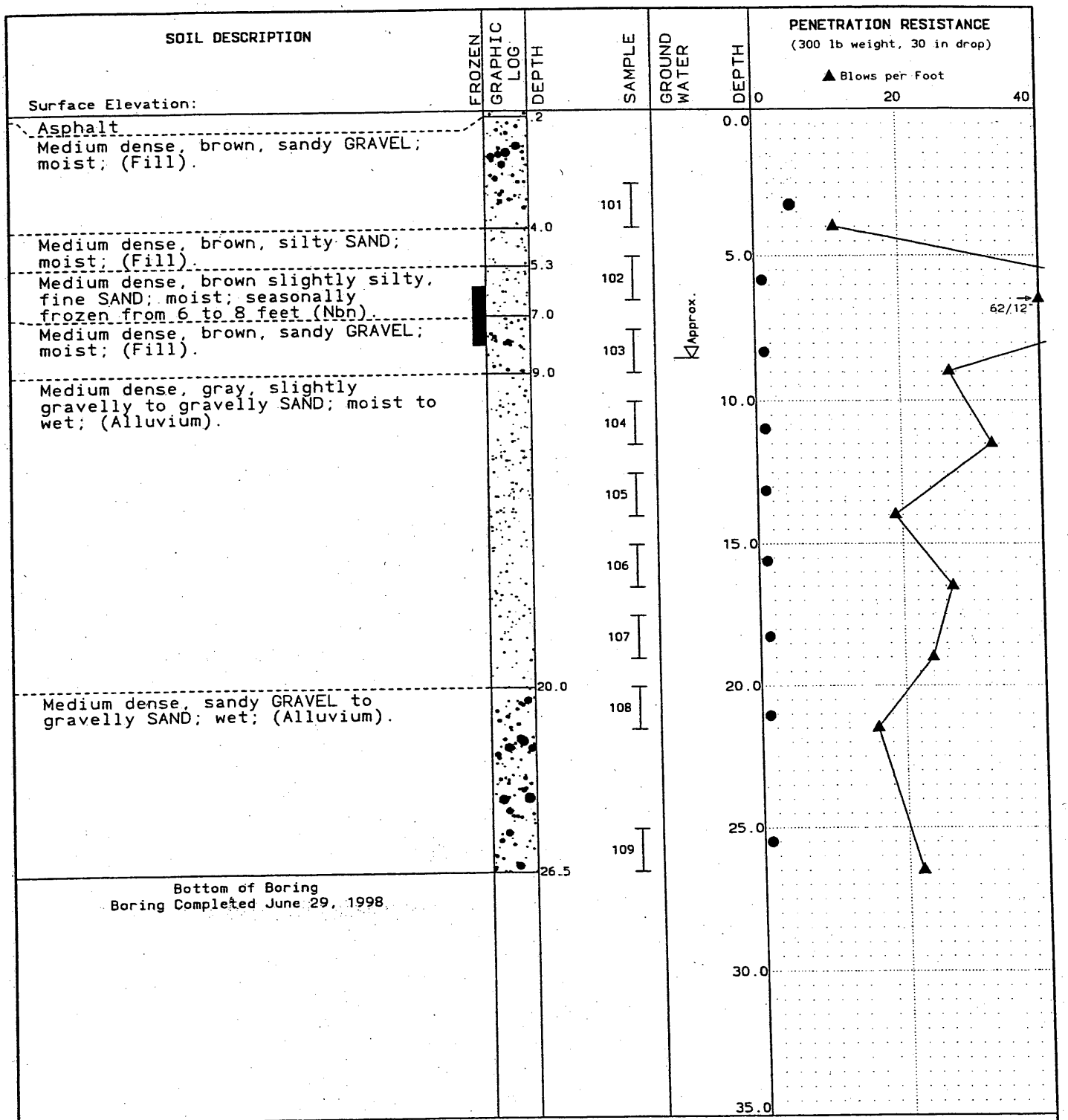
Site Plan

K-1508 June 1998

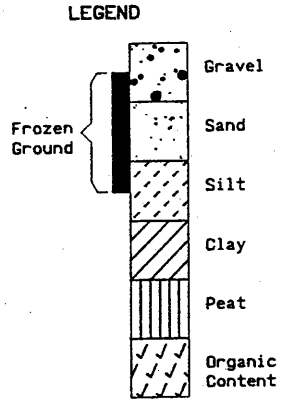
SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

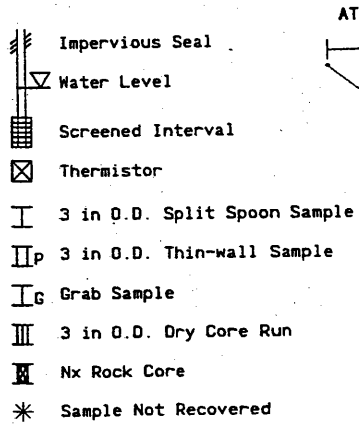
Figure 1

C:\GOSBORNG\1.LOG 07-02-1998 12:28:20

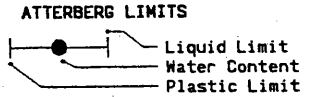


LEGEND





ATTERBERG LIMITS



Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.

Proposed Additions
Repair Fuels Vehicle Maintenance Facility
Eielson Air Force Base, Alaska

Log of Boring B-1

K-1508

June 1998

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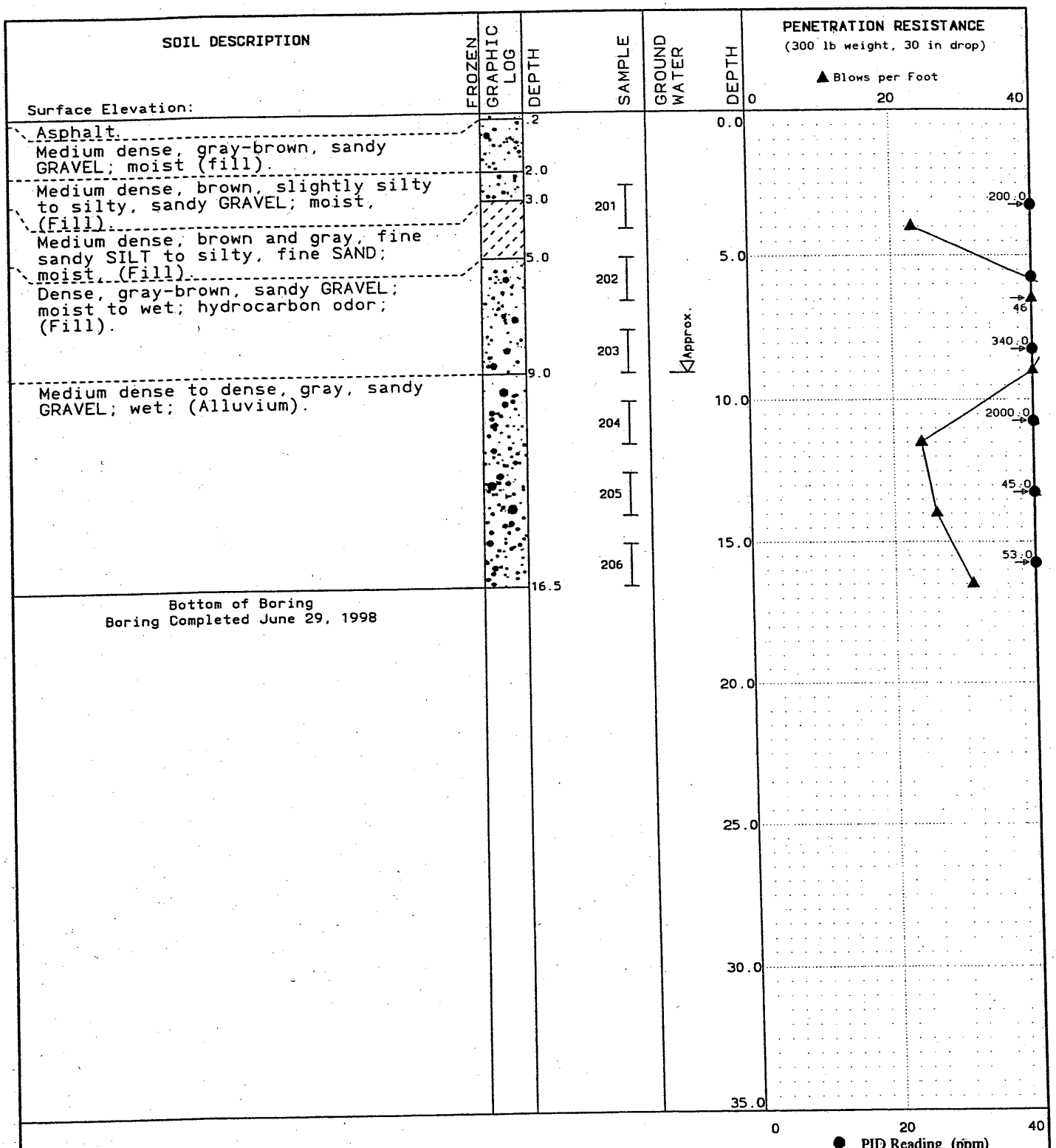
FIG. 2

Sheet 1 of 1

C:\DOSBRNG\2-LOG 07-02-1998 12:16:06



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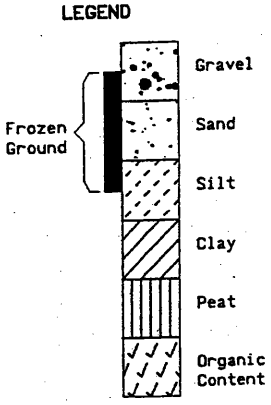
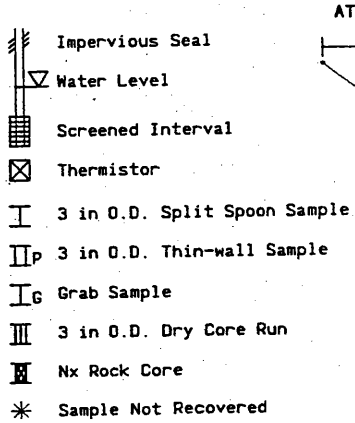
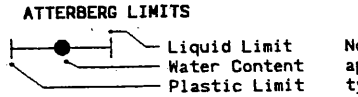




ATTERBERG LIMITS



Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.

Proposed Additions
Repair Fuels Vehicle Maintenance Facility
Eielson Air Force Base, Alaska

Log of Boring B-2

K-1508 June 1998

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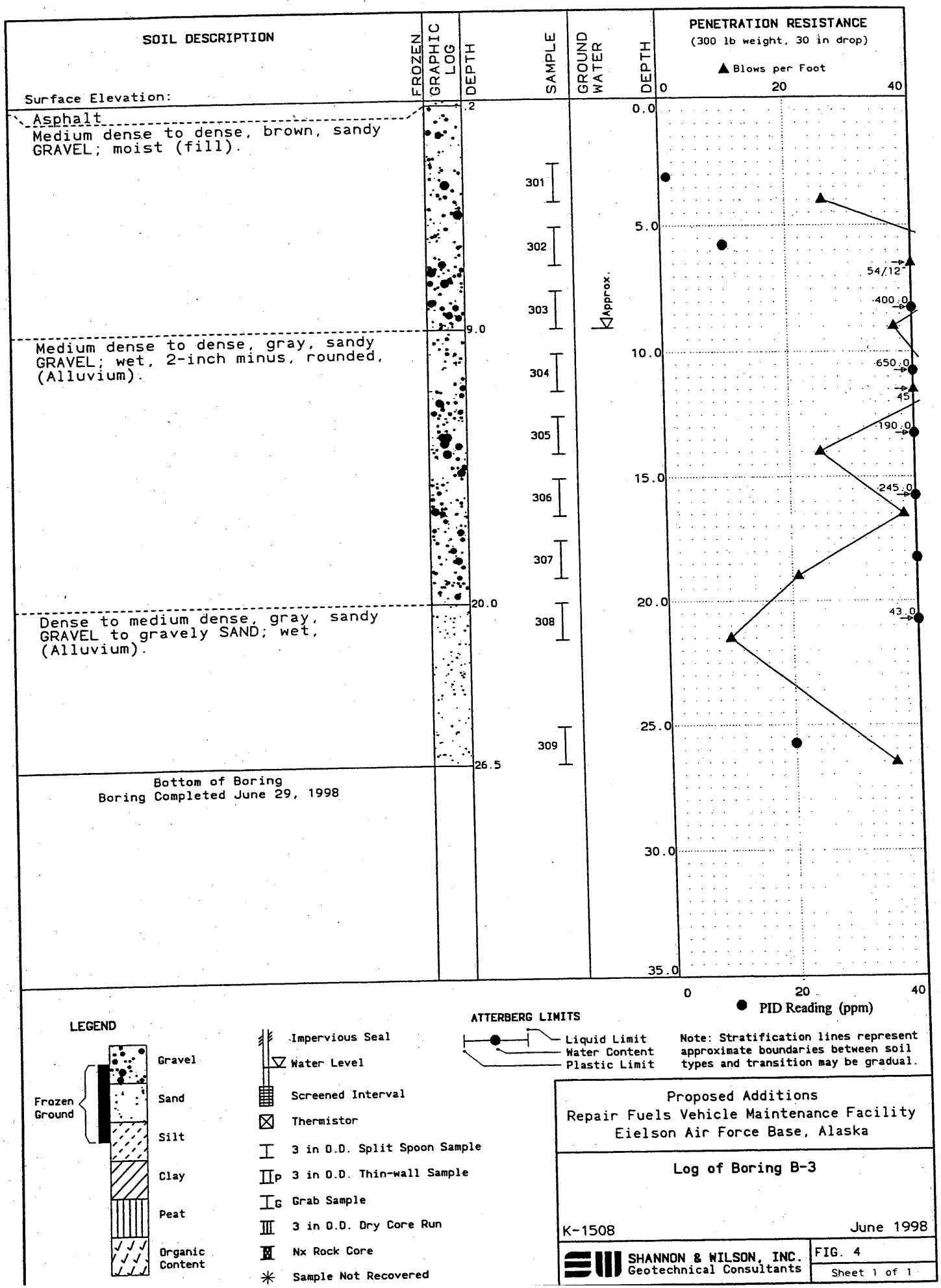
Geotechnical Consultants

FIG. 3

Sheet 1 of 1



Proposed Additions
Repair Fuels Vehicle Maintenance Facility
Eielson Air Force Base, Alaska

Log of Boring B-3

K-1508 June 1998

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Geotechnical Consultants

FIG. 4
Sheet 1 of 1

TABLE 1: SUMMARY OF ANALYTICAL RESULTS

Soil Samples

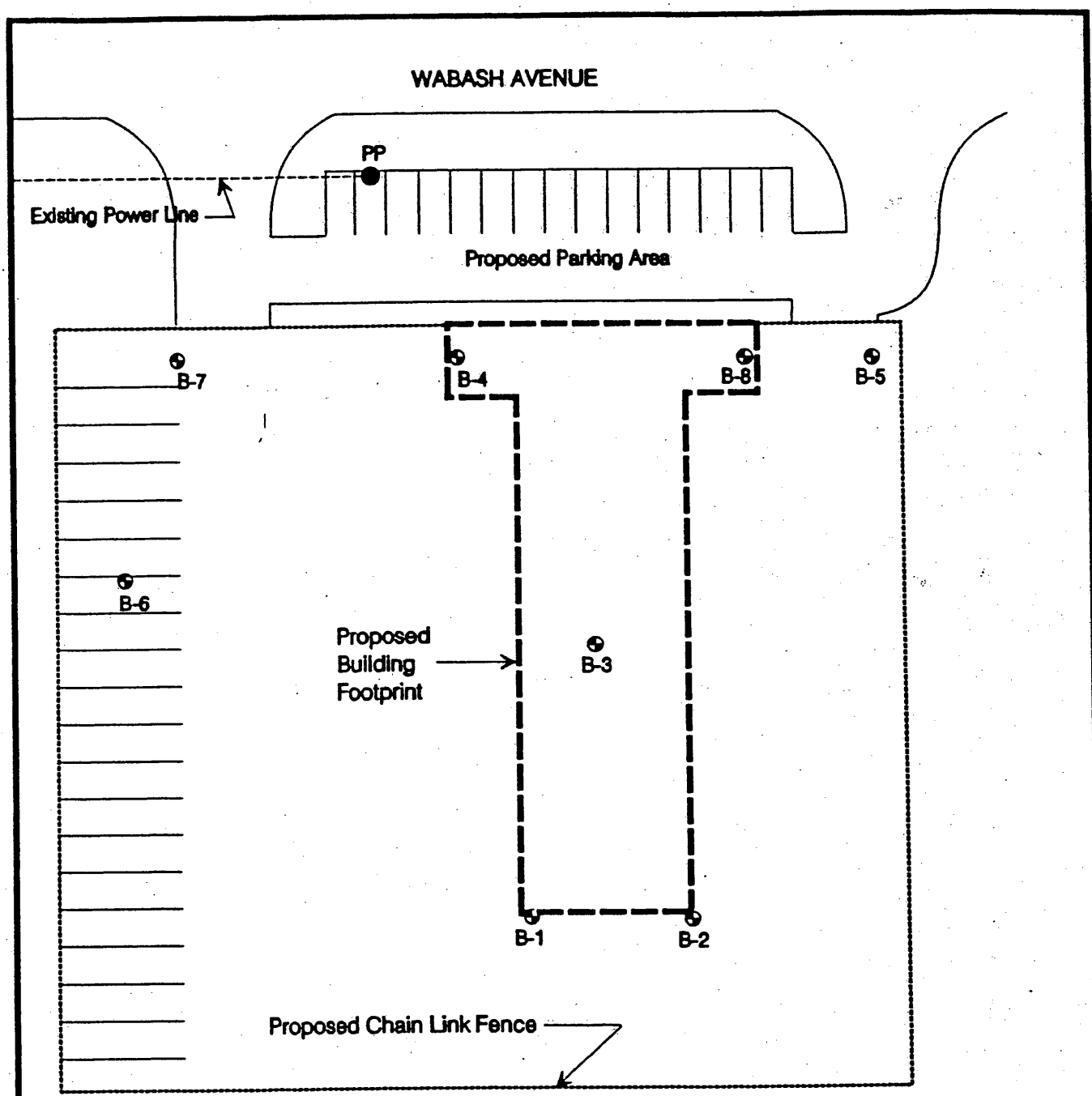
Sample ID	Location	Depth (feet)	PID (ppm)	DRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenz. (mg/kg)	Xylenes (mg/kg)	Total Lead
104	Boring B-1	10 - 11.5	0	< 3.61	1.96	< 0.0484	0.0600	< 0.0484	< 0.0483	< 0.0484
201 / 211*	Boring B-2	2.5 - 4.0	200	629	57.0 / 14.2*	< 0.053 / <0.017*	0.701 / 0.173*	0.648 / 0.108	0.615 / 0.214*	4.35
204	Boring B-2	10 - 11.5	2000	111	1,840	6.71	3.46	2.79	7.38	6.16
304	Boring B-3	10 - 11.5	650	182	1,160	5.19	2.44	1.46	7.35	

Notes:

PID	Photoionization detector field screening (units - parts per million, ppm).
DRO	Diesel Range Organics (by AK102).
GRO	Gasoline Range Organics (by 8015M).
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes (by 8021).
~	Not applicable or analysis not performed.
<0.010	Analyte not reported above practical quantitation limit (PQL) shown.
*	Indicates field duplicate sample.

ATTACHMENT C

Building 3133 Geotechnical Data and Site Map



LEGEND:

B-2 Boring/Sampling Well location and number

PP Power Pole

APPROXIMATE SCALE: 1" = 50'

0 25 50 100 200

(feet)

Note: Site plan based upon drawing provided by GDM & Associates, Inc. on 1-16-92

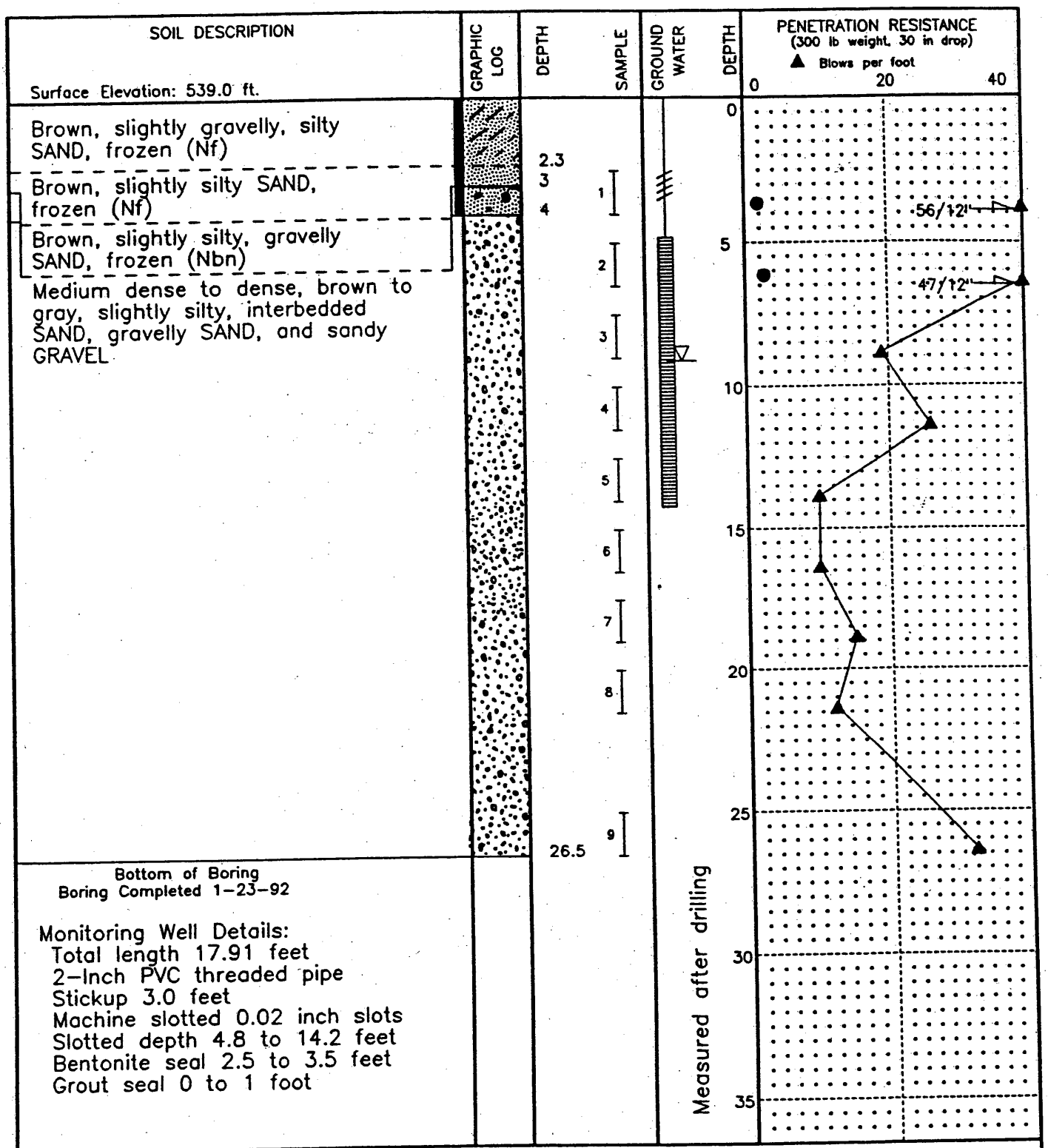
Vehicle Maintenance Facility
Eielson Air Force Base, Alaska

BORING/SAMPLING WELL LOCATIONS

K-1190 February 1992

SHANNON & WILSON, INC.
Geotechnical Consultants

Figure 1



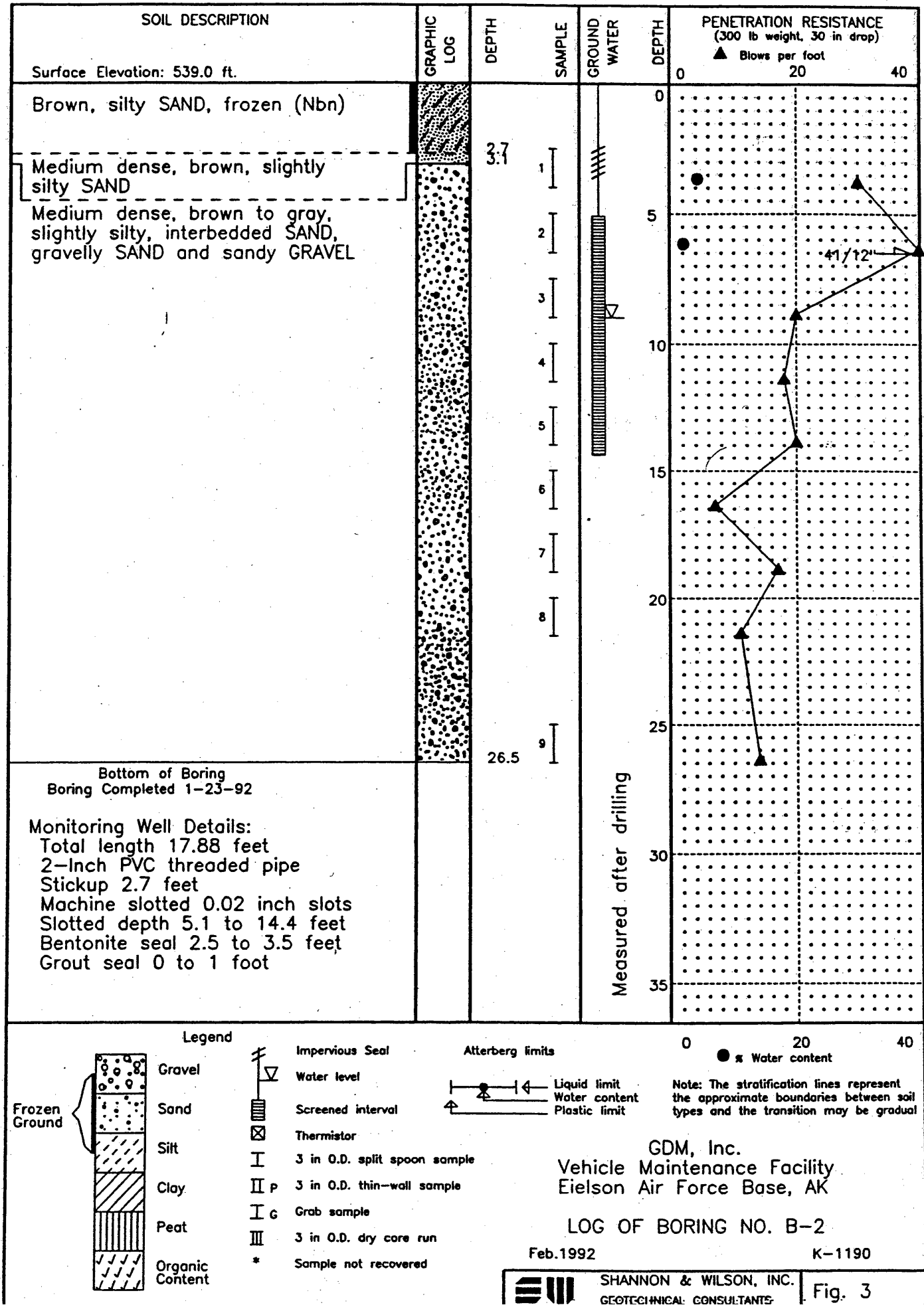
GDM, Inc.
Vehicle Maintenance Facility
Eielson Air Force Base, AK

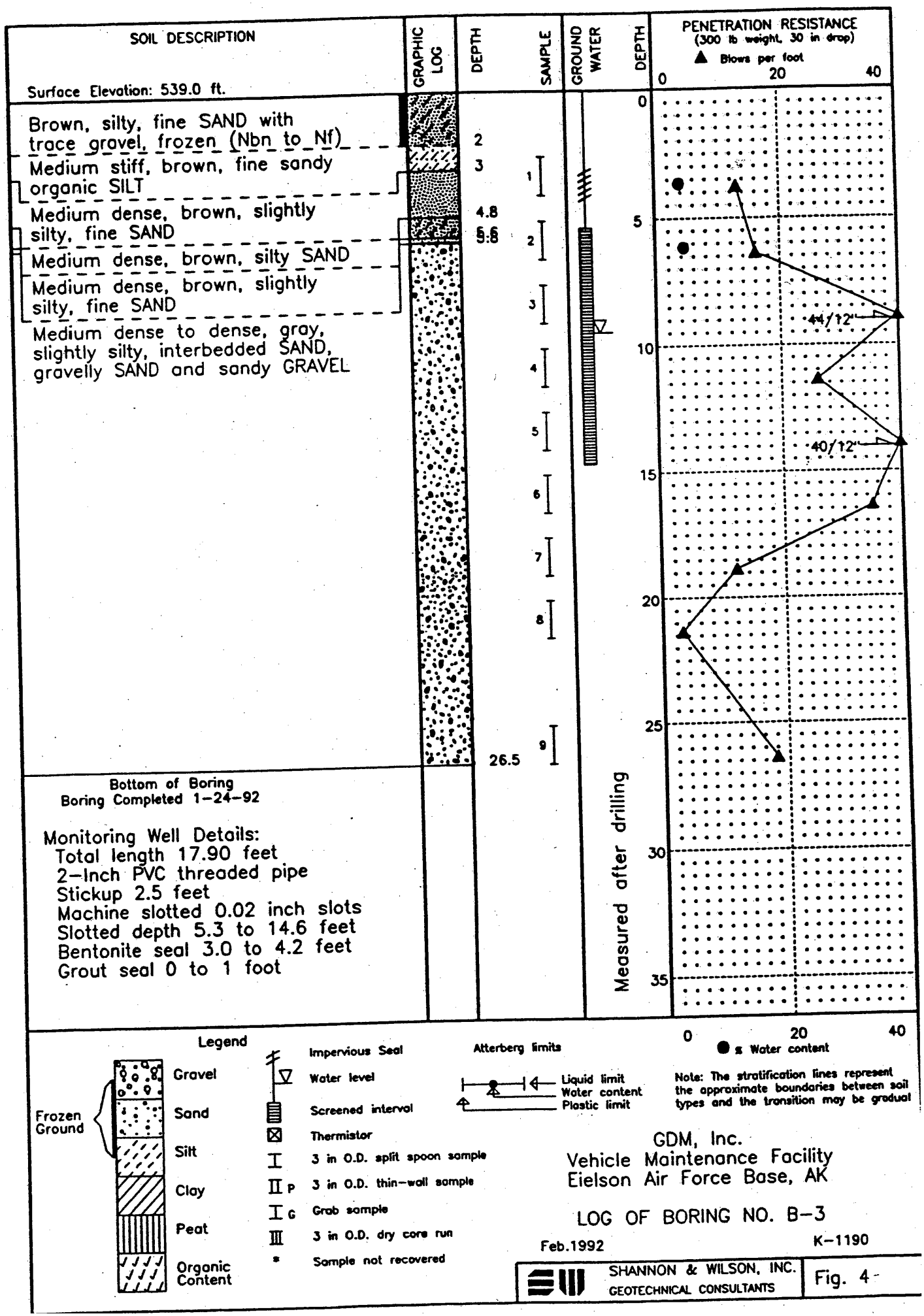
LOG OF BORING NO. B-1

Feb.1992 K-1190

SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

Fig. 2


SOIL DESCRIPTION
Surface Elevation: 539.0 ft.
GRAPHIC LOG
DEPTH
SAMPLE
GROUND WATER
DEPTH
PENETRATION RESISTANCE
(300 lb weight, 30 in drop)
Blows per foot
0
20
40
Brown, silty SAND, frozen (Nbn)
2.7
3.1
Medium dense, brown, slightly silty SAND
Medium dense, brown to gray, slightly silty, interbedded SAND, gravelly SAND and sandy GRAVEL
1
2
3
4
5
6
7
8
9
26.5
41/12"
0
5
10
15
20
25
30
35
Measured after drilling
Bottom of Boring
Boring Completed 1-23-92
Monitoring Well Details:
Total length 17.88 feet
2-Inch PVC threaded pipe
Stickup 2.7 feet
Machine slotted 0.02 inch slots
Slotted depth 5.1 to 14.4 feet
Bentonite seal 2.5 to 3.5 feet
Grout seal 0 to 1 foot
Legend
Frozen Ground
Gravel
Sand
Silt
Clay
Peat
Organic Content
Impervious Seal
Water level
Screened interval
Thermistor
3 in O.D. split spoon sample
P 3 in O.D. thin-wall sample
G Grab sample
3 in O.D. dry core run
* Sample not recovered
Atterberg limits
Liquid limit
Water content
Plastic limit
0
20
40
% Water content
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual
GDM, Inc.
Vehicle Maintenance Facility
Eielson Air Force Base, AK
LOG OF BORING NO. B-2
Feb.1992
K-1190
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS
Fig. 3



GDM, Inc.
Vehicle Maintenance Facility
Eielson Air Force Base, AK

LOG OF BORING NO. B-3

Feb.1992 K-1190

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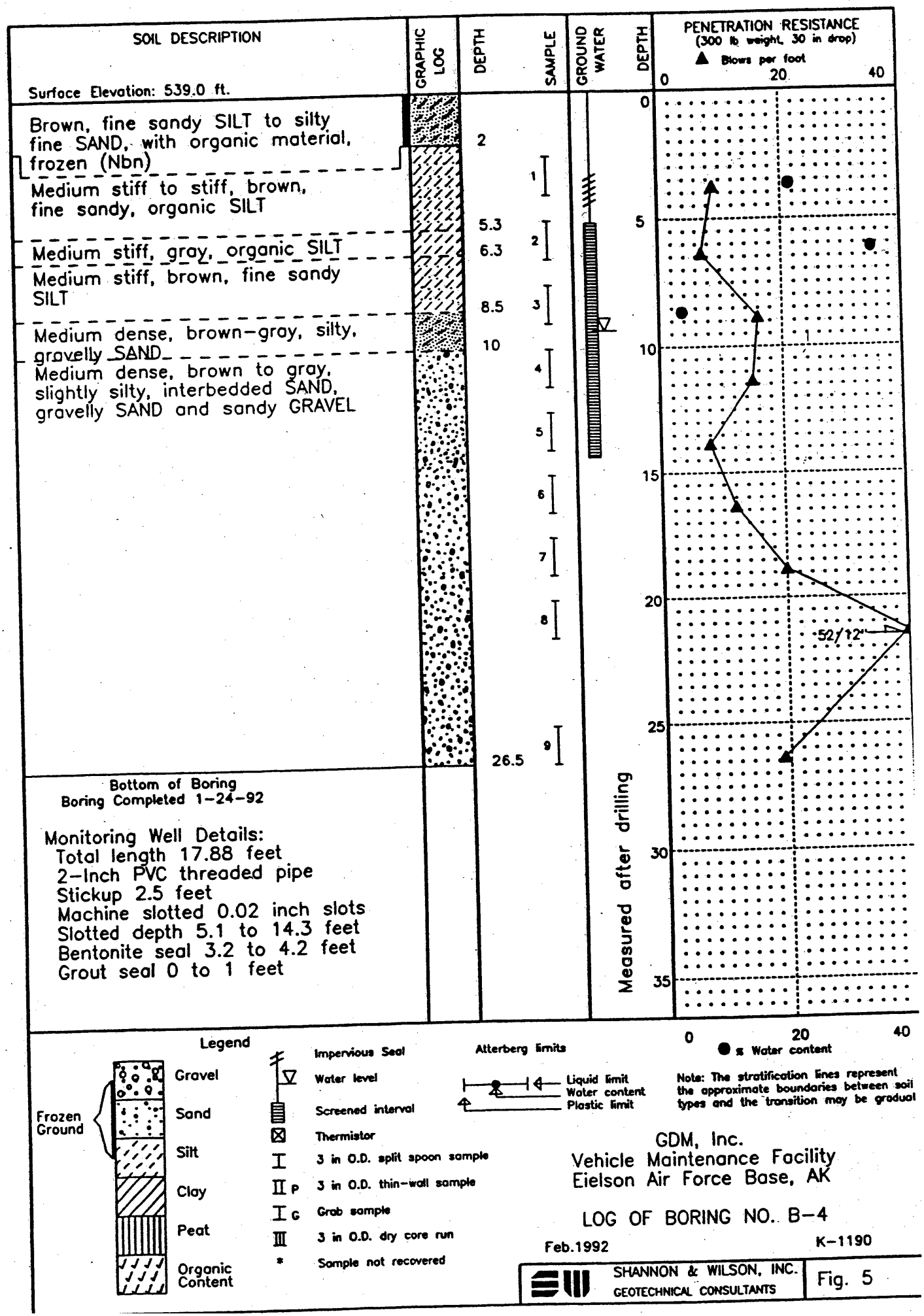
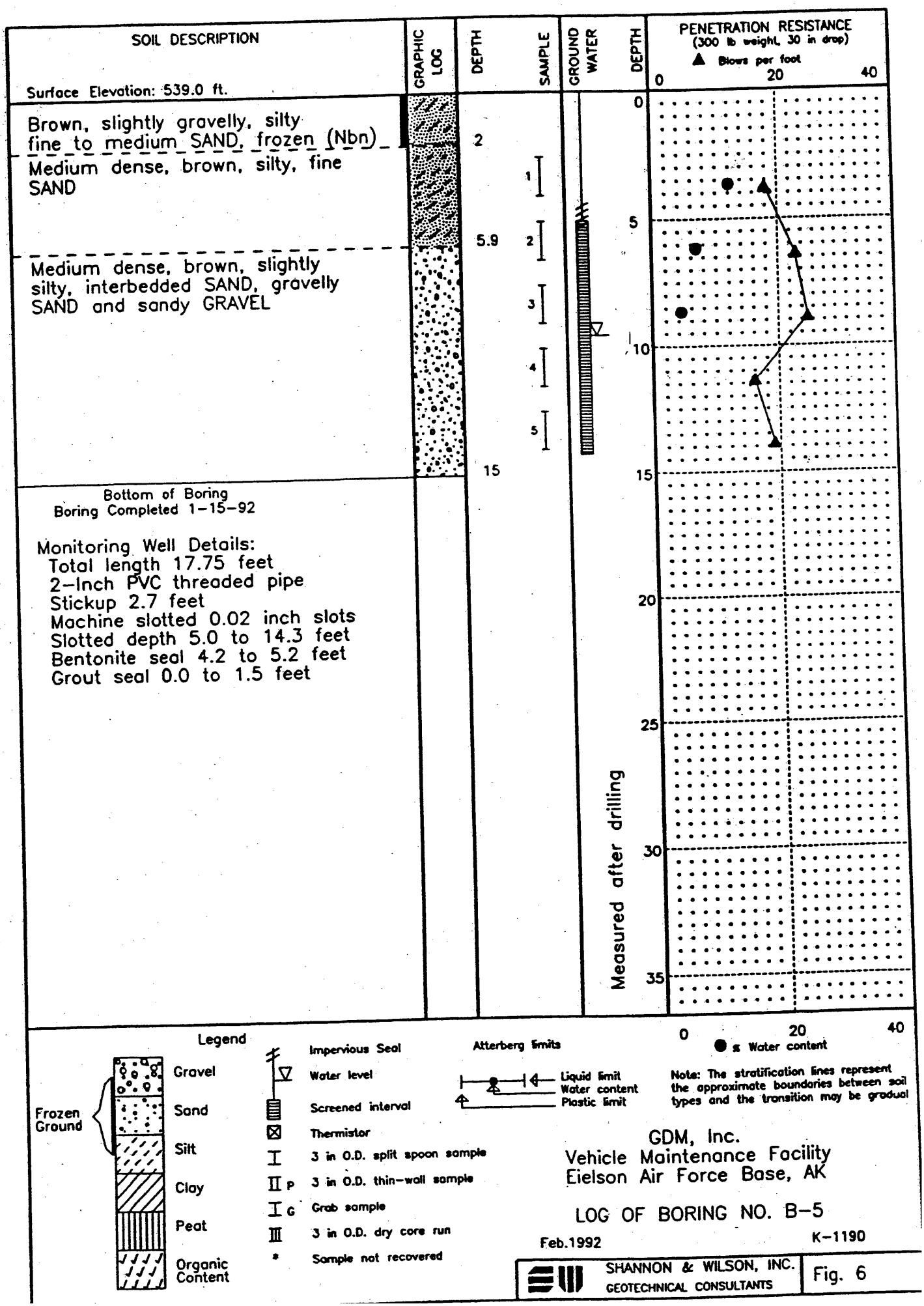
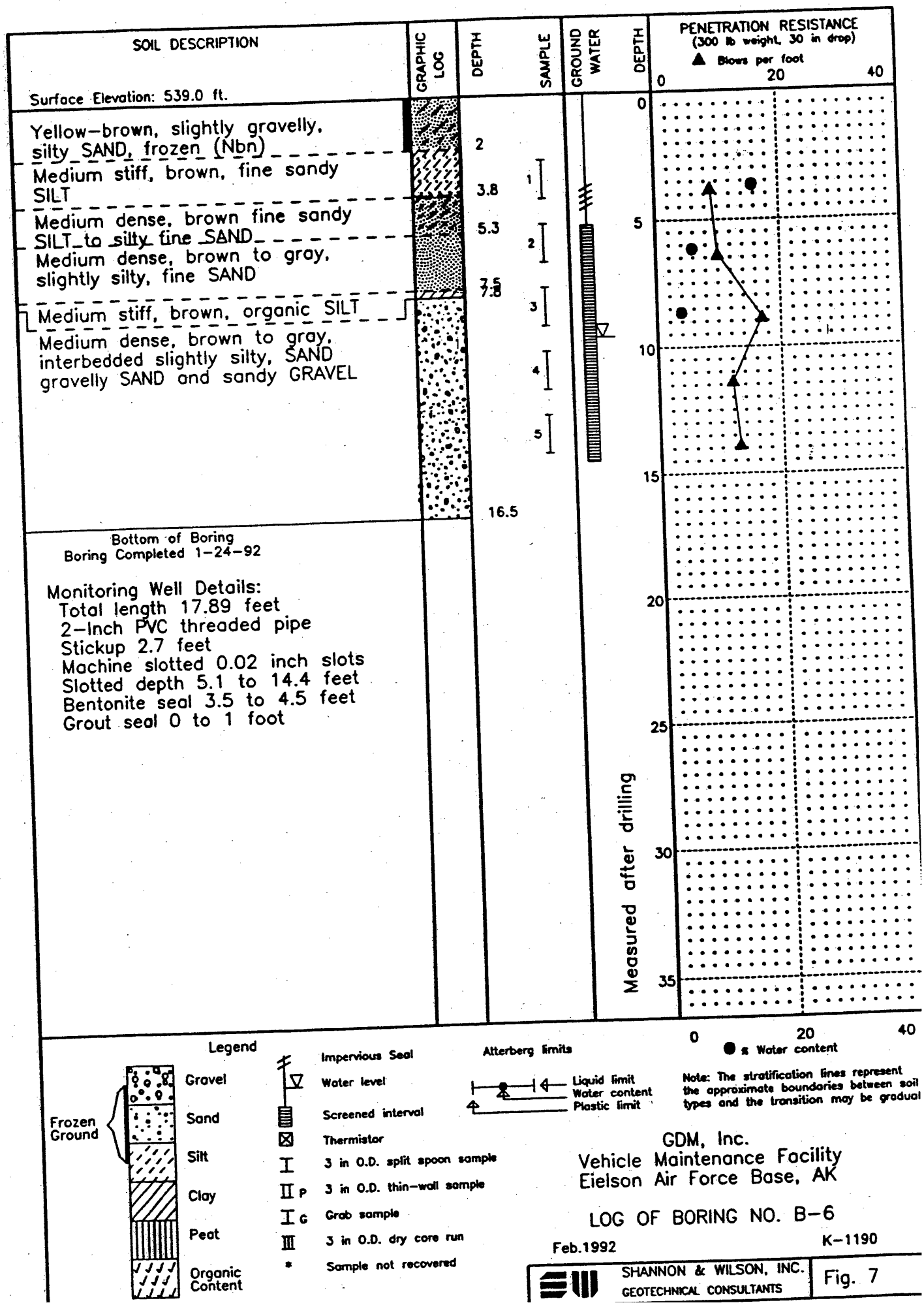
Fig. 4


SOIL DESCRIPTION
Surface Elevation: 539.0 ft.
GRAPHIC LOG
DEPTH
SAMPLE
GROUND WATER
DEPTH
PENETRATION RESISTANCE
(300 lb weight, 30 in drop)
Blows per foot
0
20
40
Brown, fine sandy SILT to silty fine SAND, with organic material, frozen (Nbn)
Medium stiff to stiff, brown, fine sandy, organic SILT
Medium stiff, gray, organic SILT
Medium stiff, brown, fine sandy SILT
Medium dense, brown-gray, silty, gravelly SAND
Medium dense, brown to gray, slightly silty, interbedded SAND, gravelly SAND and sandy GRAVEL
2
5.3
6.3
8.5
10
26.5
1
2
3
4
5
6
7
8
9
0
5
10
15
20
25
30
35
52/12"
Measured after drilling
Bottom of Boring
Boring Completed 1-24-92
Monitoring Well Details:
Total length 17.88 feet
2-Inch PVC threaded pipe
Stickup 2.5 feet
Machine slotted 0.02 inch slots
Slotted depth 5.1 to 14.3 feet
Bentonite seal 3.2 to 4.2 feet
Grout seal 0 to 1 feet
Legend
Gravel
Sand
Silt
Clay
Peat
Organic Content
Frozen Ground
Impervious Seal
Water level
Screened interval
Thermistor
3 in O.D. split spoon sample
3 in O.D. thin-wall sample
Grab sample
3 in O.D. dry core run
Sample not recovered
Atterberg limits
Liquid limit
Water content
Plastic limit
0
20
40
Water content
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual
GDM, Inc.
Vehicle Maintenance Facility
Eielson Air Force Base, AK
LOG OF BORING NO. B-4
Feb.1992
K-1190
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS
Fig. 5


SOIL DESCRIPTION
Surface Elevation: 539.0 ft.
GRAPHIC LOG
DEPTH
SAMPLE
GROUND WATER
DEPTH
PENETRATION RESISTANCE
(300 lb weight, 30 in drop)
Blows per foot
0
20
40
Brown, slightly gravelly, silty fine to medium SAND, frozen (Nbn)
2
Medium dense, brown, silty, fine SAND
5.9
Medium dense, brown, slightly silty, interbedded SAND, gravelly SAND and sandy GRAVEL
15
Bottom of Boring
Boring Completed 1-15-92
Monitoring Well Details:
Total length 17.75 feet
2-Inch PVC threaded pipe
Stickup 2.7 feet
Machine slotted 0.02 inch slots
Slotted depth 5.0 to 14.3 feet
Bentonite seal 4.2 to 5.2 feet
Grout seal 0.0 to 1.5 feet
1
2
3
4
5
Measured after drilling
0
5
10
15
20
25
30
35
Legend
Frozen Ground
Gravel
Sand
Silt
Clay
Peat
Organic Content
Impervious Seal
Water level
Screened interval
Thermistor
3 in O.D. split spoon sample
3 in O.D. thin-wall sample
Grab sample
3 in O.D. dry core run
Sample not recovered
Atterberg limits
Liquid limit
Water content
Plastic limit
0
20
40
Water content
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual
GDM, Inc.
Vehicle Maintenance Facility
Eielson Air Force Base, AK
LOG OF BORING NO. B-5
Feb.1992
K-1190
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS
Fig. 6



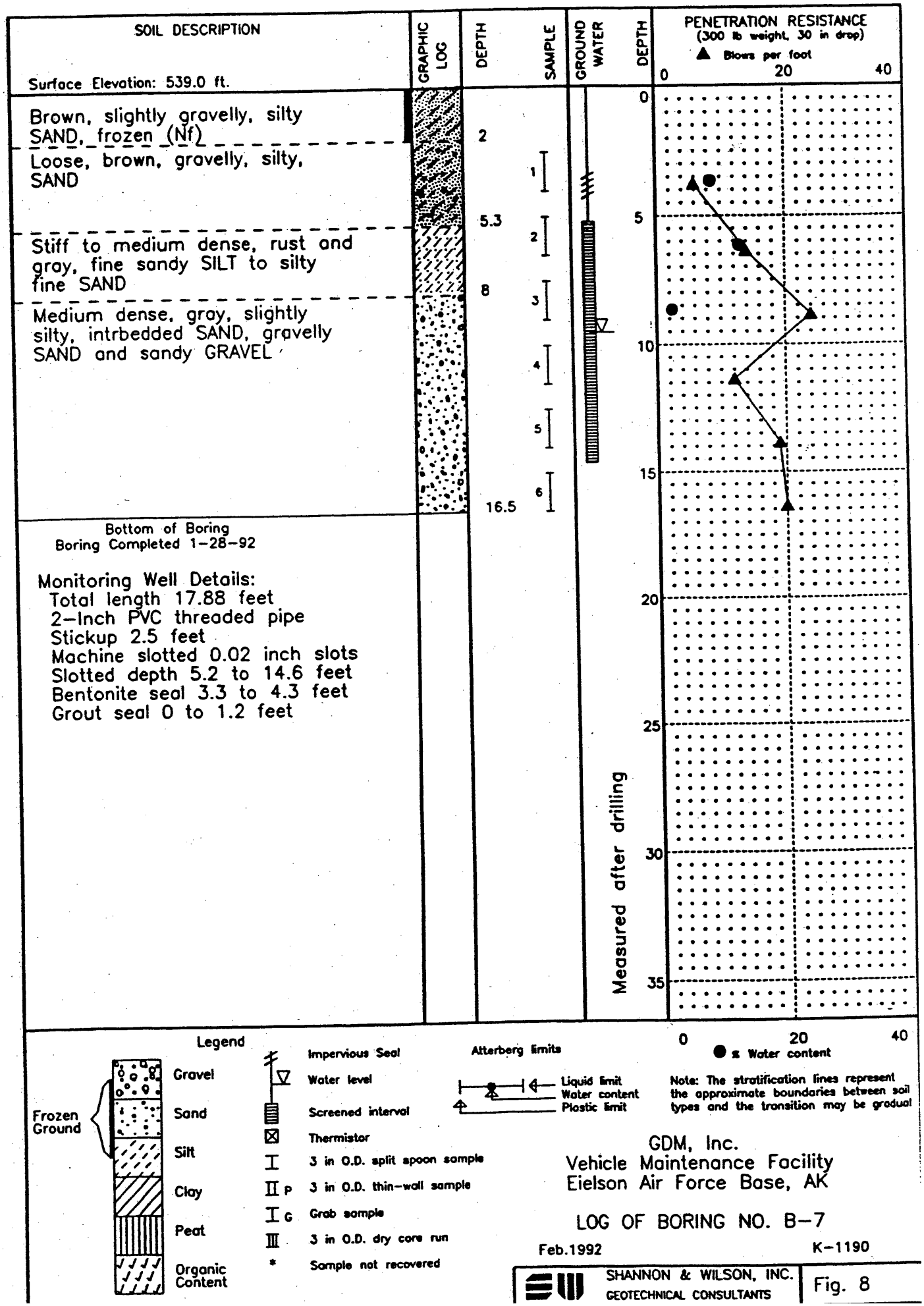
GDM, Inc.
Vehicle Maintenance Facility
Eielson Air Force Base, AK

LOG OF BORING NO. B-6

Feb.1992 K-1190

SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

Fig. 7



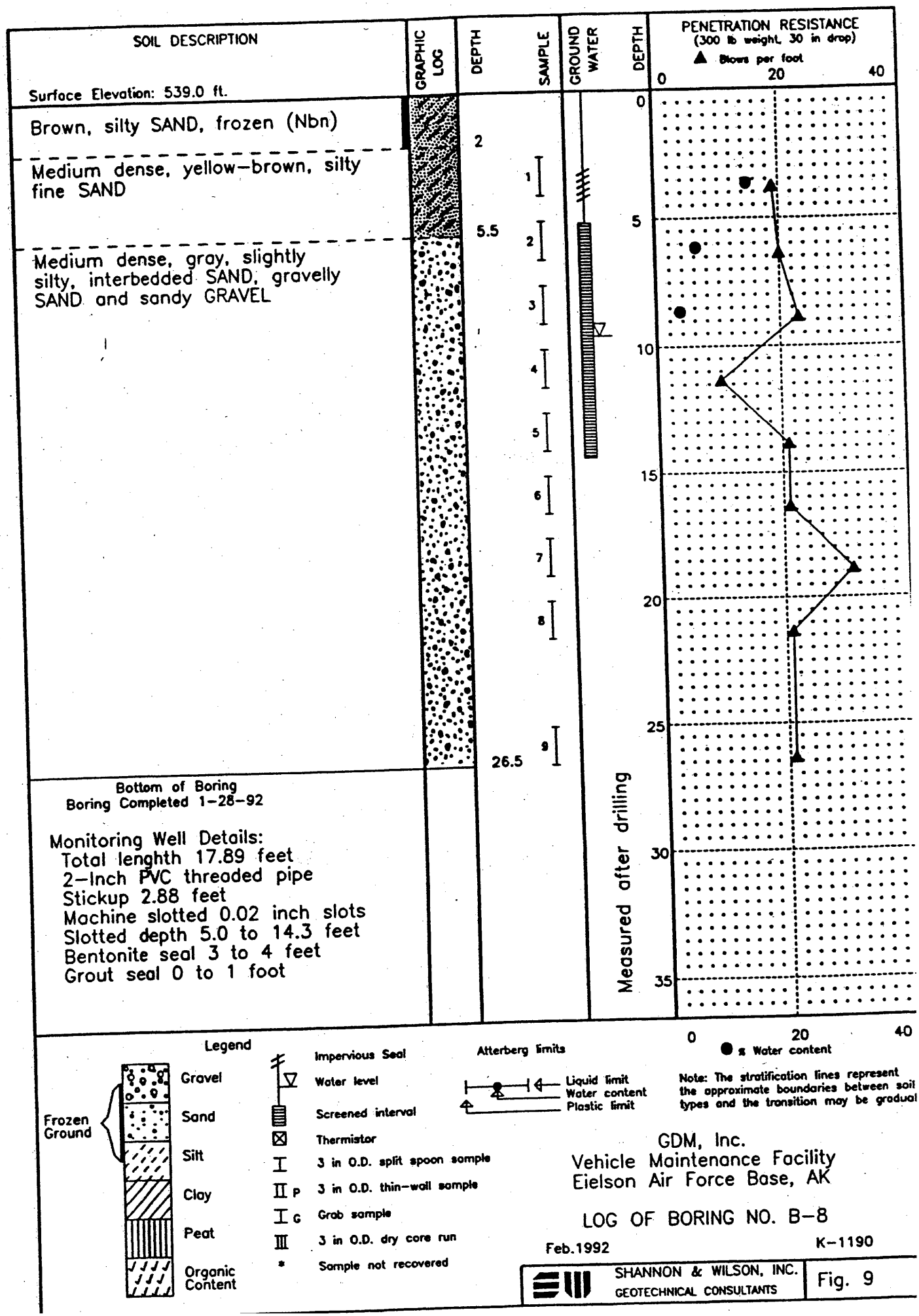
GDM, Inc.
Vehicle Maintenance Facility
Eielson Air Force Base, AK

LOG OF BORING NO. B-7

Feb.1992 K-1190

SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

Fig. 8


SOIL DESCRIPTION
Surface Elevation: 539.0 ft.
GRAPHIC LOG
DEPTH
SAMPLE
GROUND WATER
DEPTH
PENETRATION RESISTANCE
(300 lb weight, 30 in drop)
Blows per foot
0
20
40
Brown, silty SAND, frozen (Nbn)
2
Medium dense, yellow-brown, silty fine SAND
5.5
Medium dense, gray, slightly silty, interbedded SAND, gravelly SAND and sandy GRAVEL
1
2
3
4
5
6
7
8
9
26.5
Bottom of Boring
Boring Completed 1-28-92
Monitoring Well Details:
Total lenghth 17.89 feet
2-Inch PVC threaded pipe
Stickup 2.88 feet
Machine slotted 0.02 inch slots
Slotted depth 5.0 to 14.3 feet
Bentonite seal 3 to 4 feet
Grout seal 0 to 1 foot
Measured after drilling
0
5
10
15
20
25
30
35
0
20
40
% Water content
Legend
Gravel
Sand
Silt
Clay
Peat
Organic Content
Frozen Ground
Impervious Seal
Water level
Screened interval
Thermistor
I 3 in O.D. split spoon sample
II P 3 in O.D. thin-wall sample
I G Grab sample
III 3 in O.D. dry core run
* Sample not recovered
Atterberg limits
Liquid limit
Water content
Plastic limit
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual
GDM, Inc.
Vehicle Maintenance Facility
Eielson Air Force Base, AK
LOG OF BORING NO. B-8
Feb.1992
K-1190
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS
Fig. 9

ATTACHMENT D

Records of Decision (RODS), Environmental Source Area ST 11

Groundwater plumes of benzene, toluene, TPH, and total lead were identified during the 1991 field season. The highest benzene concentrations in shallow groundwater occur beneath the tank farm and extend toward Hardfill Lake. It appears that groundwater contaminated with benzene and toluene flows directly into Hardfill Lake. Shallow groundwater contamination at concentrations exceeding the *Safe Drinking Water Act* MCLs and action levels were identified for benzene, toluene, and lead. The highest TPH concentrations occur in the same monitoring wells that contain floating product.

Two sets of nested wells, wells completed at different depths in the aquifer, were installed at ST10. The shallow wells are screened from 5 to 30 feet below the ground surface; the intermediate wells are screened from 30 to 50 feet below the ground surface. The two shallow wells had significant groundwater contamination (e.g., benzene at 1300 D and 430 D µg/L); the only contaminant detected in the intermediate wells was benzene at 2 J µg/L in one. No other volatile and no semivolatile organic compounds were detected in either well. No volatile or semivolatile organic compounds were detected in the sample collected from BSW-14. BSW-14 is screened from 86 to 96 feet. The well supplies water to Building 6224.

5.1.3 ST10 and SS14 Source Area Hydrology

The groundwater flow direction at ST10 and SS14 is to the northwest with a calculated horizontal hydraulic gradient of 0.002 foot/foot. Staff gage readings from Hardfill Lake indicate that lake waters are lower than the water table elevations at ST10, indicating that groundwater discharges to the lake in this area. Groundwater in the area of the railroad fueling facility flows to the northwest, then to the north and discharges into Hardfill Lake.

5.2 Source Area ST11 (Fuel Saturated Area)

Source area ST11 consists of subsurface diesel fuel contamination associated with one building, Building 3224, situated along the southeastern side of Garrison Slough (Figure 4). The building was built before June 1956, and initially was used as the base bakery. The bakery used diesel-fired ovens fueled by a 4-inch pipeline. The pipeline probably came from several diesel tanks buried on the east side of Central Avenue. The tanks have been removed. By 1981, the site had been converted to a dog training facility.

In 1975, a sheen was discovered atop the waters of Garrison Slough alongside ST11. An investigation discovered a petroleum diesel fuel, refined around 1950, floating on groundwater next to Building 3224.

A cleanup action followed from 1977 to 1980. A 4-inch pipeline that still contained some diesel was removed in 1977. An oil-water separator was used in several excavated trenches until 1980 for the removal of a floating fuel layer.

5.2.1 ST11 Soil Contamination

Samples were collected at ST11 in 1991 to identify the nature and extent of contamination in surface and subsurface soils.

Lead was the only contaminant of concern detected in surface soil samples collected at ST11. Lead concentrations in composite surface soil samples collected at ST11 ranged from 8 to 95 mg/kg. The locations of samples containing high lead concentrations are near Central Avenue and are attributed to vehicle traffic.

High TPH values were detected in soil samples at the groundwater smear zone. In most of the soil borings, the highest TPH concentration occurred at the lowest sample depth, just below the water table where values ranged from 1,260 to 23,500 mg/kg. The highest TPH concentrations were detected adjacent to Building 3224. The extent of contaminated soils beneath Building 3224 is unknown. No elevated TPH values were detected north of Garrison Slough. BTEX concentrations in the subsurface soil samples were all below the levels of concern for protection of groundwater. The potential for the soil contamination to act as a future source of groundwater contamination was evaluated in the OU2 RI (U.S. Air Force 1993a), and the results of fate and transport modeling indicate that groundwater contaminant concentrations are not expected to exceed regulatory levels.

Volatile organic compounds were not detected in most of the soil samples with elevated TPH concentrations. BTEX, where detected, was at low concentrations, which suggests that the diesel fuel has weathered since the spill or leak occurred, thus removing the lighter fractions. Only the heavier fractions of the fuel appear to have remained in the soil.

The concentration of TPH contamination at 9 to 13 feet is consistent with the probable contaminant history at ST11. The most likely source for the contamination was the buried pipe that contained diesel fuel. Under the influence of gravity, the diesel would have spread out of the pipe and sunk to the top of the groundwater table. Here it would have spread laterally atop the water, both upgradient and downgradient, forming a floating fuel layer.

5.2.2 ST11 Groundwater Contamination

Benzene, 1,2-dichloroethylene (DCE), total lead, and arsenic concentrations detected in ST11 groundwater samples are listed in Table 4. No concentrations of volatile or semivolatile organic compounds above the risk-based levels of concern were identified in groundwater samples collected at ST11. TPH was detected in groundwater with a maximum concentration of 90 µg/L. The TPH soil contamination at the groundwater table smear zone appears to have weathered sufficiently to remove volatile organic compounds and water soluble semivolatile organic compounds from the groundwater.

TABLE 4. ST11—Benzene, 1,2-DCE, Total Lead, and Arsenic in Groundwater

Constituent	Detection Limit (µg/L)	Detected/Analyzed	Concentration Range Detected (µg/L)	Location of Maximum Concentration
Benzene	5	1/7	1 J	11MW03
1,2-DCE	5	1/7	1 J	11MW07
Total lead	1	7/7	1.3 B - 4.5	11MW06
Arsenic	10	7/7	1.1 B - 60	11MW04

J--estimated value less than Contract Required Quantitation Limit
B--analyte found in associated blank as well as in sample

Arsenic was detected at a concentration of 60 µg/L in one ST11 well during 1991. This well has since been sampled twice, and both times the arsenic concentrations were below the MCL of 50 µg/L (U.S. Air Force 1993g). Arsenic concentrations are variable and are dependent upon seasonal groundwater levels and the natural oxidation state. The elevated level of arsenic detected at ST11 is not assumed to be the result of contamination. In addition, past activities at Eielson AFB are not expected to have generated arsenic contamination.

5.2.3 ST11 Source Area Hydrology

Staff gage measurements from Garrison Slough adjacent to ST11 show that surface water elevations are usually higher than groundwater elevations. This indicates that in the vicinity of ST11, Garrison Slough loses water to the aquifer at all times except during spring thaw, from about late April to late June.

5.3 Source Areas ST13 (E-4 Diesel Fuel Spill) and DP26 (E-10 Fuel Tank Sludge Burial Site)

Source areas ST13 and DP26 are discussed together because they are located close to each other, have similar types of contaminants, and the individual releases to groundwater have created an overlapping groundwater contaminant plume.

Source area ST13 is located along the southeast end of the main taxiway west of Flightline Avenue (Figure 5). The area contains a fuel pump house (Building 1240), ten underground fuel storage tanks, five fuel outlets (1, 2, 3, 4, and 4.5), and an area used in the past for filling and storing fuel bladders.

Source area DP26 is located directly across Flightline Avenue and includes a 420,000-gallon aboveground storage tank (Tank 300 [Structure 4482]) and ancillary piping, shallow trenches used for the burial of sludge from fuel tank cleaning operations, an area where fuel-saturated soil removed during replacement of Tank 300 in 1987 was placed, and truck fill stands near Building 4480. Two underground tanks of JP-4 near Building 1240 were reported leaking to ADEC in November 1990. The amount of fuel leaked is unknown. Those tanks were part of the fuel hydrant system associated with Building 1240. The two tanks were taken out of service in 1990.

Activities at both sites currently support the refueling of aircraft along the flightline. This area has been used for the fueling of aircraft and other vehicles since Eielson AFB operations began in World War II. The following fuels have been stored and dispensed here: aviation gasoline (AVGAS), MOGAS, JP-4, and JP-8. JP-4 and JP-8 (arctic diesel) are currently stored at these sites.

Contamination of soil and groundwater at ST13 resulted from the rupture or overfill of fuel bladders filled in the area, and from leaks or spills from underground storage tanks and fuel outlets in the area. The fuel bladders were used primarily to transport diesel fuel or MOGAS to remote locations. The bladders were filled from outlets on the flightline, then placed in a staging area within ST13 for transport. This process was discontinued in spring 1992. Two underground tanks of JP-4 near Building 1240 were reported leaking to Alaska Department of Environmental Conservation (ADEC) in November 1990. The amount of fuel leaked is unknown. Those tanks were part of the fuel hydrant system associated with Building 1240. The two tanks were taken out of service in 1990, and the system components were purged of fuel. The underground fueling system that connects Tank 300 with the pump house and the five fuel outlets is scheduled for replacement in 1994. An estimated 12,000 cubic yards of soil will be excavated during this replacement; of this volume, 7,000 cubic yards are believed to be contaminated. These soils are among the most contaminated at the site, and they will be excavated and treated outside of the CERCLA process as part of the construction project.

Contamination of soil and groundwater at DP26 probably resulted from leaks and spills from Tank 300, its associated underground piping, and the truck fill stands. Tank 300 was replaced in 1987. During the replacement of the tank, fuel-saturated soil was encountered beneath the tank. The soil was removed and replaced with clean soil.

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5.3.3 ST13 and DP26 Floating Fuel Contamination

Floating fuel was identified and measured in 1991 in two groundwater monitoring wells. CH2M Hill analyzed a sample of the floating fuel and identified it as either JP-4 or Jet A. The BTEX concentration of floating fuel in one sample showed benzene at 363 mg/L, toluene at 5,226 mg/L, ethylbenzene at 2,368 mg/L, and total xylenes at 13,975 mg/L. To define the location and extent of the floating fuel at DP26, 11 product probes were installed in 1992. The thickness of the floating fuel layer ranges between 0.06 feet and 1.13 feet leading to an estimated volume of 7,000 gallons (U.S. Air Force 1993d). Tank 300 is the likely source of the floating fuel product.

5.3.4 ST13 and DP26 Source Area Hydrology

The groundwater flow direction at ST13 and DP26 is to the north-northwest with a calculated horizontal hydraulic gradient of 0.0013 foot/foot. Groundwater near Garrison Slough appears to be flowing towards and discharging to the slough. Extensive dewatering activities during construction projects may have affected the groundwater gradient and contaminant plumes.

5.4 Source Area ST18 (Oil Boiler Fuel Saturated Area)

Source area ST18 is described as an old boiler plant (CH2M Hill 1982). The site presently includes four buildings (Buildings 3405, 3409, 3411, and 3386) (Figure 6) and is adjacent to ST48, a source being addressed in OU1. Building 3405 is the old boiler plant that is currently used for salvaging old vehicles before their use as targets. Buildings 3409 and 3411 contain backup diesel generators. Building 3386 is the Precision Measuring Equipment Laboratory where electronic gear is calibrated. ST18 also contains two 25,000-gallon storage tanks buried east of Building 3405. The tanks are currently filled by tanker trucks with arctic diesel, and they supply the generators in Buildings 3409 and 3411. They have been in use since 1948. Tank "tightness" testing in August 1993 and soils information from the RI indicate that the tanks have leaked, and they will be removed in cooperation with the state of Alaska under another compliance program.

Contamination was first reported at ST18 during the mid-1970s, when a series of 8-foot-deep holes were excavated for installation of electrical wiring. A floating hydrocarbon layer was detected atop the water table in the excavations. The source of the contamination was not identified, and there is no record of any remediation or repairs.

5.4.1 ST18 Soil Contamination

TPH was detected in all ST18 surface soil samples, with a maximum concentration of 976 mg/kg. Lead was also detected in all surface soil samples with a maximum concentration of 94.9 mg/kg.

Several semivolatile organic compounds were detected in two composite surface soil samples (Table 7). Both samples were obtained along the railroad right-of-way on the west side of ST18.

The PAHs present are characteristic of diesel exhaust, probably from long-term operation of diesel engines. The most likely source is the Diesel Locomotive Repair Shop (Building 3383), which is just north of the contamination. This shop is used for locomotive repair, and the tuning of the large diesel power plants in locomotives is a reasonable source for PAH contamination.

TABLE 7. ST18 Semivolatile Organic Contaminants of Concern in Surface Soils

Contaminant of Concern	Detection Limit (µg/kg)	Detected/Analyzed	Concentration Range Detected (µg/kg)
Anthracene	690	1/5	73 J
Benzo(a)anthracene	690	1/5	430 J
Benzo(a)pyrene	690	2/5	150 J - 550 J
Benzo(b)fluoranthene	690	2/5	88 J - 460 J
Benzo(g,h,i)perylene	690	2/5	430 J - 750
Benzo(k)fluoranthene	690	2/5	130 J - 480 J
Benzoic acid	3300	1/5	2300 J
Bis(2-ethylhexyl)phthalate	690	3/5	99 J - 170 J
Butyl benzyl phthalate	690	1/5	130 J
Chrysene	690	2/5	89 J - 550 J
Dibenzo(a,h)anthracene	690	2/5	130 J - 250J
Fluoranthene	690	1/5	640 J
Indeno(1,2,3-cd)pyrene	690	2/5	390 J - 620 J
n-Nitrosodiphenylamine	690	1/5	78 J

J--estimated value less than Contract Required Quantitation Limit

The highest concentrations of TPH, maximum concentration of 30,898 mg/kg, were identified in the vicinity of the underground diesel fuel storage tanks. In general, TPH concentrations in the vadose zone soils were less than 100 mg/kg. The majority of the contamination occurs in the groundwater table smear zone between 9 and 10.5 feet below ground surface.

Volatile organic compounds (including BTEX) were not detected in the subsurface soil samples above unacceptable risk levels as defined by EPA (1991a), implemented in the BLRA (U.S. Air Force 1993c), and listed in Table 8.

The source of the high concentrations of TPH is suspected to be leaks or spills of diesel fuel from the underground storage tanks. The groundwater table fluctuation is causing the floating fuel to spread throughout the smear zone near the tanks. Fuel contamination remains in the soil in the smear zone.

5.4.2 ST18 Groundwater Contamination

Contaminant concentrations above screening risk assessment levels (Table 8) were not detected in the groundwater samples at ST18. Benzene and toluene were not detected in any groundwater samples. Trace concentrations of xylenes (8.0 µg/L) were detected at one monitoring well.

Chlorinated solvents were detected at or below the Contract Required Quantitation limit during both rounds of groundwater sampling. Trichloroethane and 1,2-DCE were detected (< 2.0 µg/L) in groundwater from all ST18 monitoring wells during the two rounds of sampling in 1991. Soil gas analyses conducted by SAIC in 1988 revealed low concentrations of halogenated hydrocarbons in the vicinity of Building 3423, approximately 500 feet south of ST18 (SAIC 1989). A drywell in this vicinity is

TABLE 8. Contaminant of Concern Risk-Based Cutoff Values for BTEX

Contaminant of Concern	Soil Ingestion (mg/kg)	Soil to Groundwater (mg/kg)	Groundwater (µg/L)
Benzene	2.2	0.2	0.6
Ethylbenzene	2,740	80	159
Toluene	5,480	140	315
Xylenes	54,800	760	82.8

Soil concentrations for ingestion equate to a cancer risk of 1E-7 or a Hazard Quotient of 0.1.
Soil to groundwater concentrations are based on leaching to groundwater (Appendix D of FS [U.S. Air Force 1993d]). The concentrations equate to a cancer risk of 1E-06 or a Hazard Quotient of 0.1 for groundwater ingestion.
Groundwater concentration equates to a cancer risk of 1E-6 or a Hazard Quotient of 0.1.
Calculations are in U.S Air Force (1993c) and are based on guidance in EPA (1991a).

suspected to be the source of this contamination. It has not been located to date and additional characterization is ongoing.

5.4.3 ST18 Source Area Hydrology

The vertical gradient was measured via two different methods at ST18, and it is negligible.

5.5 Source Area ST19 (JP-4 Fuel Spill)

Source area ST19 is located along Cargain Road next to a buried, concrete-lined utilidor that is west of the road. The utilidor contains two jet fuel pipelines (Figure 7). A snowplow broke a control valve in the late 1950s, and approximately 200,000 gallons of JP-4 were spilled onto the surface soils along the right-of-way. Evidence of vegetative stress at the site was reported in 1982 (CH2M Hill 1982).

5.5.1 ST19 Soil Contamination

Very low concentrations of lead (maximum value of 17.3 mg/kg) and TPH (maximum value of 28.4 mg/kg) were detected in surface soils at ST19.

TPH concentrations exceeding 100 mg/kg in subsurface soil samples were located in an area along Cargain Road and extended into a narrow area to the north. The area of contamination identified to the north of Cargain Road coincided with a boggy low area. This suggests that the spill flowed into the low area.

Volatile organic compounds were detected in subsurface soil samples. Benzene was detected with the highest concentration of 0.24 mg/kg. Toluene, ethylbenzene, and xylenes were detected at low concentrations in many of the soil borings within the area of TPH contamination.

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The distributions for TCE and DCE are slightly different. Vinyl chloride has never been detected in any of the groundwater samples from DP44. No groundwater samples are available from underneath the hangar. Wells 44M03, 44M07, and 44M08, to the north of the hangar, show low levels of TCE and DCE contamination. The concentrations in all three wells are below MCLs. It is not known whether this contamination results from a second low-level source or is the leading edge of a plume located underneath the hangar. The total area of TCE-contaminated soils is approximately 6500 m^2 (69,000 ft^2) with a volume of 20,000 m^3 (25,500 cu yd) containing an estimated 3.2 kg of TCE.

All contaminants detected at DP44 were in aqueous form. No free-phase solvent or fuel was encountered.

Table 6.2. Groundwater Contaminants Greater Than Screening Levels, DP44

Chemical	Detection Limit (μg/L)	Analyzed/ Detected	Concentration Range (μg/L)	Location of Maximum
Benzene	2	15/2	3.7 - 5.3	44M05
Trichloroethane	1	15/3	1.2 - 2500	44M04

6.2 Source Area WP45/SS57

The photo laboratory and dry well at Building 1183 were designated as Source Area WP45. Building 1183 is located near the main taxiway along the west side of Flightline Avenue (see Figure 2.1). The operational history of the dry well is not known. It was originally believed the dry well was the source of the solvent concentration found at WP45. However, in August 1992, two new wells were added upgradient from the dry well. Contaminant concentrations were higher on the two new wells than in the monitoring well downgradient of the dry well.

The dry well located at the west corner of Building 1183 has not been removed because removal would compromise the structure of the building. Standing groundwater in the well and sludge at the bottom of the well were sampled on April 1993, and the drain leading to the well was plugged with cement. Results indicated low levels of TCE in the water (3 μg/L) and low levels of chromium (1.2 μg/L) and silver (1.9 μg/L) in the sludge. Based on these results, the dry well appears to be a secondary source of groundwater contamination at WP45. The suspected primary source of contamination is currently believed to be a former maintenance shed that was located at the northwest corner of the fire station, Building 1206. No specific information explains the cause of the source of contaminants at WP45. The identified contaminants of concern are solvents in groundwater and soil.

Source Area SS57 is the area surrounding the fire station, Building 1206 (see Figure 2.1). SS57 is considered with Source Area WP45 because they are closely related and the groundwater contamination from the two sites overlap. Soils beneath the pavement in the parking lot of Building 1206 are contaminated with fuel. The primary contaminants of concern in SS57 are fuel-related compounds associated with spills of gasoline and jet propulsion fuel (JP-4) from fuel handling activities.

An independent study of natural attenuation by Utah State University (USU) was conducted concurrently with the remedial investigation at WP45/SS57. A meeting was held 6 July 95, during which USU presented their preliminary findings and modeling of site data collected at WP45/SS57. These findings are presented in Section 16.0, Explanation of Significant Differences.

Site investigations and analyses of groundwater, soil, surface water, and sediment showed no constituents were at concentrations above risk-based criteria.

5.16 Source Areas SS30 and SS31 (PCB Storage Facilities)

Source areas SS30 and SS31 are former PCB storage facilities. Material stored at SS30 and SS31 included undrained and empty transformer casings as well as PCB-contaminated liquids and soils from cleanup of a PCB spill at another location. The PCB equipment and waste material stored at SS30 and SS31 were removed between 1982 and 1987 for off-base disposal. Other waste materials such as paint, paint remover, and solvents were also stored at SS31.

In September 1986, a RCRA inspection at Building 3424 identified improperly stored and labeled waste containers. By joint agreement among the U.S. Air Force, EPA, and ADEC, this area is being addressed as part of CERCLA source area SS31.

There is no indication that SS30 and SS31 are a source of contamination based on the fact that the buildings were properly curbed and diked to prevent releases and that there is no evidence of spills inside or surrounding the buildings. The buildings are no longer used to store PCB wastes and, therefore, are not a potential source of contamination.

A nearby groundwater monitoring well, just upgradient of SS31, contained elevated levels of total organic halogens (TOX), oil and grease, and lead. While the contaminants are not attributed to SS31, this well and others in the area will be monitored to determine the source of contamination under the sitewide operable unit.

5.17 Source Area DP40 (Power Plant Sludge Pit)

In the initial IRP records search (CH2M Hill 1982), DP40 was reported to have been used from the late 1950s until the late 1970s to dispose of sludge from air scrubbers in the power plant and residue from periodic cleaning of the power plant boiler. More recently, it was discovered that DP40 has been active through 1993 and has received the same waste as in the past. The discharge was rerouted to the waste water treatment plant in 1993, but an National Pollutant Discharge Elimination System (NPDES) permit is in effect for the waste stream that will allow discharge to the pond, if needed. The pit is now filled with water. The water contained a chalk-like substance, probably from mineral deposits from boiler cleaning operations. The solids settle to the bottom of the pond, and in the past, these materials were dredged out of the pond approximately every 2 years and placed in the base landfill.

Analysis of the waste streams and sludge samples from the pond were supplied with the NPDES permit application in 1993. The analyses showed that waste water constituents were below risk-based criteria and the sludge contained high amounts of aluminum, iron, calcium, barium, and manganese. These five elements are commonly present in soils and aluminum, iron, and calcium are at levels found in Eielson AFB soils. Barium and manganese exceed background concentrations by 20 and 3 times, respectively. None of the concentrations exceeded screening criteria.

5.18 Source Area SS41 (Auto Hobby Shop [past])

Source area SS41 was used by base personnel for repairing personal vehicles from the 1960s to 1982. Drums containing used oils and fuel were stored outside the shop, and

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has eroded and is exposed. Water flows, at low discharge, into the road. The water has no distinctive odor or color. The septic-system leach field problem will be addressed with the State of Alaska under 18 AAC 72 Waste Water Disposal regulations.

Starting in 1986, groundwater samples were collected on a quarterly basis from the water supply wells at ST56. From 1986 on, a variety of organic compounds have been detected. The most consistently detected analyte in the wells has been PCE. No free-phase solvent contamination has been observed. In 1990, a new well was brought online and was similarly contaminated. Since 1991, ST56 has been supplied with drinking water, brought to the site and stored in tanks. One of the two supply wells has been shut down. Currently, groundwater point of use is restricted to toilets, boilers, and sinks with warning signs posted indicating the water is not for drinking.

Table 6.6. Groundwater Contaminants Greater Than Screening Levels, ST56

Chemical	Detection Limit (µg/L)	Analyzed/ Detected	Concentration Range (µg/L)	Location of Maximum
Tetrachloroethane (PCE)	0.5	5/2	13.8 - 25.1	WLD

6.4 Source Area SS61

SS61 is in the center of the developed portion of the base, just north of the water treatment plant pond on Garrison Slough, and is on the east and south sides of the Vehicle Maintenance Shop (Building 3213), as shown in Figure 2.1. The shop was originally built in 1954 and expanded in 1992. The shop has been used solely for vehicle maintenance. Waste oils, solvents, and water from maintenance activities were passed through an oil-water separator. The oil fraction was recovered for reuse. The wastewater was discharged to two dry wells located at the south end of the building. Identified contaminants of concern are fuel-related compounds and solvents in soil and groundwater. The source of the contamination appears to be one of the dry wells. During construction of the addition to Building 3213, both dry wells, along with surrounding contaminated soil, were removed, and the wastewater piping from the building was reconfigured to discharge to the sanitary waste system.

6.4.1 Soil Contamination

Currently, soils in the immediate vicinity of Well 61MW02 at SS61 are contaminated with TCE, cis-1,2-dichloroethylene, and BTEX. These soils provide some continuing source of groundwater contamination, but because wastes were discharged directly into the groundwater via the dry well, it is likely that most of the source for the plume is already in the groundwater.

No soil contaminants greater than EPA risk-based screening levels or background concentrations were identified for SS61. Soil samples were collected and analyzed for the constituents listed in Table 5.5. A summary of the sample concentrations for SS61 is found in Appendix A.

6.4.2 Groundwater Contamination

Groundwater contaminants greater than EPA risk-based screening levels or background concentrations for SS61 are summarized in Table 6.7. Groundwater samples were collected and analyzed for the constituents listed in Table 5.5. A summary of the sample concentrations for WP45 and SS57 is found in Appendix A.

The analytical results of groundwater samples collected from the three wells drilled near SS61 indicated that groundwater on the north side of the building addition is free of petroleum contamination, but groundwater near the eastern dry well (near Well 61MW01) is slightly contaminated with TCE (1 μg/L) and petroleum constituents, such as benzene (2.8 μg/L), toluene (6.8 μg/L), ethylbenzene (3.6 μg/L), xylene (26 μg/L), and 1,2-dichlorobenzene (18 μg/L). These concentrations are all less than their corresponding MCLs. These results are consistent with the fact the soil contained no or low concentrations of these same constituents. Groundwater near Well 61MW02 contained

Table 6.7. Groundwater Contaminants Greater Than Screening Levels, SS61

Chemical	Detection Limit (μg/L)	Analyzed/ Detected	Concentration Range (μg/L)	Location of Maximum
Benzene	2	35/2	2.1 - 2.8	61MW01
Gasoline	120	32/4	400 - 2000	61-PS-3A
Trichloroethane (TCE)	1	35/15	1 - 1100	61-PS-3A

significantly higher concentrations of TCE (78 μg/L), toluene (250 μg/L), and xylene (290 μg/L). TCE clearly exceeded the MCL of 5 μg/L. Because of the dilution required to measure these concentrations, the reporting detection limit was increased from 0.5 μg/L to 50 μg/L for both benzene and tetrachloroethane. Concentrations of these two constituents was reported as <50 μg/L.

In 1994, lead was detected at concentrations above screening levels in water samples collected from wells 61MW01, 61MW02, and 61MW03. Concentrations in unfiltered samples ranged from 15.2 μg/L to 40.4 μg/L, as reported in Appendix A. It is believed that these lead concentrations are due to fine-grained sediment in the samples, because all unfiltered samples had a turbidity of >100 NTU. Only one of the filtered samples contained lead (22.3 μg/L) at greater than the screening level of 15 μg/L. Lead in the other two samples decreased to 1.5 μg/L and less than one μg/L after filtering. The lead detected at SS61 is believed to be associated with the soil and, therefore, immobile.

The data led to an additional investigation of the area, using the microwell technique (Nerney et al. 1994). In this investigation, 20 microwells were placed around the Vehicle Maintenance Shop and in the grass field across Division Street, north of the shop and downgradient of the dry wells.

The results indicate that groundwater just north of the original Vehicle Maintenance Shop is contaminated with TCE and cis-1,2-dichloroethylene at concentrations greater than their MCLs, 5 μg/L and 70 μg/L, respectively (Figures 6.12 and 6.13). Petroleum contamination is also indicated by the presence of TPH-G (Figure 6.10), but no specific BTEX compounds were detected in excess of their MCLs. Based on the assumption that sources for these contaminants are the dry wells on the south side of the building, a contaminant plume appears to extend from the dry well near Well 61MW02, beneath the building, to approximately Division Street. At that point, contaminant concentrations fall below

MCLs, but they can still be detected for another several hundred meters south, extending beneath the grass field across Division Street. The lateral spread of the plume is limited to the footprint of the original vehicle maintenance building.

All contaminants detected at SS61 were in aqueous form. No free-phase solvent or fuel was encountered.

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Table 7.9. Groundwater Contaminants Greater Than Screening Levels, ST58

Chemical	Detection Limit (µg/L)	Analyzed/ Detected	Concentration Range (µg/L)	Location of Maximum
Benzene	5	13/6	3.7 -180	58MW08
Gasoline	2000	14/1	261,000 - 261,000	58MW09
Lead	5	14/13	35 - 180	58MW12

7.10 Source Area SS64

SS64, the Transportation Maintenance Drum Storage Area, is located in the center of the developed portion of the base, just north of the Water Treatment Plant pond on Garrison Slough, on the west side of the Vehicle Maintenance Shop (Building 3213) (Figure 2.1). SS64 and an area south of Building 3213 (officially part of SS61) were used for an unspecified number of years as a storage and staging area for drums containing hazardous materials and waste. Drums collected from routine base operations and cleanup were stored at this area until they were shipped for disposal.

In 1986, the EPA found 550 208-L (55-gal) drums labeled methanol, paint waste, lacquer, thinners, oils, acids, and asphalt at SS64. These drums were in poor condition and leaking. In 1987, the EPA reported that additional drums had been brought to SS64 since the 1986 survey. Approximately 160 drums were labeled as paint materials, and 300 drums were labeled as solvents including methyl ethyl ketone and cyclohexylamine. Six 322-L (85-gal) overpack drums were labeled as PD-680 solvent and paint thinner. Other inspection reports indicated that drums that were in other source areas during previous compliance inspections had been transferred to SS64. In 1989, the approximately 900 drums from SS64 were disposed of by base Hazmat personnel. At that time, stained soils were excavated and removed from SS64.

7.10.1 Soil Contamination

The drums stored at SS64 leaked and were the source of soil contamination. The locations of the leaking drums are not known, but they are assumed to have been located randomly, each producing a discontinuous spot of contamination. The contents of drums leaked onto the soil and then either evaporated, leached into the subsurface via precipitation, or remained on the surface soils as stains. In 1989, the last drums were removed, eliminating that source. At that time, surface spills were cleaned up, contaminated soil removed, and the area was graded and gravel added to prepare it as a parking lot. Because of the graveling and grading activities at SS64, surface soil sampling was not performed. Because contaminated soils were removed in 1989, subsurface soil sampling was not performed.

7.10.2 Groundwater Contamination

Groundwater contaminants greater than EPA risk-based screening levels or background concentrations for SS64 are summarized in Table 7.10. Samples were collected and analyzed for the constituents listed in Table 5.14. A summary of the sample concentrations for SS64 is presented in Appendix A.

The objective of the sampling was to check groundwater beneath the area where drums were stored for constituents that were contained in the drums. Groundwater was sampled to determine if drum contents reached the water table.

The only contaminants of concern that were detected were TCE, tetrachloroethene, and trans-1,2-dichloroethene. These constituents were detected only in Well 64MW01, in the downgradient position, at concentrations less than MCLs, but greater than the risk-based screening levels. Because of the close proximity of SS61 where elevated concentrations of these constituents were detected, this measurement may indicate that groundwater in this area is impacted by SS61.

Table 7.10. Groundwater Contaminants Greater Than Screening Levels, SS64

Chemical	Detection Limit (µg/L)	Analyzed/ Detected	Concentration Range (µg/L)	Location of Maximum
Tetrachloroethene (PCE)	0.5	4/2	0.82 - 1.7	64MW01
Trichloroethene (TCE)	0.5	4/2	0.6 - 2.7	64MW01

ATTACHMENT I

Sitewide Water Table Data

Conrad

[redacted]

United States Air Force

Environmental Restoration Program

Eielson Air Force Base, Alaska

Sitewide Water-Table Elevations at Eielson Air Force Base September 1991 - September 1993

Draft

December 1993

SITEWIDE WATER-TABLE ELEVATIONS AT EIELSON AIR FORCE BASE SEPTEMBER 1991 - SEPTEMBER 1993

DRAFT
December 1993

Prepared for U.S. Air Force
Eielson Air Force Base
Environmental Restoration Program
Fairbanks, Alaska

by

Pacific Northwest Laboratory
Richland, Washington 99352

INTRODUCTION

To support the U.S. Air Force Environmental Restoration Program, water levels in selected wells at Eielson Air Force Base (AFB) have been measured on a monthly basis for more than one year. The purpose of these measurements was to determine sitewide ground-water flow directions and gradients for the uppermost aquifer underlying the industrial area of the base, where the majority of contaminant source areas are located. Monthly measurements taken over a one-year period were used to construct maps showing water-table elevation contours. The water-level measurements and more frequent data collected from pressure transducers at selected wells were used to evaluate seasonal changes in the ground-water flow system.

METHODS AND EQUIPMENT

Data used to construct the contour plots are presented in Appendix A. Depth-to-water was measured from the top of each well casing using an electric sounding tape (E-tape). These measurements were subtracted from the surveyed casing elevations to determine the elevation of the water table at each well. A few wells sometimes contained a layer of floating petroleum product. For these wells, the depth to the top of the product layer was measured with an oil/water interface probe and the water-table elevation was corrected by adding a thickness of water equivalent to the weight of the product layer. The equivalent water thickness was calculated by multiplying the product thickness by 0.81, which is the ratio of the product and water densities. Water-table elevations were then used to construct elevation contour maps of water table for each month over the one-year period July 1992 through June 1993.

Potential sources of error in the water-table contour maps include errors in the measured water-table elevations, errors in surveyed casing elevations, and errors in the plotting of contours. According to the surveyor, uncertainty in the elevation survey results is about ± 0.015 m.

Accuracy of the E-tapes and oil/water interface probes used to measure depth to water is also about ±0.015 m. Therefore, the combined uncertainty in most of the measured water-table elevations is about ±0.03 m. Wells with floating product will have a higher uncertainty of about ±0.05 m. Some measurements may also be affected by vertical movement of the well casing caused by frost heave that occurred during the period between the elevation survey and water-level measurement. To help eliminate this source of error, wells that have obviously been affected by frost heave were not measured and the most recent available elevation survey was used to calculate water-table elevations. A few water-level measurements were outside the expected reasonable range for the well, possibly because of a measurement or recording error. These measurements, as noted in Appendix A, were not used in plotting elevation contours. Plotted elevation contours have been interpolated between available measurement data and extrapolated in areas where no measurements are available based on the assumption that aquifer hydraulic properties are relatively homogeneous. This assumption generally results in evenly spaced contours, except at areas of recharge or discharge. Contours that are uncertain have been plotted as a dashed line.

RESULTS

Monthly water-table contour maps for a one-year period are presented in Figures 1 through 12. The maps show the locations of water-level measurements used in constructing the water-table contours. Water-level measurements were also made in most other months during the period September 1991 to September 1993. All the available monthly water-level measurements are tabulated in Appendix A. Measurements were originally recorded in English units and converted to metric for plotting the water-table maps.

In addition to the manual water-level measurements, pressure transducers and data loggers were installed at selected wells to automatically record water levels. A description of the automatic water-level measurement system and results for the period September 1991 to August 1992 are provided in USAF

(1993). Figure 13 shows a comparison of water-level elevations recorded automatically at three wells over a period of about two years. Manual measurements at these wells are also shown. Data from the pressure transducers show seasonal variations in water-table elevation that are also reflected on the water-table maps. Water-table elevations increased during the snow-melt period each spring, peaking during late May of 1992 and early May of 1993. Water levels generally declined through the summer and fall, although smaller peaks associated with rainfall events were observed. However, from the beginning of August 1993 until the last available measurement on September 24, 1993, the water table was rising, probably because of infiltration from rainfall. During the winter months, water levels generally increased slightly. The increase during winter is attributed to the freezing of stream channels, which prevents ground-water from effectively draining. However, some ground water discharges to the rivers and sloughs throughout the winter, as evidenced by the presence of overflow ice and stretches of open water in streams.

In addition to seasonal and precipitation related variations in the water table, water levels in some wells were affected by man-made influences such as the pumping of base water-supply wells and discharge to ponds. The effect of nearby pumping is clearly seen at Well 48M04 (Figure 13), which is located near a base water-supply well and the power plant cooling wells. Pumping of these supply wells causes changes in ground-water flow direction and gradient in the vicinity of the pumped well.

The aquifer is also influenced by Garrison slough and by discharge of water to the slough at the treatment-plant pond. Above the treatment plant pond, Garrison Slough has no source except local runoff and inflow of ground-water. Springs have also been observed along the slough at certain times of the year. Therefore, the slough is believed to be a discharge area for ground water and the water table maps have been drawn to reflect this interpretation. That is, elevation contours are distorted at the slough, indicating a lower water-table elevation immediately adjacent to the slough. The density of

water-level data near the slough is generally not great enough to show that this is actually the case. At the water treatment plant, excess water from the base water supply is discharged to the treatment plant pond, which is part of Garrison Slough. Water-level measurements at Source Area ST11, adjacent to the slough and immediately downstream from the treatment plant pond, indicate that the increased flow in the slough causes the slough to recharge the aquifer in this area during most of the year (USAF 1993). Water levels measured in wells near the slough were higher than the water level measured at the Central Avenue staff gage except during the spring peak in the water table elevation. However, this phenomenon is believed to occur for only a short distance downstream from the treatment plant pond.

REFERENCE

USAF. 1993. Automatic Water-Level Measurements, Eielson Air Force Base, Alaska, September 1991 - August 1992, U.S. Air Force Environmental Resoration Program, March 1993 Draft Report, Eielson Air Force Base, Alaska.

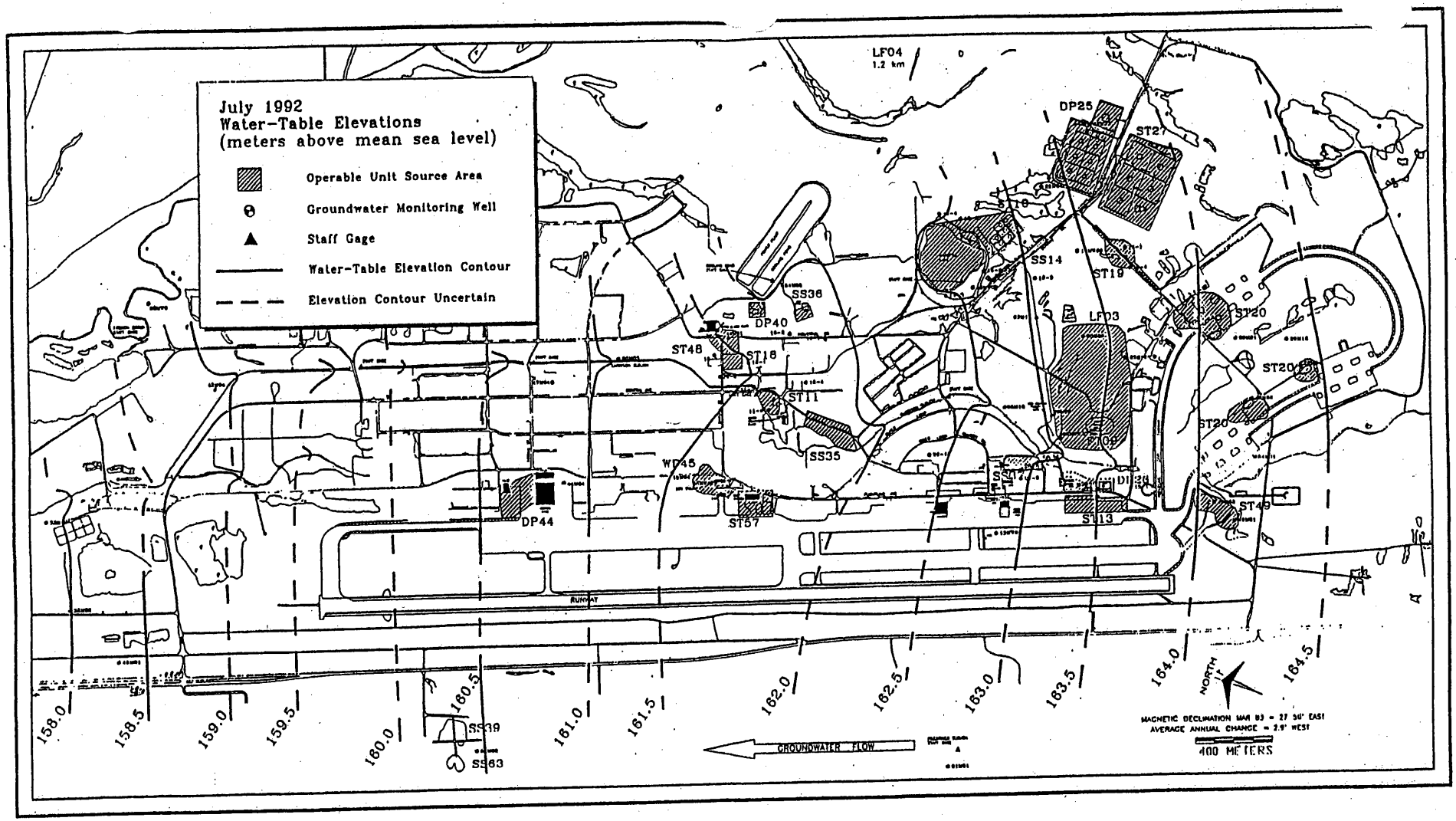


FIGURE 1. July 1992 Water-Table Elevations

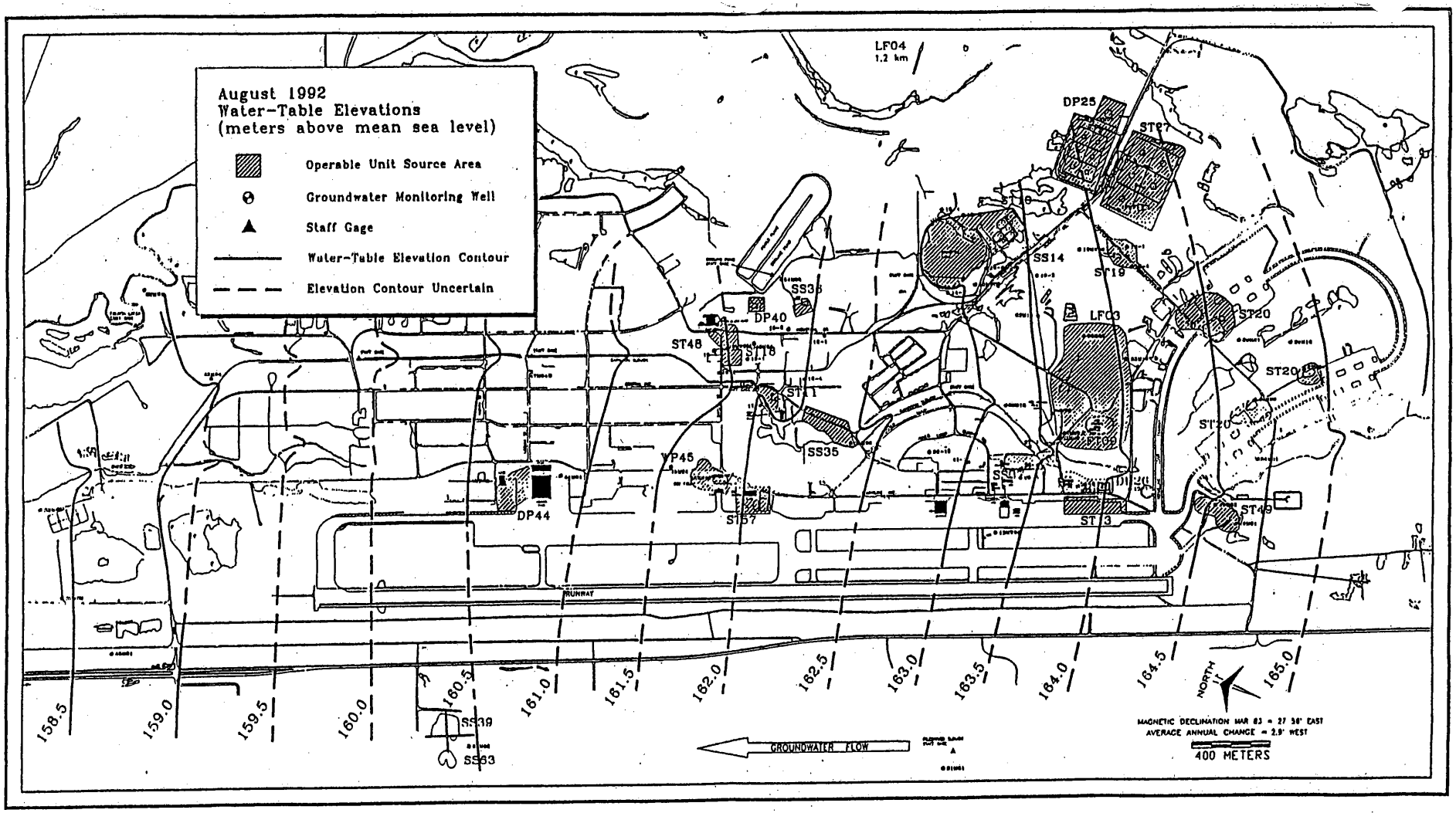


FIGURE 2. August 1992 Water-Table Elevations

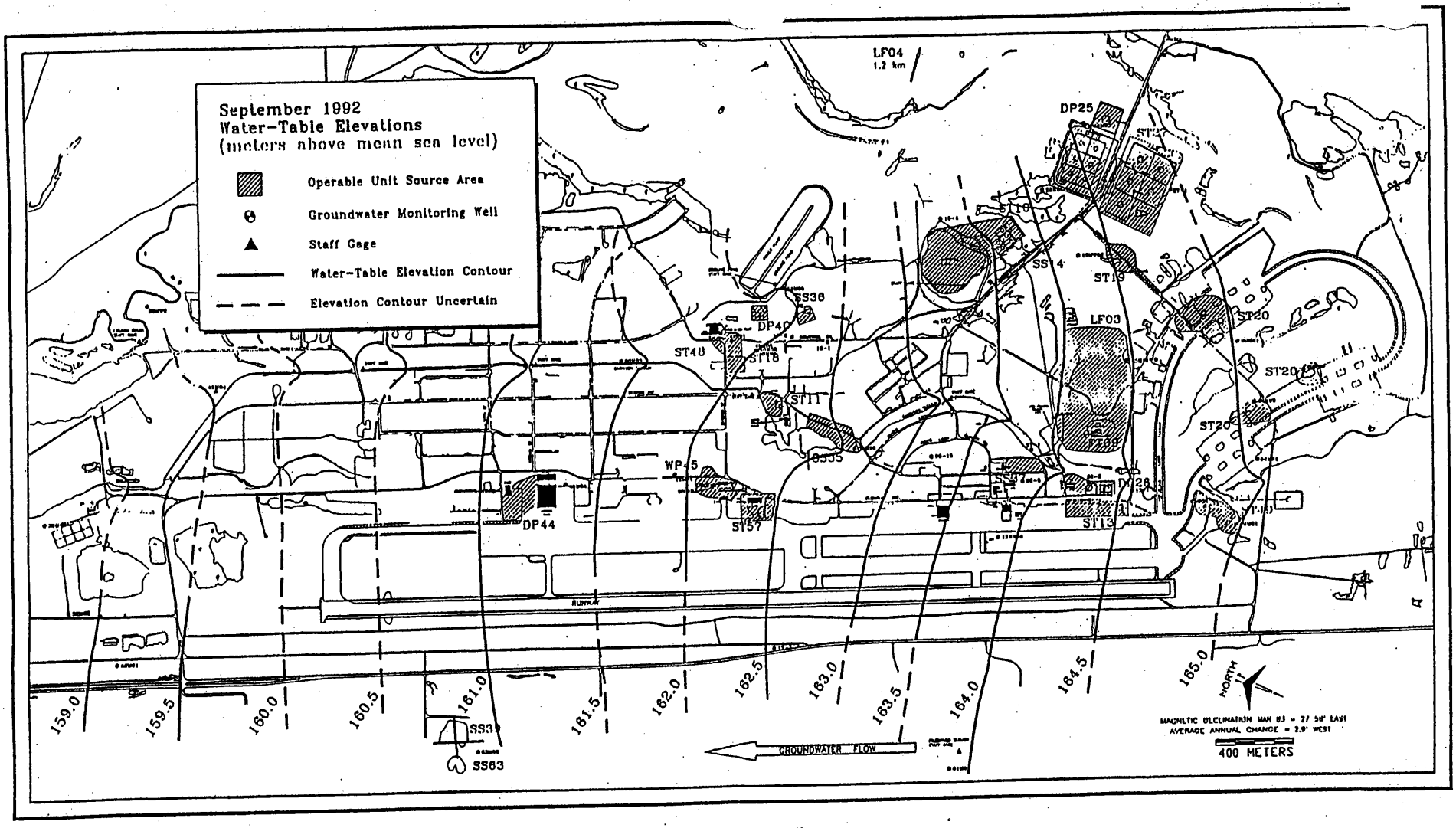


FIGURE 3. September 1992 Water-Table Elevations

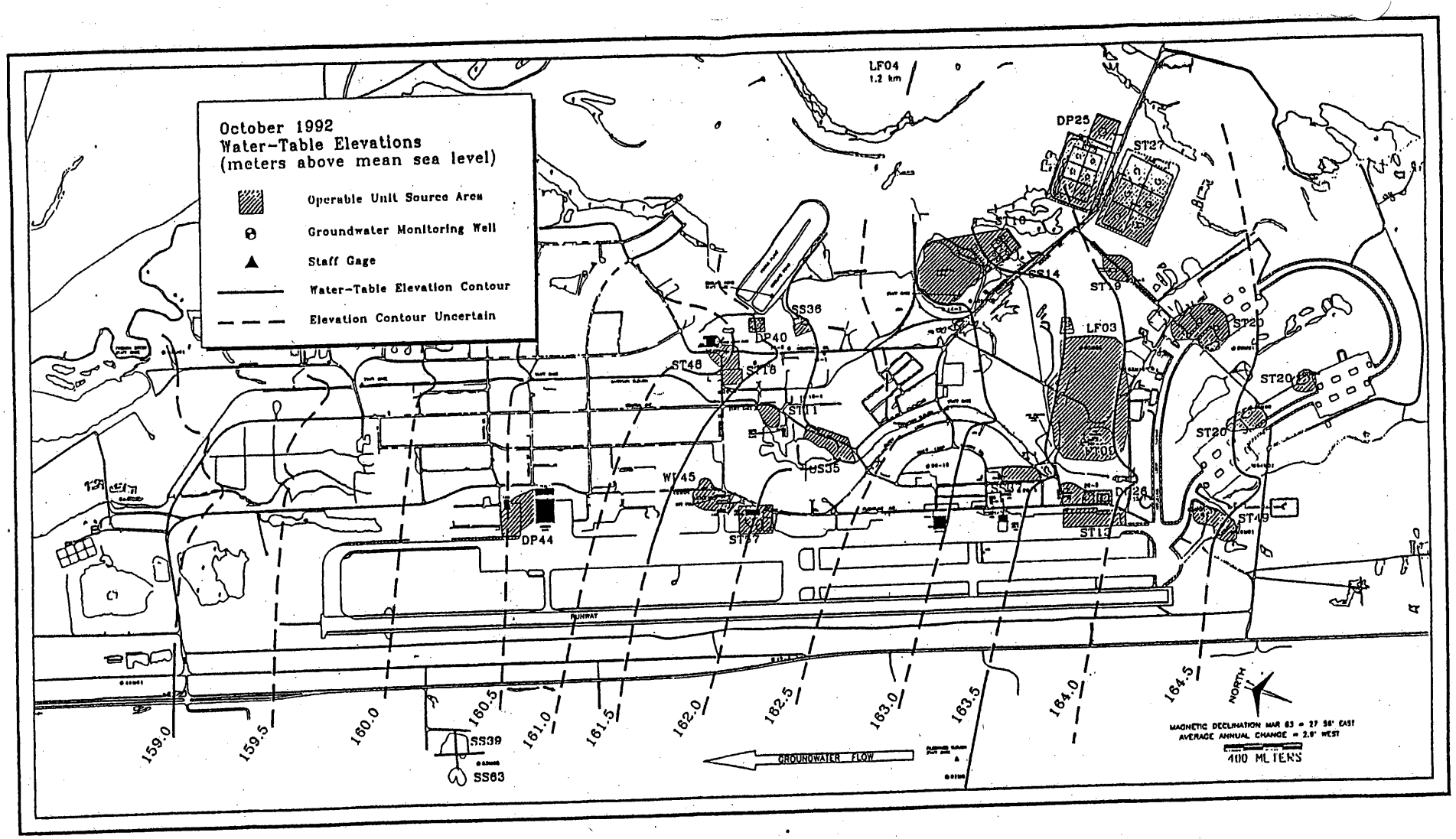


FIGURE 4. October 1992 Water-Level Elevations

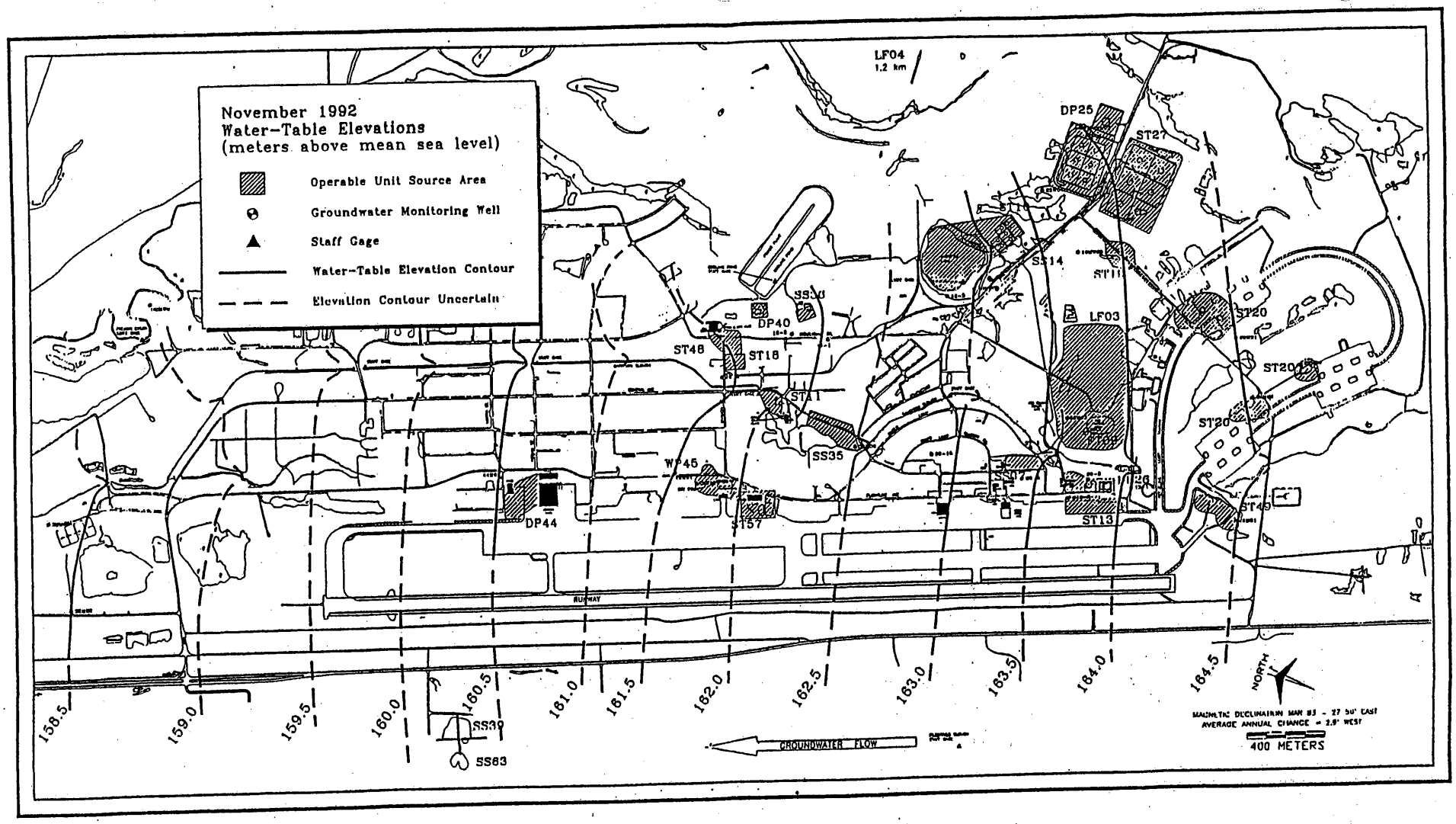


FIGURE 5. November 1992 Water-Level Elevations

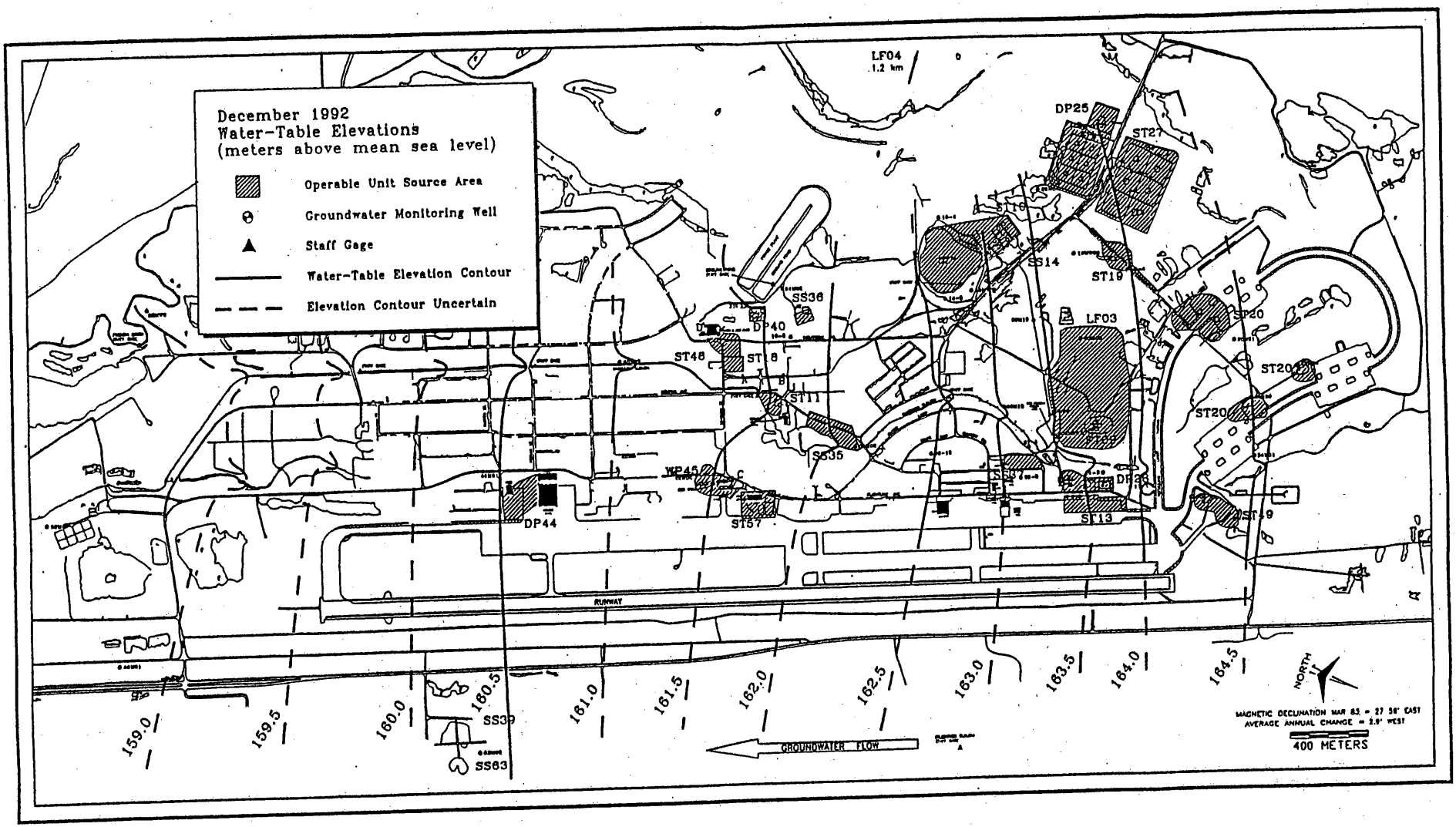


FIGURE 6. December 1992 Water-Level Elevations

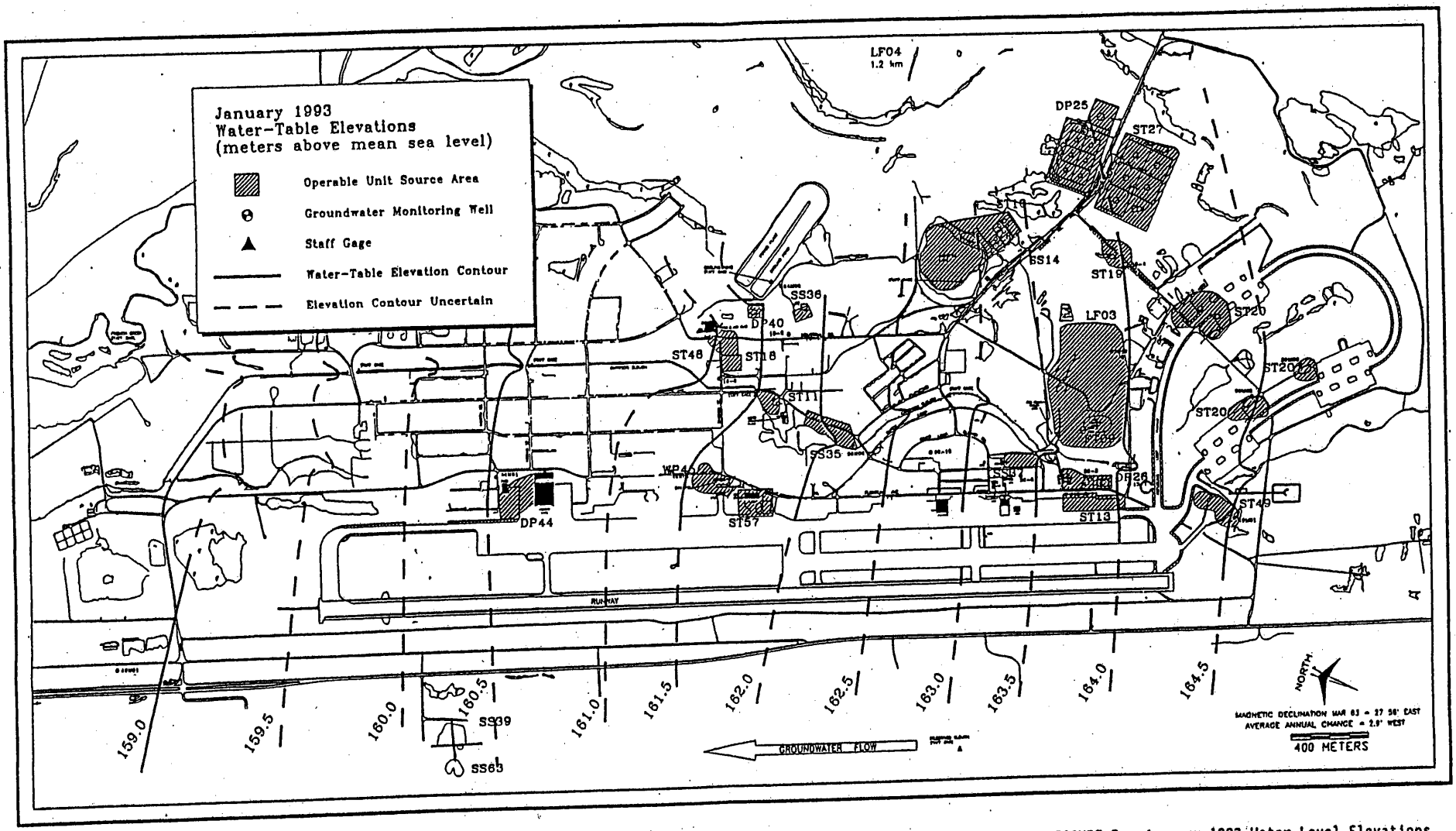


FIGURE 7. January 1993 Water-Level Elevations

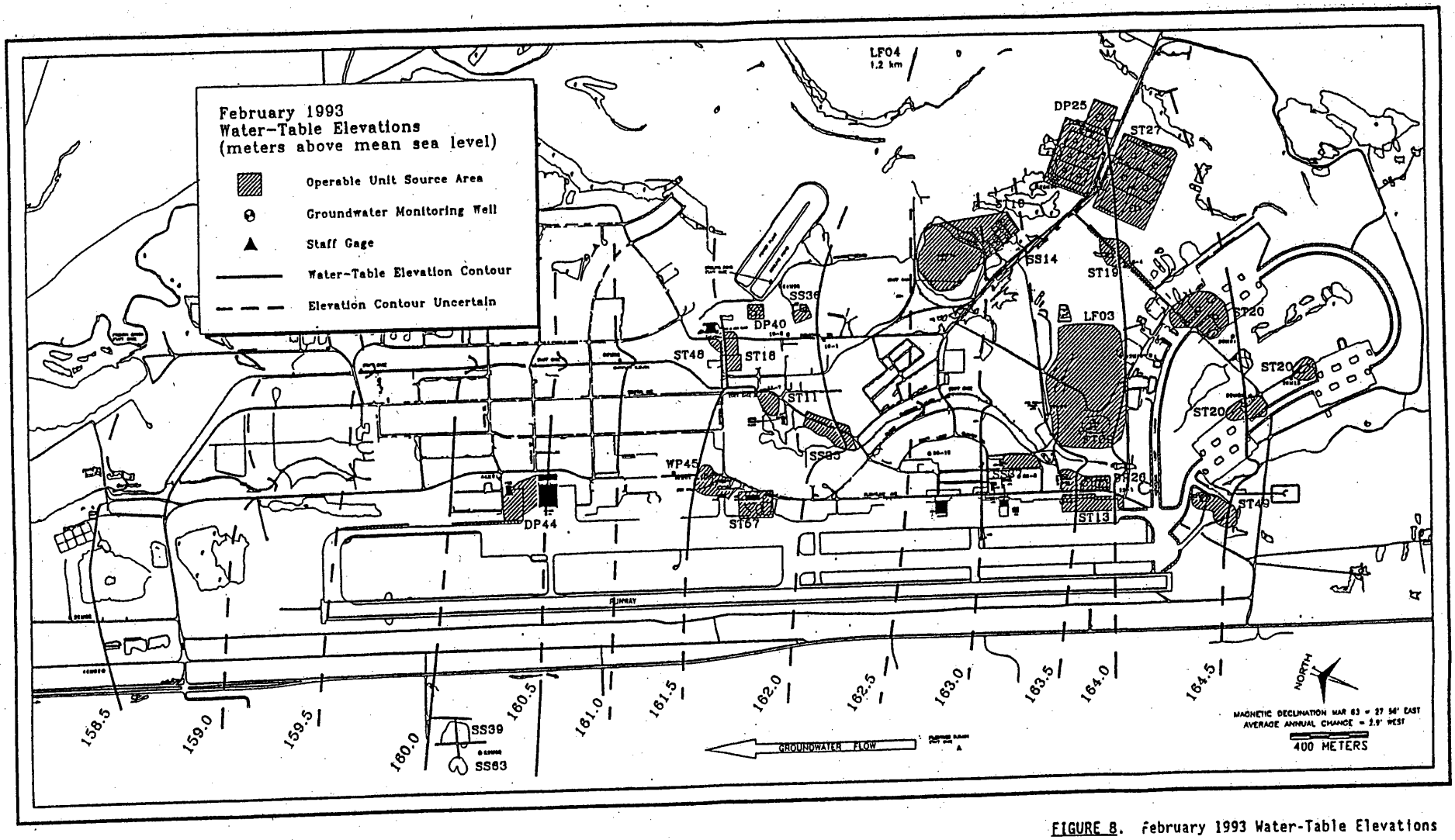


FIGURE 8. February 1993 Water-Table Elevations

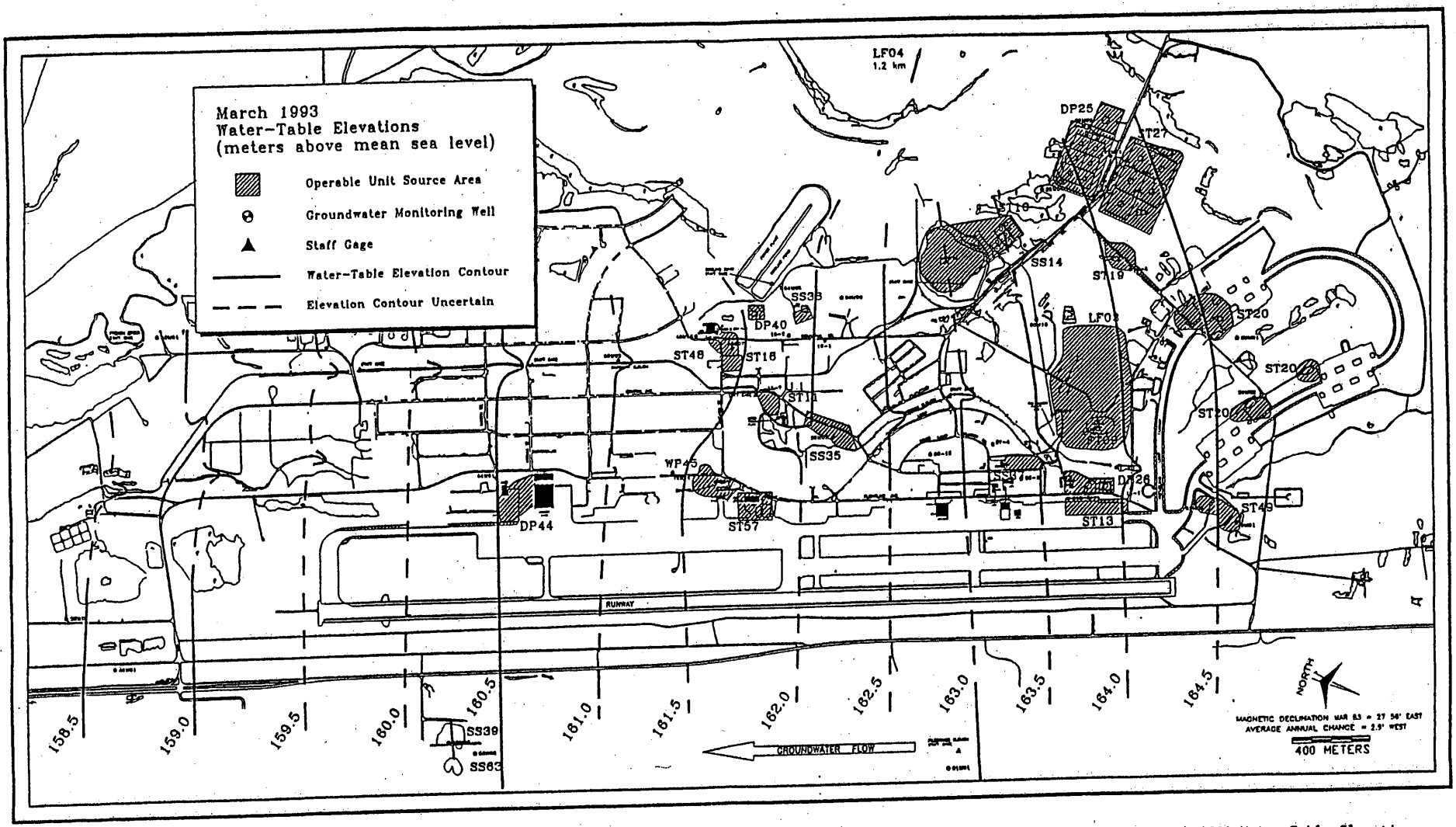


FIGURE 9. March 1993 Water-Table Elevations

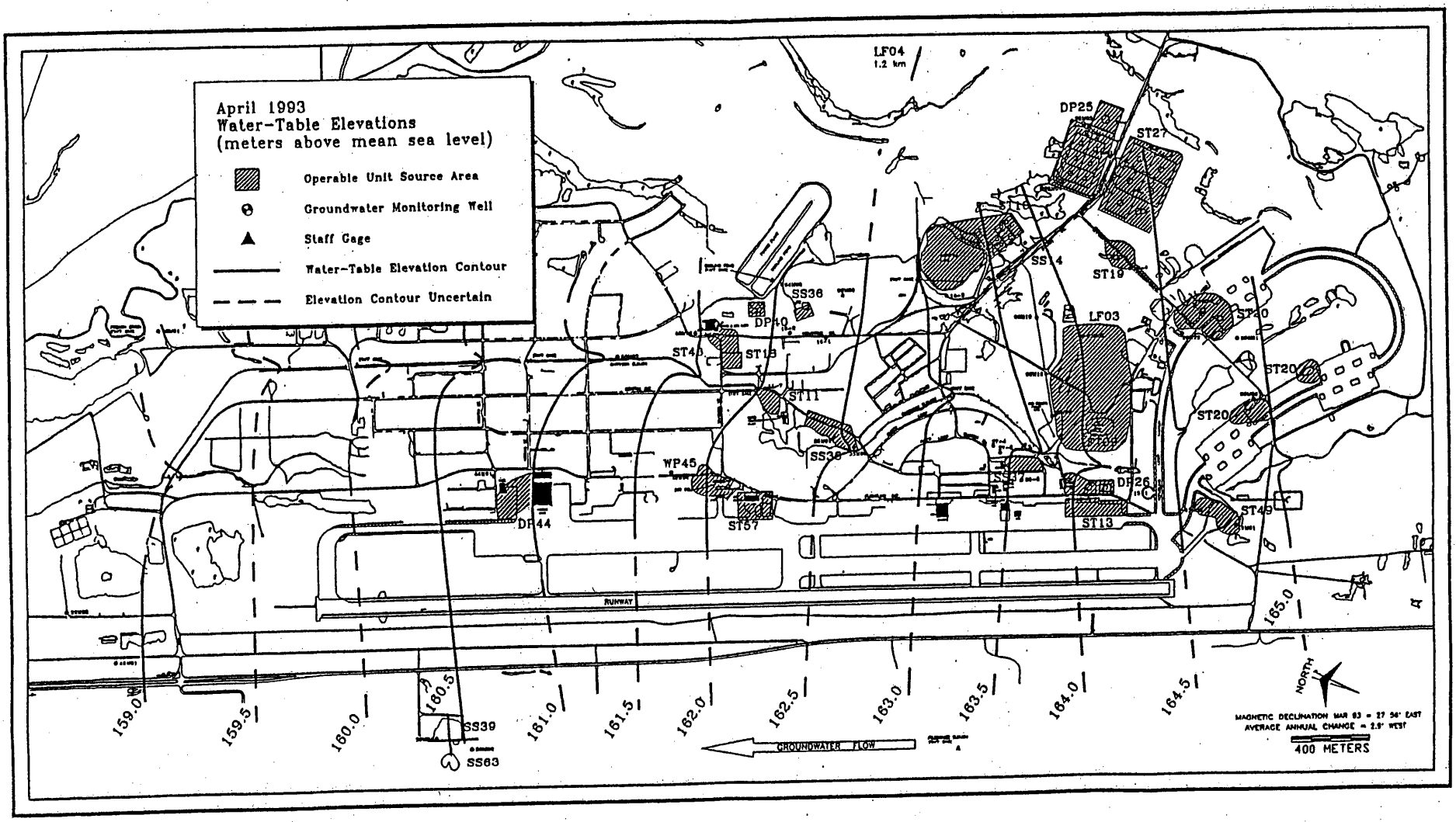


FIGURE 10. April 1993 Water-Table Elevations

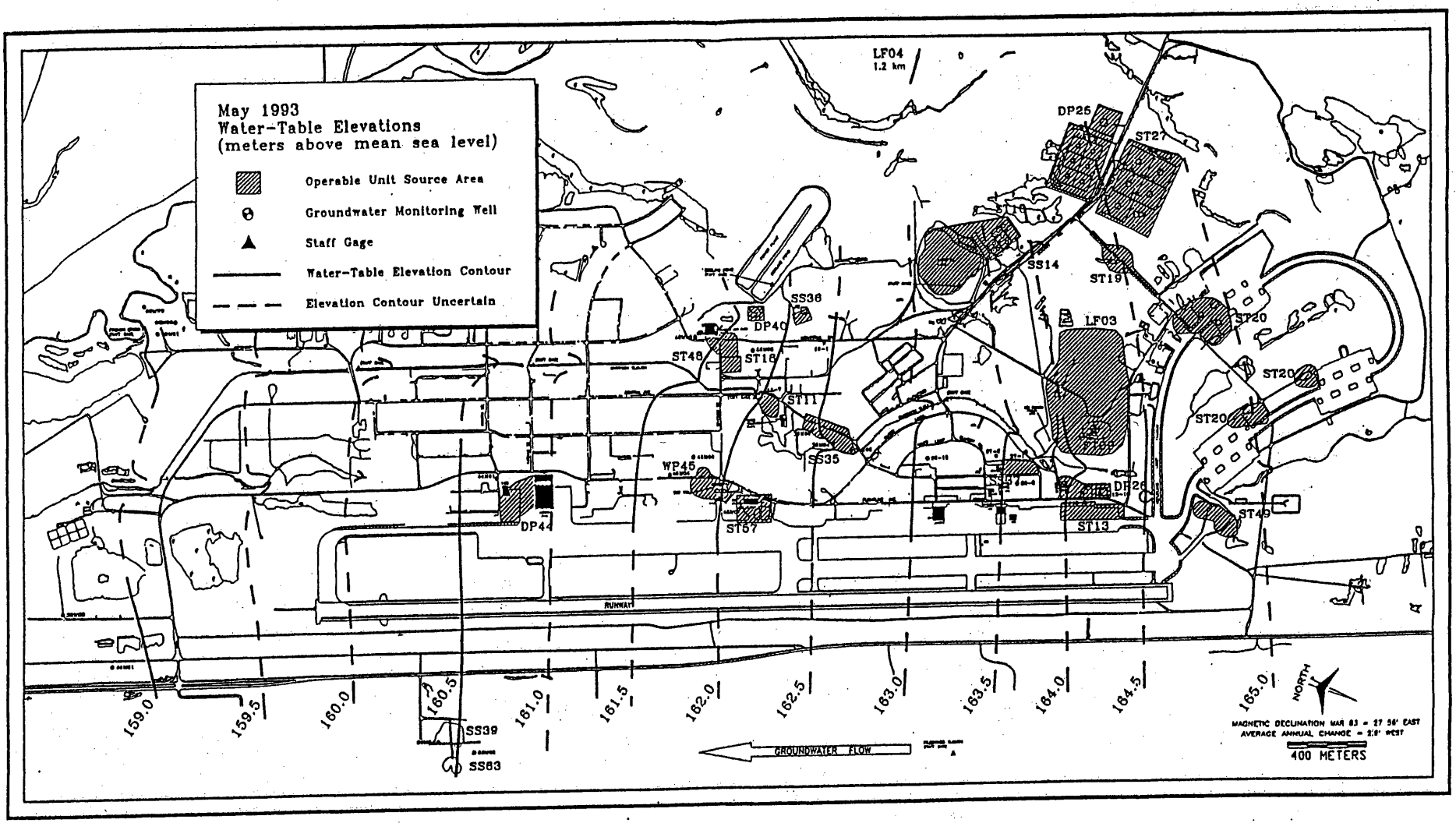


FIGURE 11. May 1993 Water-Table Elevations

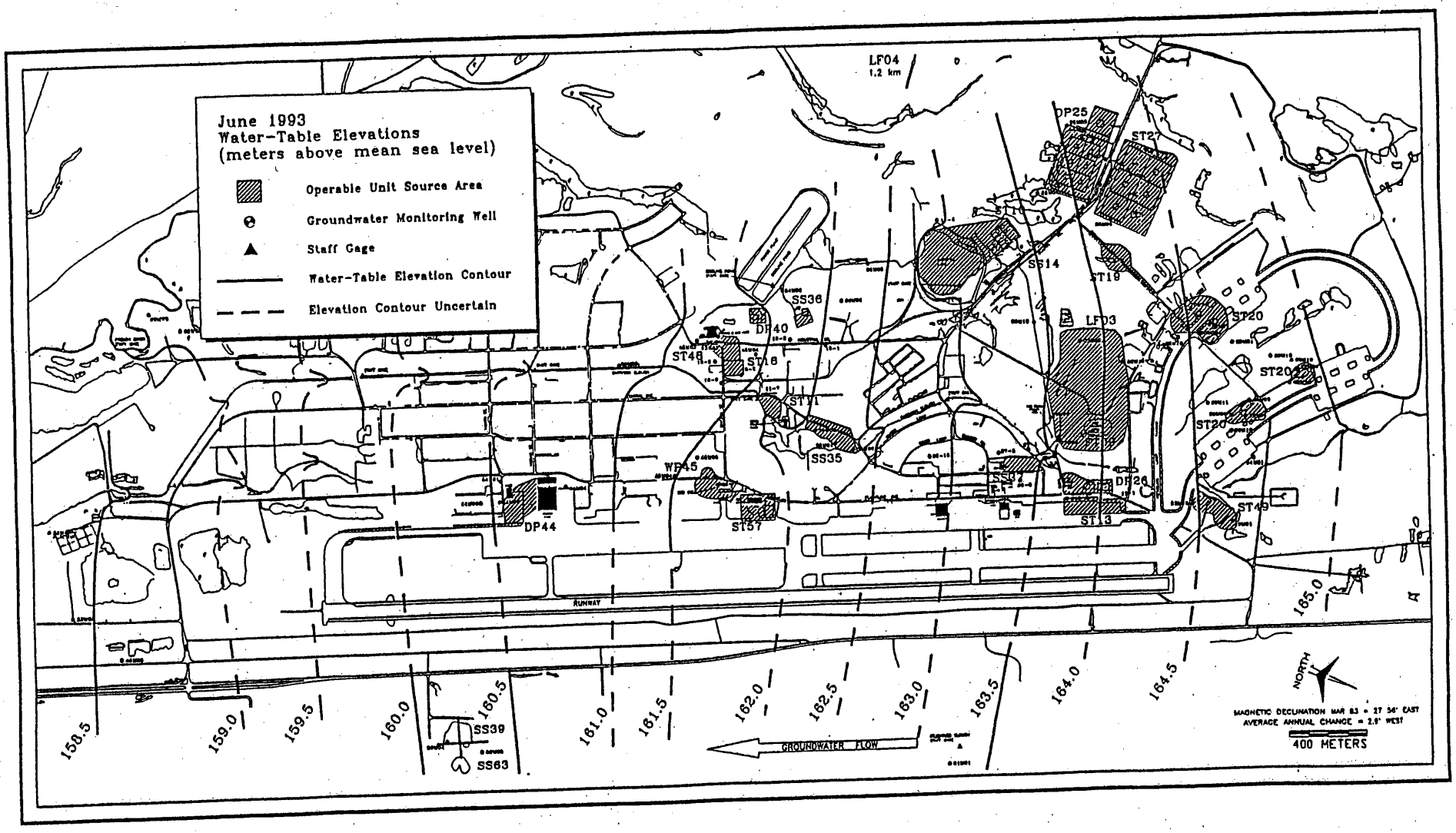


FIGURE 12. June 1993 Water-Level Elevations

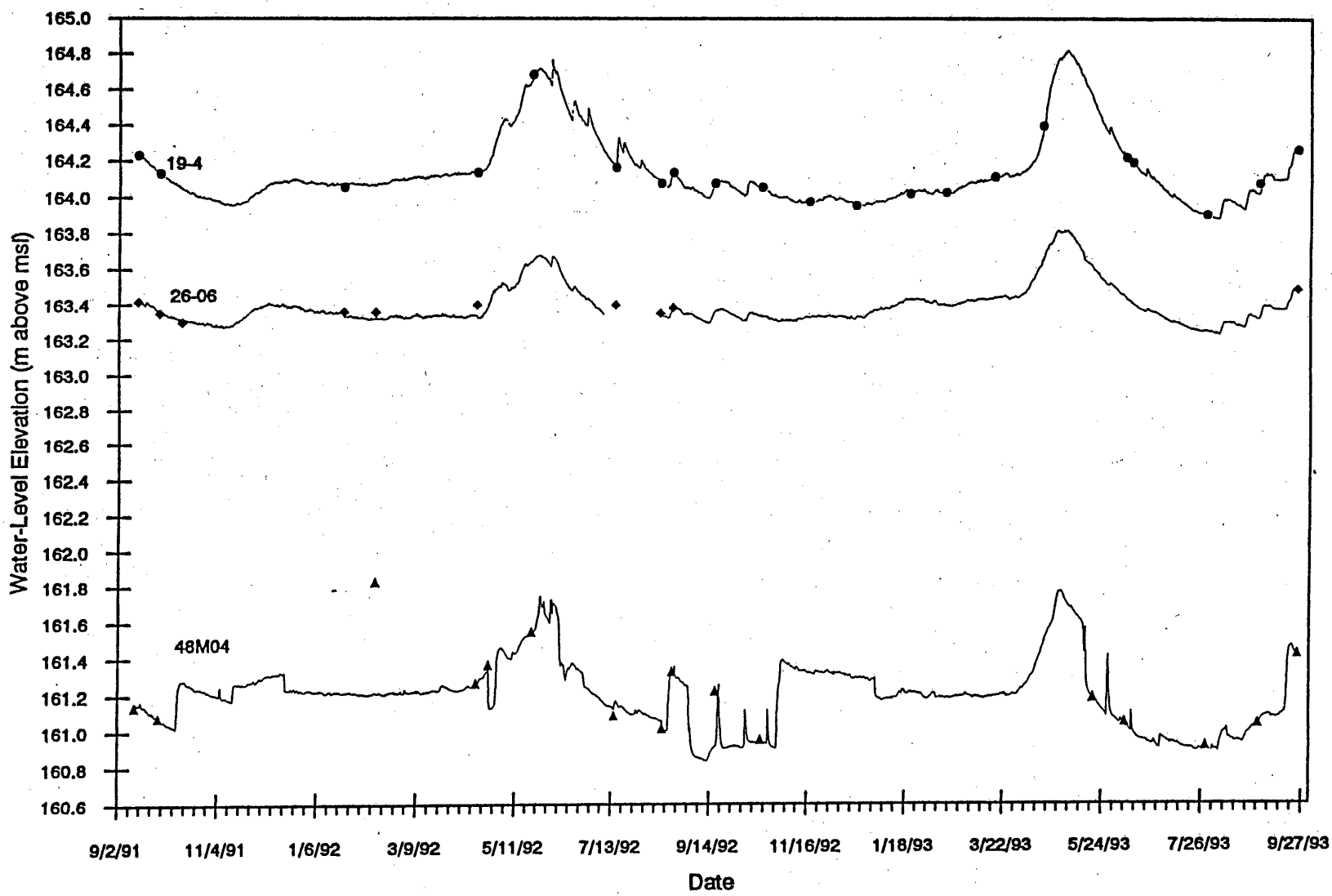


FIGURE 13. Automatically Recorded Water-Level Elevations and Periodic Manual Measururements at Three Wells.

APPENDIX B

ESTABLISHING VEGETATION

Establishing Vegetation

GRASS

1. Preferred Planting Season: 15 May to 1 August and winter dormant seeding, planting just before the ground freezes in the fall.

Acceptable Planting Season: 1-15 August. Planting between 1-15 August can only be justified if the seeded area is watered and the construction sites or disturbed areas needing revegetation were not available for planting before August. Although a light frost will not affect newly seeded grass, grass planted after 1 August can be damaged if prolonged hard freezing temperatures set in prior to 1 October. August planting must be dictated by fall weather conditions. Fertilizer applied to grass planted after 1 August should contain little or no nitrogen and a light application of phosphorus and potassium. High nitrogen levels in the spring encourage snow mold.

2. Recommended Grass Species

For lawn and field areas:

Kentucky bluegrass (*Poa pratensis*) - 'Nugget' or 'Park' varieties are preferred, but 'Common' from a northern grown seed source is acceptable

Creeping red fescue (*Festuca rubra*) - 'Arctared' variety is preferred, but 'Pennlawn' or 'Common' are acceptable varieties.

For Airfield Bird/Aircraft Strike Hazard Zone:

Smooth brome (*Bromus inermis*) - ‘Manchar’ or ‘Polar’ varieties

Creeping red fescue (*Festuca rubra*) - ‘Arctared’ variety is preferred, but ‘Pennlawn’ or ‘Common” are acceptable varieties.

For hillsides with erosion problems:

Creeping red fescue (*Festuca rubra*) - 'Arctared' variety is preferred, but 'Pennlawn' or 'Common' are acceptable varieties

Bering hairgrass (*Deschampsia beringensis*) - 'Norcoast' variety.

For wet areas:

Creeping foxtail (*Alopecurus arundinaceus*) - 'Garrison' variety (wet areas)

American sloughgrass (*Beckmannia syzignache*) - 'Egan' variety (very wet areas).

3. Seed Mixtures and Seeding Rate

Kentucky bluegrass/creeping red fescue (50/50 mix): 3.5 - 4.0 lbs/1,000 sq ft

Kentucky bluegrass: 2.5 - 3.0 lbs/1,000 sq ft (unshaded areas)

Creeping red fescue: 3.5 - 4.0 lbs/1,000 sq ft (shaded, acid, erosion, or drought areas)

Smooth brome/creeping red fescue (50/50 mix): 2.3 lbs/1000 sq ft, use .3 lbs of smooth brome with 2.0 lbs of creeping red fescue (Bird/Aircraft Strike Hazard Zone)

Bering hairgrass: 0.4 lbs/1,000 sq ft (erosion areas)

Creeping foxtail: 0.2 lbs/1,000 sq ft (wet areas)

American sloughgrass: 0.2 lbs/1,000 sq ft (very wet areas).

Nurse or Protective Crop - Perennial ryegrass (*Lolium perenne*) or Annual ryegrass (*Lolium multiflorum*) may be used as a nurse or protective crop for the recommended grass species. Ryegrass shall be no more than 20 percent of the seed mixture.

4. Fertilizer

Formula: 20-20-10S.
Rate: 300 pounds per acre or 3/4 pound per 100 square feet.
Time: Prior to seeding.
Method of Application: Hand (small areas) spreader (large areas).

5. Water

Newly seeded areas must be kept moist. Moist conditions are critical for proper germination. If precipitation does not occur frequently enough to keep the seed bed moist, water must be applied. Watering should stop when runoff begins.

6. Mowing

The first mowing should be delayed until the grass is 3 to 4 inches tall.

7. Length of Maintenance Period

Eight weeks for all types of grass.

TREES AND SHRUBS

1. Planting Seasons and Requirements:

Trees and shrubs will be transplanted from forested areas only when they are dormant. The preferred transplanting season is after a fall killing frost. Trees and shrubs can usually be transplanted from 15-20 September to freeze-up. Trees can also be transplanted in the spring (approximately 1-15 May) before the leaves are more than one-fourth open. The spring transplanting season is less desirable as the ground may be partially frozen, especially in heavily shaded or wooded areas. Balled and burlaped, containerized, and bareroot nursery stock can be planted when the ground is not frozen. Planting berry or fruit producing trees, shrubs, or hedges is prohibited in the vicinity of the airfield (between Flightline Avenue and the Richardson Highway, and in the loop area).

2. Recommended Tree Species

White spruce	*Picea glauca*
Paper birch	*Betula papyrifera*
Chokecherry	*Prunus virginiana*
Shubert chokecherry	*Prunus virginiana 'Shubert'*
Amur chokecherry	*Prunus maackii*
European birdcherry (mayday tree)	*Prunus padus*
Siberian crabapple	*Malus baccata*
Quaking aspen	*Populus tremuloides*
Lodgepole pine	*Pinus contorta var. latifolia*
Scotch pine	*Pinus sylvestris*

3. Recommended Shrub Species

Tatarian honeysuckle	*Lonicera tatarica*
Sweetberry honeysuckle	*Lonicera caerulea edulis*
Late lilac	*Syringa villosa*
False spirea	*Sorbaria sorbifolia*
Peking cotoneaster	*Cotoneaster acutifolia*
Saskatoon (serviceberry)	*Amelanchier alnifolia*
Red osier dogwood	*Cornus stolonifera*
Silverberry	*Elaeagnus commutata*
Potentilla	*Potentilla fruticosa*
Red currant	*Ribes triste*
Black currant	*Ribes nigrum*
Common juniper	*Juniperus communis*
Creeping juniper	*Juniperus horizontalis*
Siberian pea shrub	*Caragana arborescens* (for hedges)

Tree and shrub stock should be locally grown, within about 100 miles of Fairbanks, or from local seed stock. In some cases material from the same latitude is acceptable if local material is not

available. Stock from Delta Junction and Nenana are acceptable, but the photoperiod and winter temperatures South of these locations are different enough to cause concern. If local seed has been sent to nurseries outside of the local area the plant materials should still be locally adapted and could be acceptable. Any deviations must be approved by Natural/Cultural Resources in writing. All nursery stock shall be healthy and free from disease, insect pests, mold, and fungus. The minimum recommended sizes and planting distances for trees and shrubs are shown in Table 8-13 and Table 8-14.

Table 8-13. Minimum Ball Diameters.

Height of Plant (feet)	Tree Diameter 1 Foot Above Ground (inches)	Diameter of Ball (inches)
Trees*		
0 - 4	1	24
5 - 8	1-2	30
8 - 12	2-3	36
Shrubs		
0 - 3	N/A	12
4 - 6	N/A	18
7 - 9	N/A	24
10 - 12	N/A	30

Note: *If tree height and stem diameter are in different ball size classes the larger root ball is required.

Table 8-14. Minimum Planting Distances for Trees and Shrubs.

From	Cantonment Area		Base Housing	
	Trees	Shrubs	Trees	Shrubs
Other Trees/Other Shrubs	20	15	10	10
Clumps of Trees/Clumps of Shrubs	20	15	10	10
Buildings	10	6	8	6
Street	25	25	8	8
Sidewalk and Utilidors	6	6	6	6
Power Lines	20	15	8	8

Notes: 1. When group or clump planting, the minimum distance from other trees/shrubs does not apply.

2. Do not plant trees/shrubs where they will interfere with the line of sight at a street intersection or with snow removal.

4. Watering

Transplanted trees or shrubs should be watered once weekly, soaking the ground thoroughly except during periods of adequate rainfall during the first year of growth. Trees and shrubs should be watered during the growing season only, from leafing out in the spring until their leaves turn in the fall.

5. Guarantee (if required)

Growth will be guaranteed for 1-year after planting.

APPENDIX C

EIELSON AFB EXAMPLE OUTLINE FOR THE CONSTRUCTION PROJECT ENVIRONMENTAL PROTECTION PLAN/BORROW PIT PLAN

EXAMPLE OUTLINE FOR CONSTRUCTION PROJECT

ENVIRONMENTAL PROTECTION/BORROW PIT PLAN

Eielson Air Force Base, Alaska

This outline is supplied for reference and/or guidance in drafting the Environmental Protection/Borrow Pit Plan required for contractors awarded construction projects on Eielson AFB, Alaska. If you follow this outline adequately addressing all items that pertain to your project, you should have no problem in getting your plan approved.

EXAMPLE

Date: Current date

ENVIRONMENTAL PROTECTION/BORROW PIT PLAN FOR
(project number and title)

Submitted by: (Company Name and Address) EXAMPLE:
John Doe Construction
P.O. Box 98765
Fairbanks, Alaska 99701

1. **DISPOSAL OF CONSTRUCTION WASTES** (use of on-base and off-base disposal sites, discuss each waste individually and **include only applicable wastes**).

a. **DESCRIBE DISPOSAL OF CONCRETE, ROCK, GRAVEL OR CLEAN SOIL IN FLIGHTLINE SWAMP. EXAMPLE:** Concrete and concrete block free from lead-based paint or oil based water proofing or mastic and all other construction debris shall be disposed of in the Concrete Disposal Cell of the Flightline Swamp. All dumping shall be as close to the disposal area as possible. Each week the Flightline Swamp is used, John Doe Construction shall push the waste into the disposal area with a dozer to match the surrounding terrain by close of business Friday.

b. **DESCRIBE DISPOSAL OF ASPHALT. EXAMPLE:** Asphalt shall be disposed of at the base recyclable asphalt stockpile. All loads shall be no less than 90 percent bituminous concrete and no more than 10 percent gravel, sand, or soil. All dumping shall be within the staked boundaries of the stockpile. John Doe Construction shall have the necessary equipment to place/stack the asphalt within the boundary or on top of the stockpile.

c. **DESCRIBE REMOVAL AND DISPOSAL OF TREES. EXAMPLE:** Trees shall be removed by (1) hydro-axing, dozing, and hauling from project site, (2) dozing and hauling from project site, (3) cutting and stockpiling trees with commercial value at a designated site, dozing remaining vegetation, and hauling from project site, (4) etc. Trees shall be disposed of at the location (Name Location) designated by Waste Disposal/Borrow Pit Coordination Review. Each week the tree disposal location identified by the project Waste Disposal/Borrow Pit Coordination Review is used, John Doe Construction shall push the waste into the disposal area with a dozer to match the surrounding terrain by close of business Friday.

d. **DESCRIBE DISPOSAL OF ASBESTOS. EXAMPLE:** Disposal location depends on removal procedure. If John Doe Construction removes asbestos from facilities, the asbestos can be disposed of at the base asbestos landfill. If John Doe Construction demolishes a facility containing asbestos, the whole facility becomes asbestos containing material (ACM) and must be disposed of at the asbestos cell of the Fairbanks North Star Borough landfill. NOTE: An entire demolished facility as ACM is not accepted at the base asbestos landfill. Company or authorized agent shall request entry to the landfill by notifying the Eielson Insulation Shop during normal duty hours. Waste shall be placed in leak proof drums, barrels, or double six mil plastic bags or wrapping with proper identification markings. Company representative shall provide written record of all materials to be landfilled. This record shall include cubic yards of material, number of containers, whether material is friable or nonfriable, specific location where materials were removed from, name of company, contract number, phone number, and mailing address. Specific asbestos removal and handling procedures, respiratory protection, certification of personnel, and required permits and agency notifications are provided in the Asbestos Abatement Plan which shall be submitted to the Contracting Officer NLT 20 days prior to starting asbestos abatement work. State that the EPA Notification for Demolition and Renovation required to be submitted 10 days prior to beginning work will be submitted to EPA by John Doe Construction.

e. **DESCRIBE DISPOSAL OF ALL NON-HAZARDOUS CONSTRUCTION WASTES THAT CANNOT BE DISPOSED OF ON EIELSON. LIST DISPOSAL SITE. EXAMPLE:** All construction wastes that can not be disposed of at on-base sites shall be taken to the Fairbanks North Star Borough landfill. All loads going to the landfill shall be covered and tightly secured.

f. **DESCRIBE DISPOSAL OF HAZARDOUS WASTES. EXAMPLE:** List the type of hazardous waste(s) to be generated, estimated quantities, procedures you will use to turn wastes into the Eielson Hazardous Waste Facility, and attach material safety data sheets. Address in this section or an attached Hazardous Wastes Disposal Plan the following:

(1) Brief description of your handling and storage procedures (containers used, marking, etc.).

(2) Sketch of your satellite accumulation (SAP) point including container layout, fire protection equipment, security measures, and available spill clean-up materials.

(3) Planned accumulation times. Quantity can not exceed a total of 55 gallons of hazardous waste at any time.

(4) Name, phone number, and experience resume of the emergency coordination/accumulation point managers. Each SAP must have a primary and alternate monitor.

(5) Spill notification and clean-up procedures. Materials and equipment on hand for such purpose.

(6) Training supplied to personnel that will be handling materials.

PLEASE NOTE: The Hazardous Wastes Disposal Plan and a written hazardous communication plan (29 CFR 1919.1200) must be submitted to the Contracting Officer.

g. **HAZARDOUS MATERIAL INVENTORY:** Contractor must submit an inventory of all hazardous materials to be used to include quantities. Inventory must be updated at completion of the project to indicate quantities used, spilled, and disposed of, etc.

h. **DESCRIBE DISPOSAL OF CONTAMINATED SOIL EXISTING ON PROJECT SITE. EXAMPLE:** John Doe Construction shall have the necessary equipment, personnel and plans to monitor for possible contaminated soil (if required by contract). Plans for the stockpiling, sampling, removal, and disposal of contaminated soil must be submitted to the government for review, but do not need to be attached to this plan.

i. **DESCRIBE DISPOSAL OF CLEAN FILL FROM PROJECT SITE. EXAMPLE:** Clean fill from excavating the project site shall be disposed of at the site(s) (name them) designated in the Waste Disposal/Borrow Pit Coordination Review. State what is to be done with the clean fill at each disposal site. John Doe Construction shall (1) dump the clean fill, (2) dump the clean fill spreading it in an even manner over the disposal area, (3) have the necessary equipment to blade the clean fill to blend with the existing terrain, (4) grade and roll the clean fill, (5) blade and shape the clean fill (6) etc. (as required by Waste Disposal/Borrow Pit Coordination Review).

2

j. **DESCRIBE GENERAL WASTE DISPOSAL OPERATING PROCEDURES. EXAMPLE:**

(1) John Doe Construction shall coordinate the use of all waste disposal areas with the individual (Name Individual) from the 354th Civil Engineer Squadron Contract Engineering Flight monitoring the contract in a timely manner prior to any desired access.

(2) The attached Haul Route Map shows the routes to be used by John Doe Construction.

(3) Watering for dust control on the haul route(s) shall be done by John Doe Construction as necessary or as requested by the Air Force.

(4) All objects that are inadvertently blown from our trucks shall be picked up as it is discovered or as requested by the Air Force.

2. **USE OF BASE BORROW PITS AND REQUIRED PIT DEVELOPMENT** (discuss each borrow pit and required pit development individually).

a. **GRAVEL.**

(1) **STATE WHAT PIT WILL BE USED. EXAMPLE:** Mullins Pit, Bear Lake, or Cathers Lake (as designated on Waste Disposal/Borrow Pit Coordination Review) shall be used to obtain 10,000 cubic yards of material. The gravel shall be extracted by dragline in accordance with the Eielson Waste Disposal and Borrow Pit Areas Plan.

(2) **DESCRIBE ANY REQUIRED PIT DEVELOPMENT. EXAMPLE:** John Doe Construction shall (1) strip 5 acres of pit overburden, (2) develop 500 feet of shoreline providing a minimum of 20 foot wide zones with a depth equal to or less than three feet (3) construct 1000 feet of 20 foot wide four high diking at the perimeter of the pit, (4) shall spread overburden into the edges of the pit providing a minimum of 20 foot wide zones with a depth equal to or less than three feet (5) etc. (as required by Waste Disposal/Borrow Pit Coordination Review).

b. **TOPSOIL.**

(1) **STATE WHAT PIT WILL BE USED. EXAMPLE:** Cathers Lake or Mullins Pit (as designated on Waste Disposal/Borrow Pit Coordination Review) shall be used to obtain 500 cubic yards of material. The contractor shall coordinate with 354 CES/CEVN (377-5182) prior to removing topsoil from Cathers Lake or Mullins Pit for instruction, location(s) and direction. The topsoil has been pushed into stockpiles. The topsoil will require screening. The screened topsoil shall be free from trees, roots, and rocks one inches in diameter or larger. The contractor shall dispose of all screening debris as directed by 354 CES/CEVN. The contractor shall have the necessary equipment to screen and remove the topsoil as directed by CEVN.

(2) **DESCRIBE ANY REQUIRED PIT DEVELOPMENT. EXAMPLE:** John Doe Construction shall (1) strip .5 acres of pit overburden, (2) develop 100 feet of shoreline providing a minimum of 20 foot wide zones with a depth equal to or less than three feet (3) construct 100 feet of pit haul road. Road will be excavated two feet deep, receive a two foot gravel lift, and have a top surface that is 30 feet wide. (4) shall spread overburden into the edges of the pit providing a minimum of 20 foot wide zones with a depth equal to or less than three feet (5) etc. (as required by Waste Disposal/Borrow Pit Coordination Review).

3

c. **DESCRIBE GENERAL BORROW PIT OPERATING PROCEDURES. EXAMPLE:**

(1) John Doe Construction shall coordinate the use of all borrow pits with the individual (Name Individual) from the 354th Civil Engineer Squadron Contract Engineering Flight monitoring the contract in a timely manner prior to any desired access.

(2) The attached Haul Route Map shows the routes to be used by John Doe Construction.

(3) Watering for dust control on the haul route(s) shall be done by John Doe Construction as necessary or as requested by the Air Force.

(4) Gravel or topsoil spillage on paved streets shall be removed with a street sweeper by John Doe Construction as necessary or as requested by the Air Force. Rocks shall not be swept onto the maintained grass areas on base.

(5) Stockpiles shall be marked with the signage required by the Eielson Waste Disposal and Borrow Pit Areas Plan.

3. **DESCRIBE PROTECTION OF LAND RESOURCES. EXAMPLE:**

a. Areas within the project boundaries shall be disturbed only as required to accomplish project work.

b. Trees and shrubs within the project area shall be protected by barricades or fencing. Trees and shrubs shall not be cut or removed without authorization from Eielson Natural Resources. Any damaged or destroyed trees or shrubs shall be replaced by John Doe Construction at no cost to the Government.

c. Care shall be taken not to destroy any maintained grassed areas (lawns) in the project site and any areas destroyed shall be repaired or replanted.

4. **DESCRIBE USE OF PETROLEUM PRODUCTS. EXAMPLE:** State if petroleum products are to be stored on site. If petroleum products are to be stored on site identify the products, their maximum quantities, and spill prevention controls. Outline a contingency plan to handle spills. List spill response equipment that shall be stored on site to be used in case of a spill. State that John Doe Construction will notify Eielson Environmental Management (377-7745) of all spills.

5. **DESCRIBE DISPOSAL OF SANITARY WASTES. EXAMPLE:**

a. A portable toilet shall be kept on the job site.

b. All sanitary wastes shall be removed from base and disposed of by a local firm (name) specializing in sanitary waste collection.

6. **DESCRIBE TRAINING FOR EMPLOYEES.** State how each employee shall be trained on all elements of this plan.

John Doe
President/Superintendent/Engineer
John Doe Construction

Attachments (as applicable)
1. Hazardous Waste Disposal Plan
2. Haul Route Map

APPENDIX D

EIELSON AFB WASTE DISPOSAL AND BORROW PIT PLAN

PRELIMINARY
EIELSON AFB WASTE DISPOSAL AND BORROW PIT AREAS PLAN FOR FTQW 06-3015 REPAIR UTILIDORS, PHASE IV DESIGN/BUILD PROJECT

Table of Contents

REQUIREMENTS FOR DESIGN/BUILD CONTRACTOR

1. The design/build contractor shall submit an Eielson AFB Waste Disposal/Borrow Pit Coordination Review (see Appendix A) to Natural Resources no later than the 35 percent completion review of this project.

2. To authorize use of the base waste disposal sites and borrow pits the Eielson AFB Waste Disposal/Borrow Pit Coordination Review shall be signed by all reviewers listed at the bottom of page 5 of the review.

3. Natural Resources will prepare a final Eielson AFB Waste Disposal/Borrow Pit Areas Plan for the design/build project using the processed (approved) Eielson AFB Waste Disposal/Borrow Pit Coordination Review. The final plan may differ from and supercedes the preliminary plan. The design/build contractor shall comply with the final plan.

WASTE DISPOSAL

On-Base Solid Waste Disposal Sites:

1. Flightline Swamp off Flightline Avenue (see Appendix B).

a. Acceptable fill - Only concrete, rock, gravel, trees/brush and soil mixture, and clean soil (uncontaminated) are acceptable fill for the Flightline Swamp. Dumping at the Flightline Swamp is controlled and permission shall be obtained from 354 CES/CECB (377-5159).

b. There is a cell for concrete disposal and a cell for trees/brush disposal. The contractor shall coordinate with 354 CES/CEVN (377-5182) prior to taking either concrete or trees/brush and soil mixture to the Flightline Swamp for proper placement and direction.

c. All loads of trees/brush dumped at the vegetation disposal cell shall be no less than seventy percent trees/brush and stumps and no more than thirty percent soil.

d. The concrete disposed of at the Flightline Swamp shall be no higher than one foot above the water line. All clean fill more than one foot above the water line shall be free from concrete and trees and roots two inches in diameter or larger.

e. Access to the Flightline Swamp will be from Flightline Avenue using the access road at the south end of the swamp (see Appendix B).

f. All dumping will be as close to the location being filled as possible.

g. Each week the disposal area is used, the contractor shall push the waste into the disposal area with a dozer to match the surrounding terrain by close of business each Friday.

2. Recyclable Asphalt Stockpile off Quarry Road (see Appendix B).

a. Acceptable waste - Recyclable asphalt only. Recyclable asphalt is defined as being no less than ninety percent bituminous concrete and no more than ten percent gravel, sand, or soil. 354 CES/CEO will make the determination whether asphalt is recyclable.

b. Dumping at the stockpile is controlled and permission shall be obtained from 354 CES/CECB (377-5159). All dumping shall be within the staked boundaries of the stockpile. 354 CES/CEO will specify the exact location of disposal. Contractors shall be responsible for having the necessary equipment to place/stack the asphalt within the boundary or on top of the stockpile as directed.

3. Asbestos Landfill off Quarry Road (see Appendix B).

a. Acceptable waste - Asbestos.

b. All asbestos being disposed of in the Asbestos Landfill shall be handled in accordance with 40 CFR 61, Subpart M; 29 CFR 1910.1001; and 29 CFR 1926.58.

c. Use of the Asbestos Landfill is controlled and permission for access shall be obtained from 354 CES/CECB (377-5159). 354 CES/CEOMI will specify the exact location of disposal.

Contractor Use of Base Waste Disposal Sites and Borrow Pits:

1. General: Disposal sites will be provided on Eielson AFB for asbestos, concrete, rock, gravel, clean soil (uncontaminated), trees and stumps, and recyclable asphalt only. No variation shall be permitted. The disposal sites for each of these items will be designated by the Air Force at the pre-construction conference. Disposal sites will typically be within a five mile radius of the project site. It shall be the responsibility of the contractor to locate legal off-base disposal sites for materials not specifically approved for on-base disposal. Contractor shall dispose of all waste (including those items approved for on-base disposal) in accordance with local, state, and federal regulations. All waste hauling except concrete, rock, gravel, soil, trees, stumps, and recyclable asphalt shall be done in covered vehicles to prevent spillage. Any cost incurred in the disposal of waste shall be the responsibility of the contractor.

2. Trees: Trees shall be disposed of in the tree disposal cell of the Flightline Swamp (see Appendices A and B). The contractor shall coordinate with 354 CES/CEVN (377-5182) prior to taking trees to the Flightline Swamp for proper placement and direction.

3. Clean fill from construction site excavation: Many times the Air Force can use clean fill for land management projects. If there is a need, these sites will be identified at the pre-construction conference, or on the coordination sheet included in this plan as Appendix A.

4. Contaminated Soils: Handling and disposal shall be as outlined in Appendix A and as approved by 354 CES/CEVR (377-5209). Excavated contaminated soil shall be the responsibility of the contractor.

5. Asbestos Disposal: Asbestos may be disposed of at the base asbestos landfill when removed, packaged, and disposed of according to 40 CFR 61, Subpart M; 29 CFR 1910.1001; and 29 CFR 1926.58. Before the contractor uses the site, he shall coordinate with the Contracting Officer for exact location of placement within the landfill. Asbestos materials shall be transported in enclosed vehicles. An asbestos abatement plan including any necessary monitoring or wetting procedures shall be submitted to the Contracting Officer for submittal to the Alaska Department of Environmental Conservation prior to commencement of demolition. Asbestos containing mastic removed with chemicals must be collected in contractor furnished DOT/UN containers and taken to the CES Hazardous Waste Facility (377-1668) for turn in disposal.

6. Hazardous Wastes: The contractor shall collect and dispose of all hazardous wastes as defined in 40 CFR, part 261, in accordance with 40 CFR, parts 260-265. Contractor shall not store hazardous wastes on base for greater than 30 days. Hazardous wastes must be collected in contractor furnished DOT/UN containers and taken to the CES Hazardous Waste Facility (377-1668) for turn in disposal. Once all hazardous wastes are collected, they shall be analyzed and the results forwarded to 354 CES/CEVQ. Contact CES Hazardous Waste Facility (377-1668) in advance to arrange for waste drop-off along with the analytical results.

7. Borrow Pits: Base borrow pit development and/or reclamation work for this project is shown in Appendix A. The base gravel and topsoil source for this project is Mullins Pit Borrow Pit (see Appendix A).

8. Environmental Protection/Borrow Pit Plan: At 65 percent design review or prior to project groundbreaking, whichever comes first, the contractor shall submit an environmental protection/borrow pit plan to the Contracting Officer which covers the requirements of all waste disposal, borrow pit, and project site operations. This plan shall include, but not be limited to, the use of on-base waste disposal sites, the name and location of off-base disposal sites, methods used to safely and legally transport wastes to all disposal sites, borrow pits to be used, borrow pit development, methods used to prevent erosion and other non-point source pollution at the project site (including a contingency plan for effectively handling spills of hazardous materials), and training for employees on all elements of this plan. No on-site work, to include mobilization, staging, and site preparation, shall be permitted prior to this plan's approval by the Contracting Officer. The contractor shall comply with all applicable environmental laws and regulations and specific requirements stated elsewhere in the contract specifications. Ignorance of environmental regulations shall not be acceptable cause for contractor non-compliance. AN EXAMPLE ENVIRONMENTAL PROTECTION/BORROW PIT PLAN IS AVAILABLE FROM THE CONTRACTING OFFICER.

9. Any exceptions to the Environmental Protection Plan must be requested in writing and coordinated with CEVN, CEV, CEO, CEC, and signed by the Base Civil Engineer.

10. Violations of the Environmental Protection Plan may be cause for termination of the privileges to use the Eielson AFB waste disposal areas and borrow pits.

GRAVEL BORROW PITS

Archaeological Artifacts: Any archaeological artifacts, to include bones, encountered during soil and gravel excavation are property of the federal government and must be turned into the Natural/Cultural Resources Office located in Building 2160 (377-5182).

Definition: This section identifies the borrow pit from which gravel and topsoil can be removed for this specific construction project.

Site Locations: The borrow pit location on base for this project will be Mullins Pit Borrow Pit (see Appendices A, B, and D). The specific excavation site within the pit for this project will be assigned by 354 CES/CEVN when the contractor obtains permission to use the pit from 354 CES/CECB (377-5159).

Method of Excavation: Excavation shall be by dragline.

Depth of Excavation: The pit slope will not exceed a slope of one vertical to seven horizontal for the first 20 feet from the final shoreline (maximum depth at 20 feet from shoreline will be 3 feet). The pit slope will not exceed a slope of 2:1 (horizontal to vertical) from 20 to 55 feet from the final shoreline (maximum depth at 55 feet from shoreline will be 20 feet). The depth of excavation 55 feet or more from the final shoreline shall be sufficient to leave a water depth of 20 feet or more. For typical gravel borrow pit cross-section see Appendix C.

Slope of Shoreline: Bank slopes shall not exceed a slope of one vertical to seven horizontal above the normal water level. The topography and landscape should allow for future use of maintenance or management equipment.

Use of Gravel Borrow Pits: Use of gravel borrow pits is controlled and permission shall be obtained from 354 CES/CECB (377-5159). All agencies and contractors shall provide signage for all material stockpiles to identify the user. Signs shall be no smaller than 30 inches by 30 inches with lettering no smaller than two inches in size. The background shall be dark brown and the lettering white. The signage will state "Property of (the agencies or contractors name)." Contractor signage shall be provided at no additional cost to the government. The government will not be responsible for any theft of materials.

Mullins Pit Policies:

1. The borrow pit development work for this project is outlined in Appendix A.

2. There will be no digging within 150 feet of the overhead electric line (see Appendix D).

3. The seeded portions of the pit are off limits to contractor use (see Appendix D). Contractor use of permanent access roads through seeded portions of the pit is permitted. Contractor is responsible for returning to original conditions any seeded areas damaged by the contractor's operations.

4. All hydro-axed trees and brush resulting from pit clearing operations will be placed next to the east pit boundary to construct a dike between the pit and French Creek and/or buried underneath points, peninsulas, and islands (see Appendix D). The tree and brush disposal sites

will be excavated and backfilled with hydro-axed vegetation to minimize the amount of ground surface used. If necessary the hydro-axed vegetation disposal sites will be covered with overburden as needed to support vegetative growth.

5. Overburden will be stockpiled in a cleared area near the gravel pit edge to allow ease of spreading during reclamation activities. The new shorelines will be irregular in configuration having a minimum 20-foot-wide littoral zone (water depth less than three feet below normal water level). New islands will be sloped to a height of two feet above normal water level. Islands will be surrounded by a minimum 20-foot-wide littoral zone (water depth less than three feet below normal water level). See Appendix D.

6. Excavation shall be accomplished as outlined in the Depth of Excavation section of this plan.

7. Reclamation shall be accomplished in accordance with the specified standards listed below within two years on any gravel mine site or portion of a mine site that has been inactive (abandoned) for three years, or where the material source is no longer practical or economically feasible to extract.

a. The reclaimed gravel pit shall include an irregular shoreline with points and coves, deep water areas, and wide shallow water areas adjacent to the shorelines.

b. The stockpiled overburden shall be spread over the cleared areas and into the edges of the pit providing a minimum of 20-foot-wide zones with a depth equal to or less than three feet. Bank slopes shall not exceed a slope of 7:1 (horizontal to vertical) above the normal water level to allow use by waterfowl and shorebirds. The topography and landscape should allow for future use of maintenance or management equipment.

c. The disturbed areas shall be stabilized by fertilizing and planting a mixture of grasses to insure a mime of 30 percent cover established at the end of the first growing season. Native species should be used where appropriate.

8. See Appendix D for typical cross-section of completed pit.

9. The contractor shall coordinate with 354 CES/CEVN (377-5182) prior to removing topsoil from Mullins Pit Borrow Pit for instruction, location(s) and direction. The topsoil has been pushed into stockpiles. The topsoil will require screening. The screened topsoil shall be free from trees, roots, and rocks one inches in diameter or larger. All waste debris (trees, roots, rocks, etc.) from the screening operation shall be disposed of within the pit at a location as determined and directed by CEVN. The contractor shall have the necessary equipment to screen and remove the topsoil as directed by CEVN.

10. Other contractors may be using the pit. Contractor shall coordinate as required.

11. Contractor shall not use any material that has been temporarily stockpiled in the pit by another contractor or the Air Force.

Appendix A - Eielson AFB Waste Disposal/Borrow Pit Coordination Review

EIELSON AFB WASTE DISPOSAL/BORROW PIT COORDINATION REVIEW (Page 1)

FTQW #/PROJECT TITLE: FTQW 06-3015, Repair Utilidors, Phase IV (Design/Build Project)

Air Force Project Manager/Telephone Number:_____

Contractor Project Engineer/Telephone Number:_____

AF FORM 332 FOR PROJECT (Air Force project manager must attach to Coordination Review)

REQUIRED SURVEYS (To be completed by project engineer. For SABER, Demolition IDIQ, Pavements IDIQ, and Roofing IDIQ to be done by Air Force project manager.)

1. Lead-based paint survey (has been / will be / is not required to be – circle one) accomplished. Attach or give a brief description of the results or state why a survey is not required:

2. Asbestos survey. Attach results or state why a survey is not required:

WASTES TO BE GENERATED (Quantities are an estimate by the project engineer.):

1. Trees:_____number, square feet, or acres

2. Trees and brush or hydro-axed vegetation and soil mixture:_____cubic yards

3. Clean soil:_____cubic yards - give brief description (percent silt, sand, gravel, etc):

4. Contaminated soil:_____cubic yards. Type of contaminate(s):

5. Concrete:_____cubic yards

6. Asphalt:

   a. Chunk_____cubic yards

   b. Milled_____cubic yards

Appendix A - Eielson AFB Waste Disposal/Borrow Pit Coordination Review

EIELSON AFB WASTE DISPOSAL/BORROW PIT COORDINATION REVIEW (Page 2)

FTQW #/PROJECT TITLE: FTQW 06-3015, Repair Utilidors, Phase IV (Design/Build Project)

Air Force Project Manager/Telephone Number:_____

Contractor Project Engineer/Telephone Number:_____

WASTES TO BE GENERATED (continued)(Quantities are an estimate by the project engineer.):

7. Asbestos:_____cubic yards

8. Hazardous Wastes (Quantities as applicable)

Non-incandescent lights:_____ Smoke detectors:_____ Waste paint:_____
PCB light ballasts:_____ Exit lights:_____ Used solvents:_____
Transformers:_____
Others:_____List and give brief description):

9. Construction/Demolition Wastes (wood, glass, sheetrock, pipe, shingles, etc):

   a. Give brief description:

   b. Items to be salvaged (list):

   c. Items to be recycled (list):

BORROW PITS: Materials required (Quantities are an estimate by the project engineer. Approval of this review authorizes removal of actual quantities needed.):

1. Gravel:_____cubic yards

2. Topsoil:_____cubic yards

Appendix A - Eielson AFB Waste Disposal/Borrow Pit Coordination Review

EIELSON AFB WASTE DISPOSAL/BORROW PIT COORDINATION REVIEW (Page 3)

FTQW #/PROJECT TITLE: FTQW 06-3015, Repair Utilidors, Phase IV (Design/Build Project)

Air Force Project Manager/Telephone Number:

Contractor Project Engineer/Telephone Number:

DISPOSAL OF WASTES (to be filled out by reviewers):

1. Method of removing trees: N/A

2. Wastes to be disposed on base and site:

Trees – Tree Disposal Cell of the Flightline Swamp.

Soil and Sod - Field screening, sampling, and handling shall be in accordance with the project Request For Proposal. The contractor shall clean up all plastic and/or poly sheeting, to include all pieces, used during the temporary stockpiling of potentially contaminated soil. Excess soil and sod determined clean (not contaminated) after field screening, sampling, and handling in accordance with the Request For Proposal shall be disposed of at the Flightline Pond. The contractor shall place the excess clean soil and sod as final cover on the Flightline Pond disposal area with a 12-48 inch cap to match the surrounding terrain as directed by CEVN (377-5182). The contractor shall have the necessary equipment to accomplish the required final covering of the Flightline Pond disposal area. The clean soil and sod shall be free from plastic and/or poly sheeting, demolition and construction debris, and trees and roots two inches in diameter or larger. The contractor shall coordinate with CEVN (377-5182) prior to taking clean soil and sod to the Flightline Pond for proper placement. **NOTE: The contractor shall maintain/push the clean soil disposal site by close of business each Friday.** Disposal of excess contaminated soil from the project site shall be as outlined in paragraph 3, Wastes to be disposed off-base.

Concrete – Concrete Disposal Cell of the Flightline Swamp. Only clean concrete free from lead-based paint or oil based water proofing or mastic and all other construction debris shall be disposed of in the Flightline Swamp. Painted concrete can be placed in the pond if it contains less than 1.0 mg/cm^2 of lead when tested by an XRF. The contractor is responsible for removing all construction debris such as Styrofoam, wood, insulation, glass, roofing etc. from the concrete or the pond (if the contractor commits a violation).

Asphalt - Recyclable Asphalt Stockpile.

Asbestos - Asbestos Landfill. Asbestos containing mastic removed with chemicals must be collected in contractor furnished DOT/UN containers and taken to the CES Hazardous Waste Facility (377-1668) for turn in disposal. **NOTE:** Prior to delivering any asbestos to the landfill, the contractor shall haul 500 CYs of soil cover material from Mullins Pit to the asbestos landfill for covering asbestos. The soil cover material (unclassified fill) in Mullins Pit has been pushed into stockpiles. The contractor shall coordinate with 354 CES/CEVN (377-5182) prior to removing unclassfied fill from Mullins Pit Borrow Pit for instruction, location(s) and direction. The contractor shall stockpile the soil cover material a minimum of 12 feet high at the asbestos landfill as directed by CEOMI (377-1577). Access to the asbestos landfill is controlled by a locked gate. The contractor shall coordinate with CEOMI (377-1577) prior to taking soil to the asbestos landfill for access and proper placement of the soil cover material. The contractor shall have the necessary equipment to accomplish the required loading, hauling, stockpiling, etc. of the soil cover material as directed by CEVN and CEOMI.

Appendix A - Eielson AFB Waste Disposal/Borrow Pit Coordination Review

EIELSON AFB WASTE DISPOSAL/BORROW PIT COORDINATION REVIEW (Page 4)

FTQW #/PROJECT TITLE: FTQW 06-3015, Repair Utilidors, Phase IV (Design/Build Project)

Air Force Project Manager/Telephone Number:

Contractor Project Engineer/Telephone Number:

DISPOSAL OF WASTES (continued) (to be filled out by reviewers):

HAZARDOUS WASTE

Loose Lead-based Paint (LBP) Chips – Loose LBP chips on manhole lids and concrete vaults must be collected in accordance with 40 CFR 261 in contractor furnished UN/DOT containers. Once all the loose LBP chips are collected, the waste will be analyzed using TCLP-metals and the results will be forwarded to 354 CES/CEVQ. If the waste fails the TCLP, contact the CES Hazardous Waste Facility (377-1668) to arrange for waste drop-off along with the TCLP results.

3. Wastes to be disposed off base:

All construction wastes, except hazardous wastes, not listed for on base disposal and excess contaminated soil shall be disposed off base by the contractor in an approved landfill or at an approved facility in accordance with applicable state and federal regulations.

Excess Contaminated Soil - Off base disposal following characterization (sampling and analysis) of excess contaminated soil from the project site shall be the responsibility of the contractor. Disposal shall be accomplished in accordance with federal and state regulations. The contractor shall provide weight tares and certificates of remediation documenting proven disposal of the contaminated soils.

Waste Lead Shielded Communication Cable and Mechanical Components Coated with Lead-based Paint (LBP) – Lead shieled communication cable and mechanical components coated with LBP must be turned in for recycling to C & R Pipe and Steel Inc. (456-8386) or other approved recycler. The contractor is responsible for all fees. Contractor shall provide 354 CES/CEVQ with a receipt from C & R Pipe and Steel Inc. or other approved recycler showing the quantities and type of cable and components turned in.

4. Waste disposal sites to be maintained/pushed by contractor:

Flightline Swamp - Contractor shall push waste into the disposal area with a dozer to match the surrounding terrain.

Recyclable Asphalt Stockpile - Contractor shall have the necessary equipment to place/stack the asphalt within the boundary or on top of the recyclable asphalt stockpile as directed.

NOTE: The contractor shall maintain/push any disposal site used by close of business each Friday.

Appendix A - Eielson AFB Waste Disposal/Borrow Pit Coordination Review

EIELSON AFB WASTE DISPOSAL/BORROW PIT COORDINATION REVIEW (Page 5)

FTQW #/PROJECT TITLE: FTQW 06-3015, Repair Utilidors, Phase IV (Design/Build Project)

Air Force Project Manager/Telephone Number:

Contractor Project Engineer/Telephone Number:

BORROW PITS:

1. Borrow pit(s) to be used (to be filled out by reviewers):

Gravel and Topsoil - Mullins Pit Borrow Pit. Other contractors may be using Mullins Pit Borrow Pit. Contractor shall coordinate as required. **Gravel** - Sometimes gravel can be obtained for the cost of excavation from contractors with larger project gravel requirements operating a dragline in Mullins Pit. **Topsoil** – The contractor shall coordinate with 354 CES/CEVN (377-5182) prior to removing topsoil from Mullins Pit Borrow Pit for instruction, location(s) and direction. The topsoil has been pushed into stockpiles. The topsoil will require screening. The screened topsoil shall be free from trees, roots, and rocks one inches in diameter or larger. The contractor shall dispose of all screening debris as directed by 354 CES/CEVN. The contractor shall have the necessary equipment to screen and remove the topsoil as directed by CEVN.

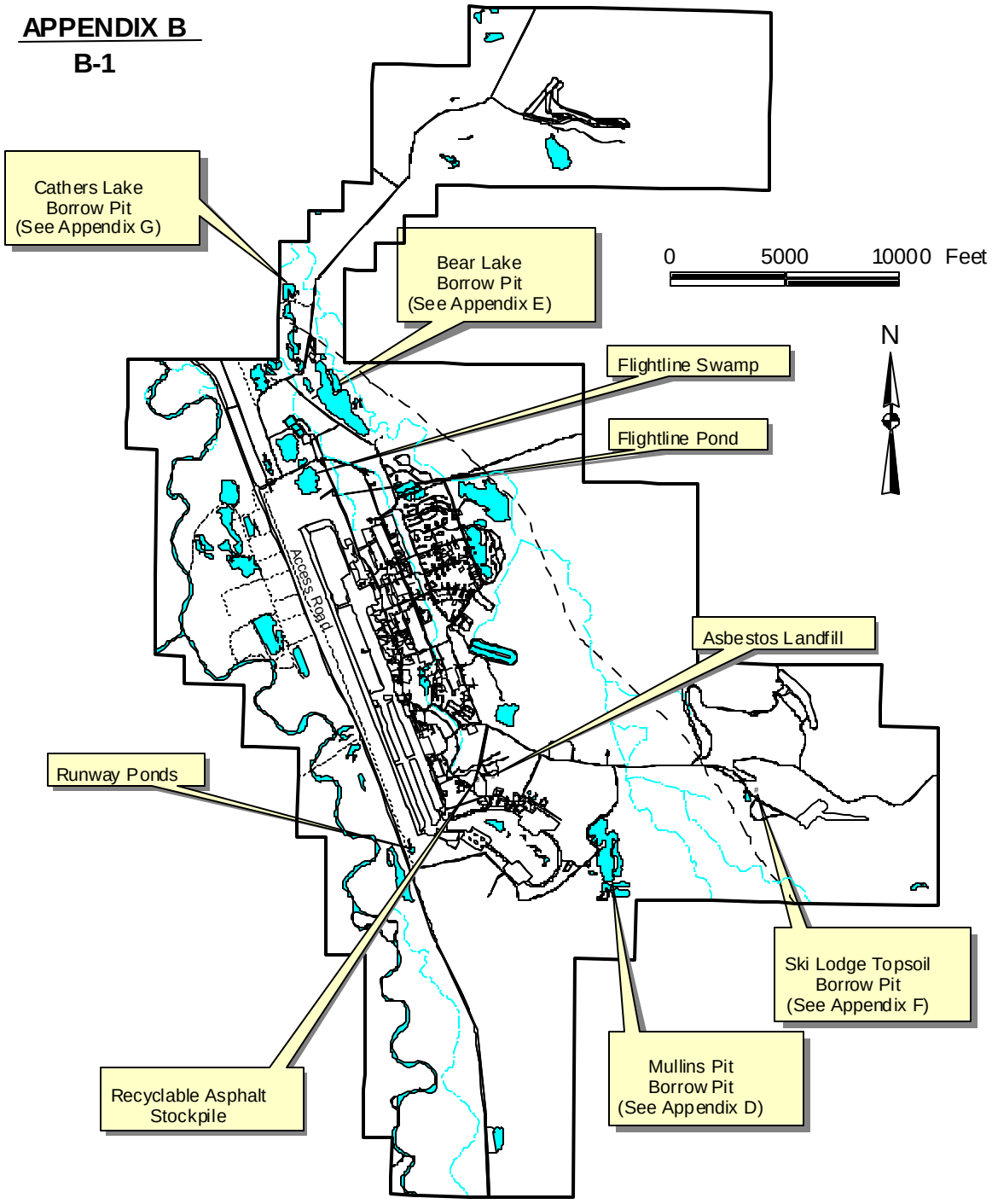
2. Pit development, rehabilitation, and/or expansion work required for privilege of using borrow pit(s) (to be filled out by reviewers): N/A

Reviewers:

CEVN CEVQ CEO CEOH CEOMI

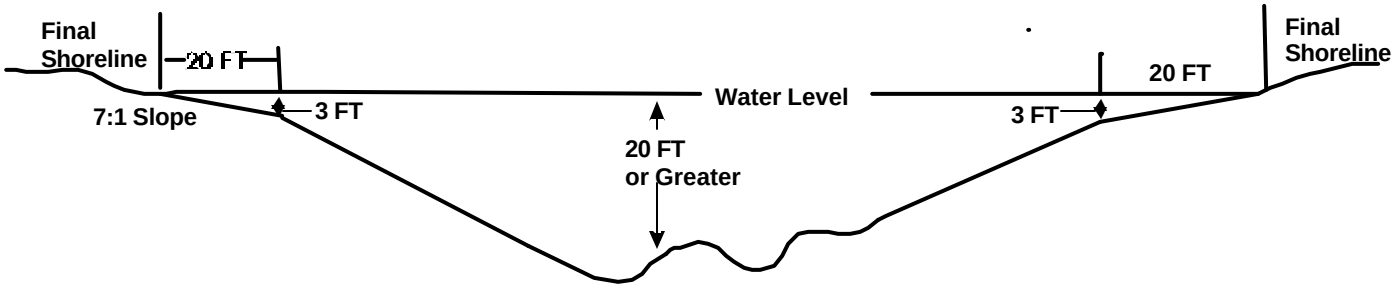
Date of Issue: . This Coordination Review becomes invalid if the project is not awarded within one year from the date of issue.

APPENDIX B
B-1



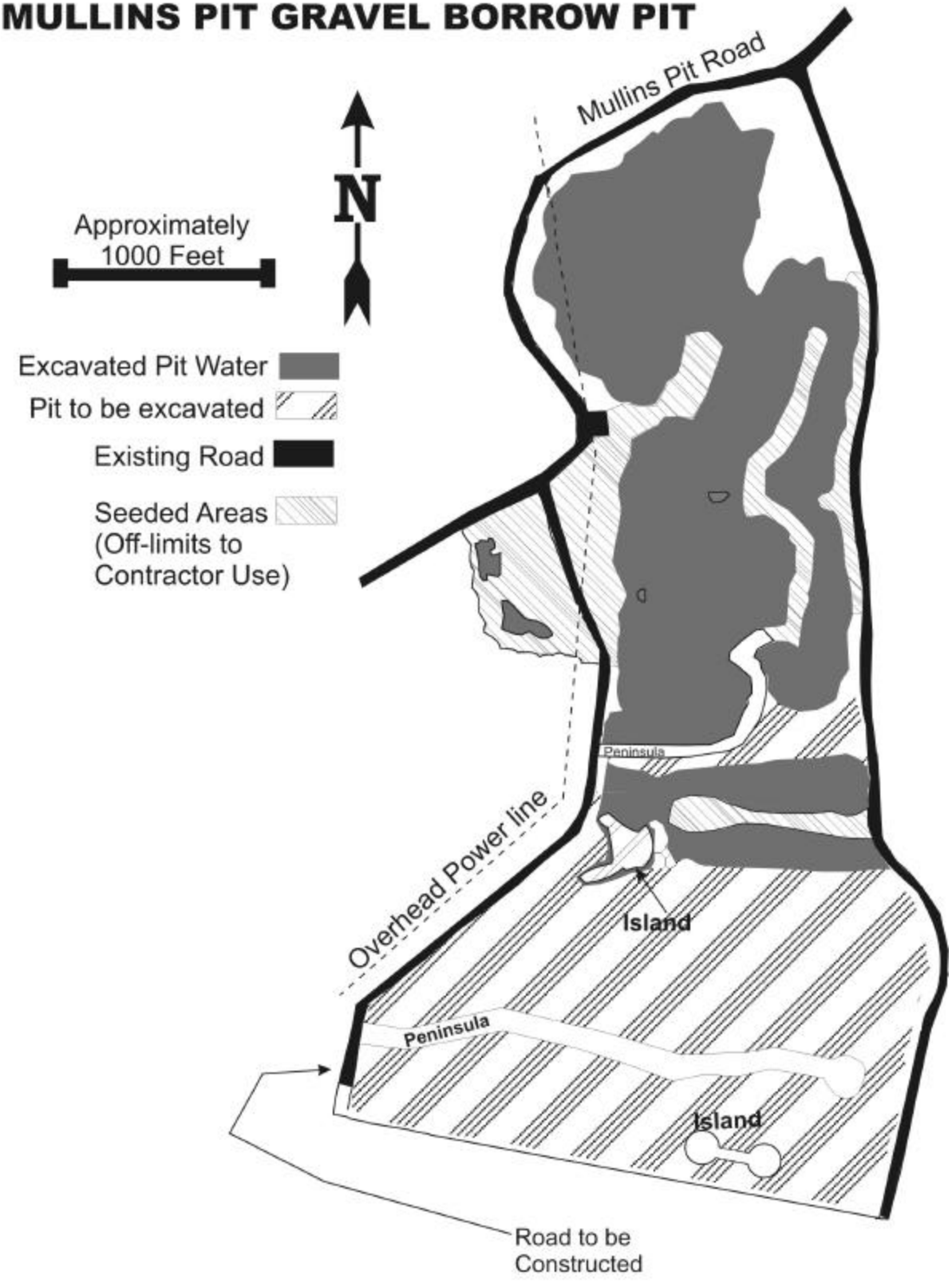
EIELSON AFB WASTE DISPOSAL AREAS & BORROW PITS

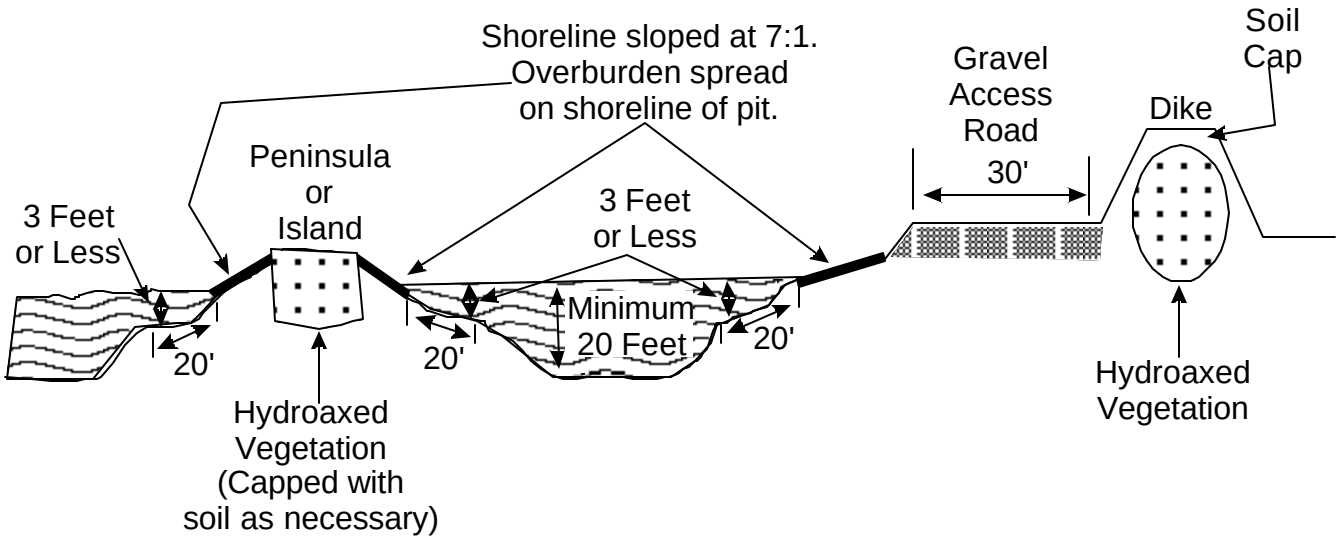
APPENDIX C



GRAVEL BORROW PIT CROSS SECTION (TYPICAL)

APPENDIX D
MULLINS PIT GRAVEL BORROW PIT





Typical Cross-Section of Completed Pit

D-2

APPENDIX E

STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION GENERAL WASTEWATER PERMITS

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STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WASTEWATER GENERAL PERMIT

Contained Hydrocarbon Contaminated Water

PERMIT NO. 0240-DB001

Permit Expiration Date: November 30, 2003

This general wastewater disposal permit is issued to persons responsible for disposal of contained hydrocarbon contaminated water within the State of Alaska that meets the criteria contained in this general permit. Contained water means water isolated from the environment in a manmade container or a lined impoundment structure. This permit applies specifically to the one-time disposal of volumes of water greater than 10,000 gallons through discharge to the land surface or a surface water body. Disposal of volumes less than 10,000 gallons are authorized by this permit, but do not require the submittal of a Notice of Disposal or testing for the parameters contained in this permit. The no sheen criterion does apply to discharges of less than 10,000 gallons. This general wastewater disposal permit does not apply to contaminated groundwaters where halogenated hydrocarbons are the primary contaminant of concern.

This permit is subject to the conditions and stipulations contained in Sections 1, 2, and 3, which are incorporated herein by reference. All disposals made under the authority of this permit, regardless of size, are subject to the conditions and stipulations contained herein. Approval to operate under this permit shall be valid for not longer than 12 months. This permit does not relieve the permittee of the responsibility of obtaining other required permits.

The Department will require a person to obtain an individual permit when the disposal does not meet the conditions of this general permit, contributes to pollution, has the potential to cause or causes an adverse impact on public health or water quality, or a change occurs in the availability of technology or practices for the control or abatement of pollutants contained in the disposal.

This permit is issued under provisions of Alaska Statutes 46.03, the Alaska Administrative Code as amended or revised, and other applicable State laws and regulations, including standards of the Alaska Coastal Management Program under 6 AAC 80 for activities in the coastal zone.

This permit is effective upon issuance and expires November 30, 2003. It may be terminated, modified, or renewed in accordance with the provision of Alaska Statute 46.03, the Alaska Administrative Code, as amended or revised, and other applicable state laws and regulations, including standards of the Alaska Coastal Management Program under 6 AAC 80.

December 28, 2001
Date Issued

SIGNATURE ON FILE
William D. McGee
Technical Engineer

TABLE OF CONTENTS

1 OPERATION

1.1 NOTICE OF DISPOSAL

1.1.1 Applicants wishing to conduct disposal activities under this permit and whose total discharge volume is greater than 10,000 gallons, must submit a Notice of Disposal (as defined in Section 1.1.2), to the appropriate office of the Alaska Department of Environmental Conservation (listed in Section 1.5). The Notice of Disposal must be submitted to the appropriate office at least thirty (30) days prior to the initiation of the disposal activity. A Notice of Disposal is not required for disposals of less than a total of 10,000 gallons; however, the limitations, conditions and restrictions in this permit apply to all activities conducted under this permit even if submittal of a Notice of Disposal is not required.

1.1.2 Each Notice of Disposal submitted under Section 1.1.1 must include the following information:

1.1.2.1 Applicant's name, position, company address, and company telephone number.

1.1.2.2 Site map showing the exact location, (latitude and longitude), of the proposed discharge.

1.1.2.3 Topographic map or aerial photograph, of at least a scale of 1:63,000, showing the exact location of the discharge and the direction and ultimate termination of discharged water.

1.1.2.4 Expected date of initial discharge, duration of discharge, average and maximum daily flow rates in gallons per day, and estimated total discharge volume.

1.1.2.5 Rationale and design of the proposed treatment system if a treatment system is needed to assure compliance with permit conditions.

1.1.2.6 A brief description of monitoring methods, including, but not limited to, commercial laboratories to be used, sampling methods, in situ analytical methods, equipment to be used, quality assurance/quality control (QA/QC) plans, and location of sampling and measurement points.

1.1.3 Applicants must have written approval from the Department before conducting disposal activities under this permit which result in a total discharge of 10,000 gallons or more of contained water. The Department will, in its discretion, deny use of this permit, or attach or waive conditions appropriate for specific disposal activities to the approval as necessary.

1.1.4 The Notice of Disposal must be accompanied by the appropriate fee as found in 18 AAC 72.956 or any such regulations as may be amended.

1.2 LIMITATIONS AND CONDITIONS

1.2.1 During the period beginning on the effective date of this permit and lasting through the expiration or termination date, the permittee is authorized to discharge wastewater as specified in this section.

1.2.2 Wastewater discharged shall not exceed the following limitations:

Effluent Limitation	Maximum Value
Turbidity	5 NTU's above background[1]
Total Aqueous Hydrocarbons	15 µg/L, (micrograms per liter)
Total Aromatic Hydrocarbons	10 µg/L, (micrograms per liter)

1.2.3 The effluent pH shall be between 6.5 and 8.5 pH units or within 0.2 units, (marine water), or 0.5 units, (fresh water), of the receiving water pH at all times.

1.2.4 The discharge shall not cause thermal or physical erosion.

1.2.5 The discharge shall not cause resuspension of sediments upon discharge to receiving waters.

1.2.6 The discharge shall be free of (a) any additives such as antifreeze solutions, methanol, solvents, corrosion inhibitors; (b) solid wastes including slag, welding rod, garbage; (c) toxic substances; (d) grease, oils which produce a sheen; (e) foam in other than trace amounts; (f) or other contaminants.

1.2.7 The discharge shall not cause a violation of the Alaska Water Quality Standards (18 AAC 70).

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1 Applies to discharges to the waters of the state only. Not in effect for disposals which freeze upon discharge. Shall not have more than 10% increase in turbidity when the natural condition is more than 50 NTU, not to exceed a maximum increase of 15 NTU. Shall not exceed 5 NTU over natural conditions for all lake waters.

1.2.8 The Department will, in its discretion, attach terms and conditions to the written approval required by Section 1.1.2, as appropriate.

1.2.9 The discharge shall not cause adverse effects to aquatic or plant life, their reproduction or habitats.

1.2.10 This permit does not constitute a grant of water rights.

1.2.11 The applicant must contact the Department of Fish and Game, Habitat and Restoration division, two weeks prior to any discharge, if the discharged water will enter fish-bearing waters.

1.3 MONITORING

1.3.1 Test procedures used for sample analysis shall conform to methods cited in 18 AAC 70.020(c), or as such regulations may be amended. The permittee may substitute alternative methods of monitoring or analysis upon receipt of prior written approval from the Department.

1.3.2 Additional monitoring parameters and increased monitoring frequency may be required and will be established on a case-by-case basis.

1.3.3 Samples and measurements taken as required shall be representative of the volume and nature of the monitored activity.

1.3.4 If the permittee monitors any influent, effluent, or surface water characteristic identified in this permit more frequently than required, the results of such monitoring shall be reported to the Department in the monitoring report required under Section 1.5, of this permit.

1.3.5 All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed, and calibration and maintenance of instrumentation, shall be retained in Alaska for observation by the Department for three years. Upon request from the Department, the permittee shall submit certified copies of such records.

1.3.6 The permittee shall monitor the wastewater stream of all discharges in the following manner and frequency while the discharge is occurring:

Effluent Characteristic	Sample Location	Minimum Frequency	Sample Type
Total Flow	Effluent	Daily	Estimate or Measured
Turbidity (NTU)	Effluent & Background[3]	Weekly[2]	Grab
Total Aqueous Hydrocarbons	Effluent[4]	Monthly[2]	Grab
Total Aromatic Hydrocarbons	Effluent[4]	Monthly[2]	Grab
Sheen	Discharge	Daily	Observation

1.4 MANAGEMENT PRACTICES

The operator shall take whatever steps are appropriate to maintain the discharge operation in such a manner that Section 1.2, LIMITATIONS AND CONDITIONS, of this permit are met.

1.5 REPORTING

Monitoring results shall be summarized, reported to the Department and postmarked no later than the 14th day of the month following the month that each sampling occurs. Reporting shall begin at the commencement of discharge. Reporting shall be done on the form provided in Section 3 or on a similar form which provides the same information, in the same format, found on the form contained in Section 3. Signed copies of these, and all other reports required herein, shall be submitted to the appropriate regional office at the following addresses:

2 A minimum of one sample shall be taken, unless the department has waived the requirement. One sample shall be taken which is representative of the last 1,000 gallons of discharge.

3 Turbidity values of the effluent and receiving water shall be determined. One sample shall be taken at a point representative of the discharge prior to its entering the receiving water. A second sample shall be taken upstream of the discharge point, or in the case of waters with low or no flow, prior to discharge, at a point representative of the receiving water.

4 At the point of discharge, unless otherwise specified by the department.

State of Alaska
Department of Environmental Conservation
Division of Air and Water Quality
610 University Avenue
Fairbanks, Alaska 99709-3643
Telephone (907) 451-2360
Fax (907) 451-2187

State of Alaska
Department of Environmental Conservation
Division of Air & Water Quality
610 University Avenue
Fairbanks, AK 99709-3643
Telephone (907) 451-2360
Fax (907) 451-2187

State of Alaska
Department of Environmental Conservation
Division of Air and Water Quality
555 Cordova Street
Anchorage, Alaska 99501
Telephone (907) 269-7500
Fax (907) 269-7652

Knowingly making a false statement, by the permittee, the operator, or other employees, including contractors, on any such report may result in the imposition of criminal penalties as provided for under AS 46.03.790.

1.6 RECORDS RETENTION

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation shall be retained in Alaska for observation by the Department for three years. Upon request from the Department, the permittee shall submit certified copies of such records.

1.7 CHANGE IN DISCHARGE

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant or toxic material, (including oil, grease, or solvents) more frequently than specified, or at a concentration or limit not authorized, shall constitute noncompliance with the permit. Any anticipated construction changes, flow increases, or process modifications which will result in new, different, or increased discharges of pollutants causing a violation of this permit's limitations are not allowed under this permit and must be reported by submission of an individual waste disposal permit application or revision of the Notice of Disposal. Physical changes may also be subject to plan review by the Department.

1.8 TOXIC POLLUTANTS

If a toxic pollutant (including oil, grease, or solvents) concentration standard is established in accordance with 18 AAC 70 for a pollutant present in this discharge, and such standard is more stringent than the limitation in this permit, this permit is considered to be modified in accordance with the toxic pollutant concentration standard.

1.9 ACCIDENTAL DISCHARGES

The permittee shall provide protection from accidental discharges not in compliance with the provisions of this permit. Facilities to prevent such discharges shall be maintained in good working condition at all times.

1.10 NONCOMPLIANCE NOTIFICATION

1.10.1 If, for any reason, the permittee does not comply with or will be unable to comply with any terms or conditions specified in this permit, the permittee shall report the noncompliance to the Department within 72 hours of becoming aware of such conditions. This report shall be by telephone, fax, or in the absence of both, by mail.

1.10.2 A written follow-up report shall be sent to the Department within seven (7) days of the noncompliance event. The written report shall contain, but not be limited to:

1.10.2.1 Times and dates on which the event occurred, and if not corrected, the anticipated time the noncompliance is expected to continue.

1.10.2.2 A detailed description of the event, including quantities and types of materials involved.

1.10.2.3 Details of any actual or potential impact on the receiving environment or public health.

1.10.2.4 Details of actions taken or to be taken to correct the causes of the event.

1.10.2.5 Details of actions taken or to be taken to correct the cause(s) of the event and any damage resulting from the event.

1.11 RESTRICTION OF PERMIT USE

The Department may prohibit or restrict use of this permit by a permittee because of noncompliance within this permit.

1.12 TRANSFER OF OWNERSHIP

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Department of Environmental Conservation at the appropriate office listed in Section 1.5 of this permit.

2 GENERAL PERMIT CONDITIONS

2.1 ACCESS AND INSPECTION

The permittee shall allow the Commissioner or his/her representative access to the permitted facilities at reasonable times to conduct scheduled or unscheduled inspections or tests to determine compliance with this permit, State laws, and regulations.

2.2 INFORMATION ACCESS

Except where protected from disclosure by applicable state or federal law, all records and reports submitted in accordance with the terms of this permit shall be available for public inspection at the appropriate State of Alaska Department of Environmental Conservation Regional Office.

2.3 CIVIL AND CRIMINAL LIABILITY

Nothing in this permit shall relieve the permittee from any potential civil or criminal liability for noncompliance with the permit or with applicable law.

2.4 AVAILABILITY

The permittee shall post or maintain a copy of this permit available to the public at the disposal facility.

2.5 ADVERSE IMPACT

The permittee shall take all necessary means to minimize any adverse impacts to the receiving waters or lands resulting from noncompliance with any limitation specified in this permit, including any additional monitoring needed to determine the nature and impact of the non-complying activity. The permittee shall clean up and restore all areas adversely impacted by the noncompliance.

2.6 CULTURAL OR PALEONTOLOGICAL RESOURCES

Should cultural or paleontological resources be discovered as a result of this activity, work which would disturb such resources is to be stopped, and the State Historic Preservation Office, Division of Parks and Outdoor Recreation, Department of Natural Resources (907) 762-2622, is to be notified immediately.

2.7 OTHER LEGAL OBLIGATIONS

This permit does not relieve the permittee from the duty to obtain any other necessary permits from the Department or from other local, state or federal agencies, and to comply with the requirements contained in any such permits. All activities conducted and all plans implemented by the permittee pursuant to the terms of this permit shall comply with all applicable local, state, and federal laws and regulations.

2.8 POLLUTION PREVENTION

In order to prevent and minimize present and future pollution, when making management decisions that effect waste generation, the permittee shall consider the following order of priority options as outlined in AS 46.06.021:

- waste source reduction,
- recycling of waste,
- waste treatment, and
- waste disposal.

3 DISCHARGE MONITORING REPORT FORM

DISCHARGE MONITORING REPORT							
PERMIT NUMBER: 0240-DB001							
COMPANY NAME / ADDRESS / PHONE NO. FACILITY NAME / LOCATION				SAMPLE PERIOD FROM: / / TO: / /			
PARAMETER		CONCENTRATION			UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		Minimum	Average	Maximum			
Flow	Sample Result						
	Permitted			as specified	gpd	daily	est/meas
Turbidity	Sample Result						
	Permitted			5 above background	NTU	as specified	grab
Total Aromatic Hydrocarbons	Sample Result						
	Permitted			10	µg/l	as specified	grab
Total Aqueous Hydrocarbons	Sample Result						
	Permitted			15	µg/l	as specified	grab
Sheen	Sample Result						
	Permitted		no visible sheen		occurrences	daily	observation
	Sample Result						
	Permitted						
	Sample Result						
	Permitted						
	Sample Result						
	Permitted						
	Sample Result						
	Permitted						
	Sample Result						
	Permitted						
	Sample Result						
	Permitted						
	Sample Result						
	Permitted						
Type or Print Name and Title of Principal Executive Officer or Authorized Agent:							
DATE: SIGNATURE:_____							

STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

GENERAL WASTEWATER DISPOSAL PERMIT NO. 9940-DB002

Excavation Dewatering

Permit Expiration Date: November 30, 2003

This general wastewater disposal permit is issued for the disposal of wastewater from excavations within the South Central and Northern Regions of the State of Alaska. This general permit applies to any volume of wastewater disposal from excavations which take place during construction or earthwork activities for projects such as culvert placement, gravel extraction, pipeline installation, inspection or repair, bridge construction, building construction and other similar projects. This general permit does not apply to wastewater disposal from coal, placer, hard rock or most other types of mining activities, although it may apply to some construction activities that take place at a mine. This permit is not applicable to waters listed by the state as impaired, where the impairment is wholly or partially caused by a pollutant contained within the proposed discharge.

This permit is subject to the conditions and stipulations contained in Appendices A and B, which are incorporated herein by reference. All disposals made under the authority of this permit, regardless of size, are subject to the conditions and stipulations contained herein. Approval to operate under this permit shall be valid for not longer than 12 months. This permit does not relieve the permittee of the responsibility of obtaining other required permits.

The Department will require a person to apply for an individual disposal permit when it determines that the proposed disposal does not meet the conditions of this general permit, contributes to significant pollution, causes an adverse impact on public health or water quality, or a change occurs in the availability of technology or practices for the control or abatement of pollutants contained in the disposal. Issues that the Department may consider when deciding whether to require an individual permit for a particular disposal include, but are not limited to: proximity of contaminated sites, proximity of drinking water wells, separation distance waivers for drinking water wells in the vicinity of the proposed activity, potential for reversal in the direction of surface water or groundwater flow, and potential changes in drinking water and ground water quality. Dewatering projects at contaminated sites may not be conducted under this permit. Issuance of an individual disposal permit requires a 30 day public notice period and additional time for processing the application.

This permit is issued under provisions of Alaska Statutes 46.03, the Alaska Administrative Code as amended or revised, and other applicable State laws and regulations, including standards of the Alaska Coastal Management Program under 6 AAC 80 for activities in the coastal zone.

This permit is effective on issuance and expires November 30, 2003, unless superseded before that time by a state certified U.S. Environmental Protection Agency National Pollutant Discharge Elimination System permit or upon issuance of an amended general permit. This permit may be terminated or modified in accordance with AS 46.03.120.

April 15, 1999
Date Issued

SIGNATURE ON FILE
Timothy J. Wingerter
Watershed Management and Development
Division of Air and Water Quality

APPENDIX A – OPERATION

I. NOTICE OF DISPOSAL

A. Applicants wishing to conduct disposal activities under this permit and whose estimated total discharge volume is greater than 500,000 gallons, must submit a Notice of Disposal (as defined in Section I.C), to the appropriate office of the Alaska Department of Environmental Conservation (listed in Section VI), at least thirty days prior to the disposal activity. Shorter notice and verbal notification (followed by written confirmation) may be used for emergency situations.

B. A Notice of Disposal is not required if the total discharge is less than 500,000 gallons and the Alaska Water Quality Standards (18 AAC 70) are not violated. Dischargers must operate under the provisions and requirements of this general permit even if they are not required to submit a Notice of Disposal.

C. Each Notice of Disposal submitted under Section I.A must include the following information:

1. Applicant's name, position, company address and telephone number.

2. Site map showing the location of the discharge, (latitude and longitude) and any receiving waters.

3. Topographic map or aerial photograph of at least a scale of 1:6,300, showing the exact location of the discharge and the direction and ultimate termination of the flow after discharge.

4. Date of initial discharge, expected duration of discharge, rate of pumping, and average and maximum daily flow rates in gallons per day.

5. Method of dewatering, including typical design schematics.

6. Method and design of the proposed treatment system if required to meet permit limitations, and design of all wastewater conveyances, constructed or natural, for this dewatering operation demonstrating that the conveyances can handle the flow.

7. A brief description of monitoring methods, including, but not limited to, commercial laboratories to be used, sampling methods, in situ analytical methods, equipment to be used, and location of sampling and measurement points.

D. Applicants must receive written approval from the Department before conducting disposal activities under this permit. Written approval from the Department is not required for discharges of less than 500,000 gallons. The Department will, in its discretion, deny use of this permit, or attach or waive conditions as appropriate for specific disposal activities.

E. A fee of $200.00 must be paid for each Notice of Disposal submitted to the department. The department will bill the applicant when approval to operate under this general permit has been granted. A plan review fee of $400.00 may also be charged, depending on the complexity of the project.

F. The applicant must contact the Department of Fish and Game, Habitat and Restoration Division, two weeks prior to any discharge, if the discharged water will enter a fish bearing stream.

G. The applicant must contact the Department of Natural Resources, Division of Water, for any dewatering operation that exceeds 30,000 gallons of water per day in volume to determine whether a temporary water use permit is required pursuant to 11 AAC 93.

II. CONTAMINATED SITES

A. For dewatering projects greater than 500,000 gallons within three miles of a known contaminated site(s) that meet the inclusion criteria for the Department's contaminated site database, the permittee shall, in addition to the Notice of Disposal required in Section I.A, provide the following information:

1. Data about the contaminated site(s) including the type and concentration of contaminants, whether the contaminant(s) are solid, liquid, or dissolved, and the size and location of any contamination plumes.

2. A detailed geohydrologic report by a geologist or engineer professionally licensed to practice in the State of Alaska. This report must specifically address the impact of the proposed dewatering activity on adjacent contaminated sites and drinking water wells.

3. Proposed and / or existing monitoring well locations which are capable of providing information on ground water elevations, whether contaminants are being smeared below the natural minimum groundwater elevation, whether the contaminant plume is being diverted and whether contaminant migration rates are increasing.

4. How contaminants that are entrained in the dewatering effluent will be treated, and the contaminant discharge concentrations. Treatment plans must be designed and stamped by an engineer registered in the State of Alaska.

B. The information described in Section II.A is not required if the applicant can demonstrate that the contaminated site(s) within three miles of the dewatering site do not affect the groundwater.

C. The information described in Sections II.A.2 and II.A.3 is not required if the proposed dewatering will not drop the groundwater level below the natural minimum groundwater elevation as recorded by the U.S. Geological Survey or another reliable source. Daily measurements of ground water elevations in monitoring wells may be required to prove that ground water elevations are not being lowered beyond natural low elevations that would occur naturally.

D. When the dewatering project may adversely affect a contaminated site by moving or smearing contamination, the applicant is encouraged to use construction practices such as cofferdams to eliminate or reduce the volume of groundwater to be discharged.

E. An individual permit may be required, the disposal application may be denied or the Department may impose additional conditions to its approval based on the effects of the proposed operation on a contaminated site.

III. LIMITATIONS

A. During the period beginning on the effective date of this permit and lasting through the expiration or termination date, the permittee is authorized to discharge wastewater as specified in this section.

B. Wastewater discharged from dewatering operations shall not exceed the following limitations:

Effluent Limitations	Maximum Value
Turbidity	5 NTU's above background [1]
Total Aqueous Hydrocarbons	15 µg/l, (micrograms per liter)
Total Aromatic Hydrocarbons	10 µg/l, (micrograms per liter)
Settleable Solids	0.2 ml/l[2], (milliliter per liter)
Total Iron	2 mg/l, (milligrams per liter)

C. The effluent pH shall be between 6.5 and 8.5 pH units and within 0.2 units, (marine water), or 0.5 units, (fresh water), of the receiving water pH.

1 Applies to discharges to the waters of the state only. Not applicable to disposals which freeze upon discharge. Shall not have more than 10% increase in turbidity when the natural condition is more than 50 NTU, not to exceed a maximum increase of 15 NTU. Shall not exceed 5 NTU over natural conditions for all lake waters.

2 When the discharge flow is greater than the receiving water flow, settleable solids shall have a maximum limitation of 0.1 ml/l.

D. The Department will, in its discretion, attach terms and conditions to its written approval of a discharge as appropriate for each specific disposal.

E. The discharge shall not cause thermal or physical erosion.

F. The disposal shall not cause a change in established flow patterns of the receiving water nor shall it cause flooding resulting in property damage.

G. Waivers of the minimum separation distance between a drinking water source and a potential source of contamination are sometimes based on the direction of flow of the groundwater. The dewatering operation cannot cause a drinking water source with such a waiver to be threatened with contamination by changing the direction of flow of the groundwater.

H. The discharge shall not cause destruction of vegetation.

I. The discharge shall not create a thermal barrier to fish movement.

J. The discharge shall not result in the exclusion of fish from aquatic habitat.

K. The discharge shall not cause re-suspension of sediments upon discharge into receiving waters.

L. The discharge shall be free of any additives such as antifreeze solutions, methanol, solvents, corrosion inhibitors; garbage; toxic substances; grease and oils which produce a sheen; foam in other than trace amounts; and other contaminants.

M. The discharge shall not cause a violation of the Alaska Water Quality Standards (18 AAC 70).

N. Groundwater elevations may not be affected in a manner that reduces the quantity or quality of the water drawn from wells owned by other area well owners, unless arrangements have been made to either provide suitable water to those users, or those wells are modified (with the owners permission) in a manner so that the quantity and quality will not be affected. Well owners may have additional legal rights and the applicant is encouraged to discuss the mater with the affected property owners prior to submission of the Notice of Intent to the Department.

IV. MONITORING

A. Permittees discharging more than 500,000 gallons of wastewater shall monitor the wastewater stream in the following manner and frequency while the discharge is occurring:

Effluent Characteristic	Sample Location	Minimum Frequency	Sample Type
Total Flow	Effluent	Daily	NA
Turbidity (NTU)	Effluent & Background[4]	Weekly[3]	Grab
Total Aqueous Hydrocarbons	Effluent	Monthly[3]	Grab
Total Aromatic Hydrocarbons	Effluent	Monthly[3]	Grab
Settleable Solids	Effluent	Daily	Grab
Total Iron	Effluent	Weekly	Grab

B. Permittees with discharges estimated to be less than a total of 500,000 gallons of wastewater shall monitor total flow. The data generated from this monitoring will only need to be reported to the Department if the actual flow monitored is more than a total of 500,000 gallons.

C. Iron precipitation from iron concentrations found in some ground waters has the potential to cause limits for settleable solids to exceed those in the permit. The Department recommends that the applicant determine the iron concentration in the groundwater to be dewatered prior to submittal of the Notice of Disposal. In areas of known high concentrations of iron, the Department will require that this information be submitted.

D. Test procedures used for sample analysis shall conform to methods cited in 18 AAC 70.020(c), or as such regulations may be amended. The permittee may substitute alternative methods of monitoring or analysis upon receipt of prior written approval from the Department.

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3 A Minimum of one sample shall be taken, unless the department has waived the requirement.

4 Turbidity values of effluent and receiving water shall be determined. One sample shall be taken at a point representative of the discharge prior to its entering the receiving water. A second sample shall be taken of the receiving water upstream of the discharge point, or in the case of receiving waters with low or no flow, prior to discharge, at a location representative of the receiving water. Both samples shall be taken during the same day within a reasonable time frame (i.e., within 20 minutes to one-half hour).

E. Some monitoring may be waived by the department and / or additional monitoring may be required and will be established on a case by case basis.

F. Samples and measurements taken as required shall be representative of the volume and nature of the monitored activity.

G. If the permittee monitors any influent, effluent, or surface water characteristic identified in this permit more frequently than required, the results of such monitoring shall be reported to the Department in the monitoring report required under Section IV of this Appendix.

V. MANAGEMENT PRACTICES

A. The operator shall take whatever steps are appropriate to maintain the dewatering operation in such a manner that the terms and conditions of this permit are met. This includes leaving the dewatering site, including any settling ponds, in a condition that will not cause additional degradation to the receiving waters over those resulting from natural causes.

B. The operator, when using an earthen channel to transport wastewater from a dewatering operation to the receiving water, shall not drive construction equipment in the channel in such a manner as to re-suspend sediment.

C. The operator shall maintain fuel handling and storage facilities in a manner that prevents the discharge of petroleum products into receiving waters.

VI. REPORTING

Monitoring results shall be summarized, reported to the Department and postmarked no later than the 14th day of the month following the month that each sampling occurs. Reporting shall begin at the commencement of discharge. Signed copies of these, and all other reports required herein, shall be submitted to the appropriate regional office at the following addresses:

State of Alaska
Department of Environmental Conservation
Division of Air and Water Quality
610 University Avenue
Fairbanks, Alaska 99709-3643
Telephone (907) 451-2360
Fax (907) 451-2187

State of Alaska
Department of Environmental Conservation
Division of Air and Water Quality
555 Cordova Street
Anchorage, Alaska 99501
Telephone (907) 269-7500
Fax (907) 269-7652

Knowingly making a false statement, by the permittee, the operator, or other employees, including contractors, on any such report may result in the imposition of criminal penalties as provided for under AS 46.03.790.

VII. RECORDS RETENTION

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed, and calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation shall be retained in Alaska for observation by the Department for three years. Upon request from the Department, the permittee shall submit certified copies of such records.

VIII. CHANGE IN DISCHARGE

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant or toxic material, (including oil, grease, or solvents) more frequently than specified, or at a concentration or limit not authorized, shall constitute noncompliance with the permit. Any anticipated construction changes, flow increases, or process modifications which will result in new, different, or increased discharges of pollutants causing a violation of this permit's limitations are not allowed under this permit and must be reported by submission of an individual waste disposal permit application or revision of the Notice of Disposal. Physical changes may also be subject to plan review by the Department.

IX. TOXIC POLLUTANTS

If a toxic pollutant (including oil, grease, or solvents) concentration standard is established in accordance with 18 AAC 70 for a pollutant present in this discharge, and such standard is more stringent than the limitation in this permit, this permit is considered to be modified in accordance with the toxic pollutant concentration standard.

X. ACCIDENTAL DISCHARGES

The permittee shall provide protection from accidental discharges not in compliance with the provisions of this permit. Facilities to prevent such discharges shall be maintained in good working condition at all times.

XI. NONCOMPLIANCE NOTIFICATION

A. If, for any reason, the permittee does not comply with or will be unable to comply with any terms or conditions specified in this permit, the permittee shall report the noncompliance to the Department within 72 hours of becoming aware of such conditions. This report shall be by telephone, fax, or in the absence of both, by mail.

B. A written follow-up report shall be sent to the Department within seven (7) days of the noncompliance event. The written report shall contain, but not be limited to:

1. Times and dates on which the event occurred, and if not corrected, the anticipated time the noncompliance is expected to continue.

2. A detailed description of the event, including quantities and types of materials involved.

3. Details of any actual or potential impact on the receiving environment or public health.

4. Details of actions taken or to be taken to correct the causes of the event.

5. Details of actions taken or to be taken to correct the cause(s) of the event and any damage resulting from the event.

XII. RESTRICTION OF PERMIT USE

The Department may prohibit or restrict use of this permit by a permittee because of noncompliance within this permit.

XIII. TRANSFER OF OWNERSHIP

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Department of Environmental Conservation at the appropriate office listed in Appendix A, Section VI of this permit.

APPENDIX B - GENERAL PERMIT CONDITIONS

I. ACCESS AND INSPECTION

The permittee shall allow the Commissioner or his/her representative access to the permitted facilities at reasonable times to conduct scheduled or unscheduled inspections or tests to determine compliance with this permit, State laws, and regulations.

II. INFORMATION ACCESS

Except where protected from disclosure by applicable state or federal law, all records and reports submitted in accordance with the terms of this permit shall be available for public inspection at the appropriate State of Alaska Department of Environmental Conservation Regional Office.

III. CIVIL AND CRIMINAL LIABILITY

Nothing in this permit shall relieve the permittee from any potential civil or criminal liability for noncompliance with the permit or with applicable law.

IV. AVAILABILITY

The permittee shall post or maintain a copy of this permit available to the public at the disposal facility.

V. ADVERSE IMPACT

The permittee shall take all necessary means to minimize any adverse impacts to the receiving waters or lands resulting from noncompliance with any limitation specified in this permit, including any additional monitoring needed to determine the nature and impact of the noncomplying activity. The permittee shall clean up and restore all areas adversely impacted by the noncompliance.

VI. CULTURAL OR PALEONTOLOGICAL RESOURCES

Should cultural or paleontological resources be discovered as a result of this activity, work which would disturb such resources is to be stopped, and the State Historic Preservation Office, Division of Parks and Outdoor Recreation, Department of Natural Resources (907) 762-2622, is to be notified immediately.

VII. OTHER LEGAL OBLIGATIONS

This permit does not relieve the permittee from the duty to obtain any other necessary permits from the Department or from other local, state or federal agencies, and to comply with the requirements contained in any such permits. All activities conducted and all plans implemented by the permittee pursuant to the terms of this permit shall comply with all applicable local, state, and federal laws and regulations.

VIII. POLLUTION PREVENTION

In order to prevent and minimize present and future pollution, when making management decisions that effect waste generation, the permittee shall consider the following order of priority options as outlined in AS 46.06.021:

* waste source reduction,
* recycling of waste,
* waste treatment, and
* waste disposal.

APPENDIX F

HAZARDOUS MATERIALS SURVEY REPORT

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Note: The July 2001 report covers the south Flightline Avenue project area from MH 507 to 705.

The October 2002 report covers the north Flightline Avenue and Broadway Avenue project area from MH 111 to 219-1.

SURVEY REPORT
HAZARDOUS BUILDING MATERIALS

CANTONMENT AREA INCLUDING: FLIGHTLINE
AND
BROADWAY UTILIDORS

EIELSON AFB, UTILIDOR REPAIR, PHASE IV
EIELSON AIR FORCE BASE
ALASKA

October 1, 2002

EHS-ALASKA, INC.
ENGINEERING, HEALTH & SAFETY CONSULTANTS
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EAGLE RIVER, ALASKA 99577-8052

HAZARDOUS MATERIALS DESIGN ANALYSIS
EIELSON AFB, UTILIDOR REPAIR, PHASE IV
CANTONMENT AREA

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APPENDICES

HAZARDOUS MATERIALS DESIGN ANALYSIS
EIELSON AFB, UTILIDOR REPAIR, PHASE IV

A. OVERVIEW

The work on this project is to support the Alaska District Corps of Engineers in the project Repair Utilidors, Phase IV, located at Eielson AFB, Alaska. The work on this project involves the repair of utilidors in the cantonment.

The project utilidor sections in the Cantonment Area are along Flightline Avenue from Manhole 103 south to 113 and along Broadway Avenue from Manhole 113 east to 219-1. Utilidors along Wabash Avenue from Manhole 333 south to 204 and from Manhole 211 south to 214 were also surveyed but will not be included in this phase of the project. A portion of this area, specifically the section along Broadway Avenue, was surveyed in July of 2000 as part of Phase II utilidor repairs.

The utilidor sections that are included in this project have reached the end of their useful life and are in need of replacement.

EHS-Alaska, Inc., as a consultant to PDC Inc., inspected the utilidors during the periods of July 13, 2000, July 22 through July 26, July 29 through August 2, and September 25 through September 26, 2002 for the presence, extent, and condition of possible asbestos-containing materials (ACM). Additionally, painted components were screened for the presence of lead based paints. The purpose of these inspections was to identify hazardous materials that will be disturbed during planned repair and upgrade activities. As-built drawings and previous survey reports were used to supplement the inspection and sampling results.

B. SAMPLING AND ANALYSIS

1. Asbestos-Containing Materials

EHS-Alaska performed a survey of the utilidors and took 10 samples of materials suspected of containing asbestos. The survey and sampling done for this project supplements the previous sampling data collected by Eielson AFB personnel and Phase I, Phase II and Phase III surveys of similar utilidors. The samples were analyzed for the presence of asbestos by polarized light microscopy (PLM), the method of analysis recommended by the U.S. Environmental Protection Agency (EPA) to determine the composition of suspected asbestos-containing materials. Samples were analyzed for asbestos content by International Asbestos Testing Laboratories (IATL), Mt. Laurel, New Jersey a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory. Only materials containing more than 1% total asbestos were classified as “asbestos-containing” based on EPA and the Occupational Safety and Health Administration (OSHA) criteria. Table 1 in Appendix A contains a summary list of asbestos samples and the results applicable to this project. Field survey data sheets and laboratory reports are included in Appendix B.

2. Lead-Containing Materials

EHS-Alaska tested paint in 48 locations throughout the survey area. Paint was tested using a NITON XL309 X-Ray Fluorescence (XRF) lead paint analyzer (Serial # U862NR0666 with software version 5.3). The instrument was operated in the "K & L + Spectra" mode. Prior to testing and every four hours thereafter an instrument self-calibration test was performed and the instrument calibration was checked using a set of government traceable lead paint samples. Calibration was checked using known paint film samples containing 1.0 ± 0.1 mg/cm^2, 1.6 ± 0.2 mg/cm^2 and 0.3 ± 0.1 mg/cm^2 of lead. The instrument was calibrated and all calibration tests were successful. Calibration tests are indicated in the test results table with the word "calibration" in the room column.

EPA and the Department of Housing and Urban Development (HUD) have defined lead-based paint as any paint or other surface coating that contains lead equal to or in excess of 1.0 milligram per square centimeter (mg/ cm^2) or 0.5 percent by weight. XRF results are classified as positive (lead is present at 1.0 mg/cm^2 or greater), negative (less than 1.0 mg/ cm^2 of lead was present) or inconclusive (the XRF could not make a conclusive positive or negative determination). No inconclusive tests were recorded. Results of sampling of painted surfaces detected lead in paint at levels from 0.0 mg/cm^2 to 5.5 mg/cm^2. Previous phases of utilidor repairs also found similar levels of lead in paint.

A Performance Characteristic Sheet (PCS) for the NITON XL309 is provided in Appendix D. This PCS data provides supplemental information to be used in conjunction with Chapter 7 of the "HUD Guidelines". Performance parameters provided in the PCS are applicable when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the "HUD Guidelines". The instrument was operated in accordance with manufacturer's instructions and Chapter 7 of the HUD Guidelines. No substrate correction is required for this instrument. There is no inconclusive classification for this instrument when using the 1.0-mg/ cm^2 threshold.

C. SURVEY RESULTS

1. Asbestos-Containing Materials

Pipe Insulation

All steam, condensate and water piping in the Cantonment Area were insulated with asbestos-containing insulation or asbestos-contaminated insulation on both straight runs and fittings. Fiberglass insulation was only identified in manhole vaults and on a small percent of piping where repairs had been made. Asbestos-containing insulation tested contained chrysotile, amosite or a combination of the two. This type of insulation is considered highly friable when disturbed. The planned repairs in these areas will require that all piping in the utilidors be demolished. Typically, when piping insulated with asbestos-containing insulation is to be demolished, the pipe and insulation is wrapped and removed with the insulation intact. However, during earlier phases of this

project, contractors have abated the piping prior to removal from the utilidors. Either approach is sound and the abatement contractor should be allowed to propose the method he feels can accomplish the job in the safest, most cost-effective manner.

Gaskets and Packing on Valves

Flange gaskets and packing on valves throughout the utilidor system could not be sampled without disassembly, but were assumed to contain asbestos based on the age of the utilidors and equipment.

Cement Asbestos Pipe (Transite)

Main sewer lines in the utilidors were primarily cement asbestos "transite" pipe. This material was in good condition and is not considered friable unless broken in very small pieces.

Black Utilidor Lid Sealant

The black sealant at the interface of the utilidor walls and lids has been found to contain asbestos. Although the scope of work does not require that this material be completely abated, contractor should be made aware of its existence and treat it as asbestos.

Dust and Debris

Loose asbestos-containing pipe insulation was noted on the floors of some utilidors, generally close to manholes. Due to reported flooding of the utilidors and the free flow of air between adjacent sections of utilidors, all surfaces in the utilidors are assumed contaminated with asbestos including non-asbestos type insulation.

2. Lead-Containing Materials in the Utilidors

Paint

Lead in paints tested varied from a trace amount to as high as 5.5 mg/cm^2. Lead based paints (paint containing more than 1.0 mg/cm^2 of lead) were identified on metal manhole hole lids during this survey but have also been found on fire hydrants and vent pipes in previous surveys. Paints used on the concrete portion of the manhole vaults contained lead but were below 1.0 mg/cm^2. Paint on both the metal and concrete portions of the manholes were in poor condition and peeling. Loose paint should be removed and disposed of as hazardous waste to prevent contamination of soils in the area. Paint on metal pipe supports in the utilidors also contained lead at low levels. Painted metal pipe supports are to be recycled and should not enter the waste stream.

Other Lead Items

Other metallic lead items identified in the utilidors include shielded communication cables. These cables should be removed for recycling.

3. PCB-Containing Materials in the Utilidors

No PCB-containing materials were identified in the utilidors.

4. Mercury-Containing Materials in the Utilidors

No mercury-containing materials were identified in the utilidors.

D. REGULATORY CONSTRAINTS

1. Asbestos-Containing Materials

The Federal Occupational Safety and Health Administration (29 CFR 1926.1101) and the State of Alaska Department of Labor (8 AAC 61) have promulgated regulations requiring testing for airborne asbestos fibers; setting allowable exposure limits for workers potentially exposed to airborne asbestos fibers; establishing contamination controls, work practices, and medical surveillance; and setting worker certification and protection requirements. These regulations apply to all workplace activities involving asbestos.

The EPA regulations, issued as Title 40 of the Code of Federal Regulations, Part 61 (40 CFR 61) under the National Emission Standards for Hazardous Air Pollutants (NESHAP) established procedures for handling ACM during asbestos removal and waste disposal. These regulations required an owner (or the owner's contractor) to notify the EPA of asbestos removal operations and to establish responsibility for the removal, transportation, and disposal of asbestos.

The disposal of asbestos waste is regulated by the EPA, the State of Alaska Department of Environmental Conservation, and the disposal site operator. Wastes being transported to the disposal site must be sealed in leak tight containers prior to disposal and must be accompanied by disposal permits and waste manifests.

2. Lead-Containing Materials

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead. The disturbance of any surfaces painted with lead-containing paint requires lead-trained personnel, personnel protective procedures, and air monitoring until exposure levels can be determined. If initial monitoring verifies that the work practices being used are not exposing workers, monitoring and protection procedures may be relaxed.

The EPA requires that actual construction or demolition debris that contains lead or lead-containing paint be tested using TCLP to determine if the waste must be treated as hazardous waste. All federal, state and local standards regulating lead and lead-containing wastes should be followed during the renovation demolition of this building.

E. RECOMMENDATIONS

1. Asbestos-Containing Materials

All asbestos-containing or asbestos-contaminated materials that will be disturbed by the planned repair or demolition work should be removed or cleaned by trained asbestos workers prior to repair or demolition activities. Asbestos-containing materials identified in the utilidors include pipe insulation, cement asbestos pipe, gaskets, packing on valves, utilidor lid sealant and dust and debris.

2. Lead-Containing Materials

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead. Lead-containing or lead based paints were used throughout the building and portions of the utilidors and therefore should be addressed to protect construction/demolition workers. Lead is a hazardous waste and the EPA requires that all waste that contains lead be tested to determine if they must be treated as hazardous waste. TCLP test results indicated the expected waste stream should be non-hazardous for lead. All stripping agents and loose paint chips must be treated as hazardous waste.

APPENDIX A

Summary of Sample Results

TABLE 1 - ASBESTOS-CONTAINING MATERIALS

The following table is a summary list of the samples collected from Project Utilidors and the results of the laboratory analysis.

SAMPLE #	*MATERIAL*	*LOCATION*	*ASBESTOS*
Various Utilidors Sampling Conducted July and August, 2002			
EUPIV-A01	Aircell pipe insulation	Manhole 103	40% Chrysotile
EUPIV-A02	Aircell pipe insulation	Condensate pipe, between manhole 103 & 106, 30 feet from 103	40% Chrysotile
EUPIV-A03	Pipe insulation	Condensate pipe, between manhole 103 & 106, 40 feet from 103	95% Amosite
EUPIV-A04	Pipe insulation	Steam line between manhole 333 & 335, 20 feet from 333	95% Amosite
EUPIV-A05	Pipe insulation	Condensate line between manhole 335 & 337-1, near 337-1	None Detected
EUPIV-A06	Black sealant	Between manhole 208 & 209 at opening of buried culvert	10% Chrysotile
EUPIV-A07	Pipe insulation	Condensate line North of Manhole 213	15% Amosite 30% Chrysotile
EUPIV-A08	Pipe insulation	Steam line North of manhole 213	15% Amosite 30% Chrysotile
EUPIV-A09	Tar	Tarpaper wrap on insulated water line S of manhole 213	10% Chrysotile
EUPIV-A10	Wall mastic	Cork panel in underfloor access hatch, Building 3110`	None Detected
Sampling performed July 13, 2000			
UTIL0007-A21	Pipe insulation/wrap	Water line on Broadway by fire hydrant W. of MH 219	None Detected
UTIL0007-A22	Pipe insulation	Steam line on Broadway by fire hydrant W. of MH 219	25% Amosite 1.5% Chrysotile
UTIL0007-A23	Pipe insulation	Condensate line on Broadway by fire hydrant W. of MH 219	25% Amosite 1.3% Chrysotile
UTIL0007-A24	Black pipe insulation wrap	Water line on Broadway E. of MH 218	None Detected
UTIL0007-A25	Pipe insulation	Steam line on Broadway E.	25% Amosite

SAMPLE #	*MATERIAL*	*LOCATION*	*ASBESTOS*
		of MH 218	Trace-Chrysotile
UTIL0007-A26	Pipe insulation	Condensate line on Broadway E. of MH 218	25% Amosite 2.0% Chrysotile
UTIL0007-A27	Cloth insulation wrap	Steam line to Building 3343 from MH 218	None Detected
UTIL0007-A28	Dust/debris	Floor of MH 218	2.5% Chrysotile Trace-Amosite
UTIL0007-A29	Pipe insulation	Steam line to Building 3112, S. of MH 203	65% Amosite
UTIL0007-A30	Insulation wrap	Water line to Building 3112 S. of MH 203	None Detected
UTIL0007-A31	Pipe insulation	Condensate line to Building 3112 S. of MH 203	65% Amosite
UTIL0007-A32	Black pipe insulation wrap	Water line on Broadway E. of MH 202	None Detected
UTIL0007-A33	Pipe insulation	Steam line on Broadway E. of MH 202	80% Amosite
UTIL0007-A34	Pipe insulation	Condensate line on Broadway E. of MH 202	80% Amosite
UTIL0007-A35	Pipe insulation	Steam line to Building at flight line/Broadway from MH 202	20% Chrysotile 2.0% Amosite
UTIL0007-A36	Pipe insulation	Water line to Building service S. of MH 202	60% Chrysotile
UTIL0007-A37	Pipe insulation	Condensate line to Building service S. of MH 202	75% Amosite
UTIL0007-A38	Black Concrete Sealant	Fire hydrant lid at Flightline and Broadway	Tar - 5.0% Chrysotile Grey Plaster - ND
UTIL0007-A39	Pipe insulation	Condensate line, south of manhole 113	20% Amosite 10% Chrysotile
UTIL0007-A40	Pipe insulation	Steam line south of manhole 113	50% Amosite
UTIL0007-A41	Cloth insulation cover	Water line south of manhole 113	None Detected

The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission light microscopy (TEM).

Lead Paint Screening
Eielson Utilidors, Phase IV

No	Site	Inspector	Room	Structure	Substrate	Feature	Condition	Color	Ssec	Date/Time	Depth Index	Results LBP	Results mg/cm^2
1	Eielson PH IV	Morgan	Shutter Cal	1					58	9/25/2002 10:00	0	...	NA
2	Eielson PH IV	Morgan	Calibrate						5.3	9/25/2002 10:01	1	NEG	0
3	Eielson PH IV	Morgan	Calibrate						5.1	9/25/2002 10:01	1	NEG	0.31
4	Eielson PH IV	Morgan	Calibrate						21.9	9/25/2002 10:01	1	POS	1.01
5	Eielson PH IV	Morgan	Calibrate						11	9/25/2002 10:02	1.1	POS	1.72
6	Eielson PH IV	Morgan	Calibrate						4.6	9/25/2002 10:02	1.1	POS	3.53
7	Eielson PH IV	Morgan	MH 103	Vault	Concrte	Vault	Poor	Brown	16.4	9/25/2002 10:04	2.8	NEG	-0.68
8	Eielson PH IV	Morgan	MH 103	Vault	Metal	Lid	Poor	Brown	5.3	9/25/2002 10:05	3.4	NEG	0.09
9	Eielson PH IV	Morgan	S of MH 103	Pipe suppt	Metal	Pipe suppt	Poor	Black	12.6	9/25/2002 10:34	2.6	NEG	0.47
10	Eielson PH IV	Morgan	MH 106	Vault	Concrte	Vault	Poor	Brown	5.6	9/25/2002 11:03	1	NEG	0
11	Eielson PH IV	Morgan	MH 106	Vault	Concrte	Vault	Poor	Brown	7.9	9/25/2002 11:03	1	NEG	0
12	Eielson PH IV	Morgan	N of MH 106	Pipe suppt	Metal	Pipe suppt	Poor	Black	9.4	9/25/2002 11:08	1.6	NEG	0.22
13	Eielson PH IV	Morgan	ditch xing	Vault	Concrte	Vault	Poor	Black	10.1	9/25/2002 11:12	1	NEG	0
14	Eielson PH IV	Morgan	ditch xing	Vault	Concrte	Vault	Poor	Black	14.7	9/25/2002 11:12	1	NEG	0
15	Eielson PH IV	**Morgan**	**MH109**	**Ext Wall**	**Metal**	**Lid**	**Poor**	**Red**	**8.8**	**9/25/2002 11:15**	**5.5**	**POS**	**7.65**
16	Eielson PH IV	Morgan	NH 109	Vault	Concrte	Vault	Poor	Brown	10.1	9/25/2002 11:17	1	NEG	0
17	Eielson PH IV	Morgan	MH 110	Vault	Concrte	Vault	Poor	Brown	10.1	9/25/2002 11:24	1	NEG	0.01
18	Eielson PH IV	Morgan	MH110	Ext Wall	Metal	Lid	Poor	Black	7.2	9/25/2002 11:24	1.3	NEG	0.33
19	Eielson PH IV	Morgan	MH 111-2	Vault	Concrte	Vault	Poor	Brown	28.7	9/25/2002 12:24	1	NEG	0
20	Eielson PH IV	Morgan	MH 111-2	Vault	Metal	Lid	Poor	Brown	7.4	9/25/2002 12:25	6	NEG	0.05
21	Eielson PH IV	Morgan	MH 111	Pipe suppt	Metal	Pipe suppt	Poor	Silver	11.4	9/25/2002 12:40	3.8	NEG	0.23
22	Eielson PH IV	Morgan	MH 111	Pipe suppt	Metal	Pipe suppt	Poor	Red	7	9/25/2002 12:41	2.6	NEG	0.06
23	Eielson PH IV	Morgan	MH 111	Pipe suppt	Metal	Pipe suppt	Poor	Green	4.9	9/25/2002 12:42	1	NEG	0.02
24	Eielson PH IV	Morgan	Calibrate						7.5	9/25/2002 12:56	1	NEG	0
25	Eielson PH IV	Morgan	Calibrate						23.9	9/25/2002 12:56	1	POS	1.03
26	Eielson PH IV	Morgan	Calibrate						18.1	9/25/2002 12:57	1.3	POS	3.08
27	Eielson PH IV	Morgan	Shutter Cal	1					60.5	9/25/2002 14:22	0	...	NA
28	Eielson PH IV	Morgan	Calibrate						3.1	9/25/2002 14:22	1	NEG	0
29	Eielson PH IV	Morgan	Calibrate						5.2	9/25/2002 14:23	1.2	NEG	0.36
30	Eielson PH IV	Morgan	Calibrate						21.9	9/25/2002 14:23	1	POS	1
31	Eielson PH IV	Morgan	Calibrate						21.4	9/25/2002 14:24	1	POS	1.6
32	Eielson PH IV	Morgan	Calibrate						20.1	9/25/2002 14:25	1.3	POS	3.06
33	Eielson PH IV	Morgan	MH 202	Vault	Concrte	Vault	Poor		21.8	9/25/2002 14:28	1.7	NEG	0.05
34	Eielson PH IV	Morgan	MH 202	Vault	Metal	Lid	Poor		3.2	9/25/2002 14:29	1	NEG	0.03
35	Eielson PH IV	Morgan	MH 333	Vault	Concrte	Vault	Poor	Brown	14.7	9/25/2002 15:21	1	NEG	0
36	Eielson PH IV	Morgan	MH 337-1	Vault	Concrte	Vault	Poor	Brown	21.8	9/25/2002 15:59	1	NEG	0
37	Eielson PH IV	Morgan	MH 337-1	Vault	Metal	Lid	Poor	Brown	3.1	9/25/2002 16:00	1	NEG	0.17
38	Eielson PH IV	Morgan	Calibrate						3.2	9/25/2002 18:09	1	NEG	0
39	Eielson PH IV	Morgan	Calibrate						20.2	9/25/2002 18:09	1	POS	1.02
40	Eielson PH IV	Morgan	Calibrate						6.7	9/25/2002 18:10	1.2	POS	3.58
41	Eielson PH IV	Morgan	Shutter Cal	1					57.9	9/26/2002 8:55	0	...	NA
42	Eielson PH IV	Morgan	Calibrate						3.1	9/26/2002 8:57	1	NEG	0
43	Eielson PH IV	Morgan	Calibrate						21.9	9/26/2002 8:57	1	POS	1.07
44	Eielson PH IV	Morgan	Calibrate						8.5	9/26/2002 8:58	1.3	POS	3.55
45	Eielson PH IV	Morgan	MH 209	Vault	Concrte	Vault	Poor	Brown	14.8	9/26/2002 8:59	1.1	NEG	0.01
46	Eielson PH IV	Morgan	MH 209	Vault	Metal	Lid	Poor	Brown	19.5	9/26/2002 9:00	1.3	NEG	0.1
47	Eielson PH IV	Morgan	MH 209	Pipe suppt	Metal	Pipe suppt	Poor	Gray	5.2	9/26/2002 9:02	1.6	NEG	0.19
48	Eielson PH IV	Morgan	MH 210	Vault	Concrte	Vault	Poor	Brown	10.2	9/26/2002 9:08	1	NEG	0

No	Site	Inspector	Room	Structure	Substrate	Feature	Condition	Color	Ssec	Date/Time	Depth Index	Results	
												LBP	mg/cm^2
49	Eielson PH IV	Morgan	MH 210	Vault	Metal	Lid	Poor	Brown	3.1	9/26/2002 9:09	1	NEG	0
50	Eielson PH IV	Morgan	MH 208-1	Vault	Concrte	Vault	Poor	Brown	12.5	9/26/2002 9:34	1	NEG	0
51	Eielson PH IV	Morgan	MH 208-1	Vault	Metal	Lid	Poor		3.2	9/26/2002 9:35	1	NEG	0.03
52	Eielson PH IV	Morgan	MH 208	Vault	Concrte	Vault	Poor	Brown	26.3	9/26/2002 9:43	1	NEG	0
53	Eielson PH IV	Morgan	MH 208	Vault	Metal	Lid	Poor	Brown	12.4	9/26/2002 9:45	1	NEG	0
54	Eielson PH IV	Morgan	MH 207	Vault	Concrte	Vault	Poor		7.8	9/26/2002 10:00	1	NEG	0
55	Eielson PH IV	Morgan	MH 207	Vault	Metal	Lid	Poor	Black	11.4	9/26/2002 10:01	1	NEG	0.71
56	Eielson PH IV	Morgan	MH 207	Pipe suppt	Metal	Pipe suppt	Poor	Black	5	9/26/2002 10:06	1.4	NEG	0.12
57	Eielson PH IV	Morgan	Calibrate						3.21	9/26/2002 10:09	1	NEG	0
58	Eielson PH IV	Morgan	Calibrate						19.8	9/26/2002 10:09	1	POS	1.02
59	Eielson PH IV	Morgan	Calibrate						6.2	9/26/2002 10:10	1.2	POS	3.68
60	Eielson PH IV	Morgan	Shutter Cal	1					60.5	9/26/2002 14:22	0	...	NA
61	Eielson PH IV	Morgan	Calibrate						3.1	9/26/2002 14:22	1	NEG	0
62	Eielson PH IV	Morgan	Calibrate						5.2	9/26/2002 14:23	1.2	NEG	0.32
63	Eielson PH IV	Morgan	Calibrate						212.9	9/26/2002 14:23	1	POS	1
64	Eielson PH IV	Morgan	Calibrate						2094	9/26/2002 14:24	1	POS	1.6
65	Eielson PH IV	Morgan	Calibrate						20.1	9/26/2002 14:25	1.3	POS	3.01
66	Eielson PH IV	Morgan	MH 354	Vault	Concrte	Vault	Poor	Brown	10.1	9/26/2002 14:29	1	NEG	0
67	Eielson PH IV	Morgan	MH 354	Vault	Concrte	Vault	Poor	Brown	10.1	9/26/2002 14:34	1	NEG	0.01
68	Eielson PH IV	Morgan	MH 355	Ext Wall	Metal	Lid	Poor	Black	7.2	9/26/2002 14:37	1.3	NEG	0.33
69	Eielson PH IV	Morgan	MH 355	Vault	Concrte	Vault	Poor	Brown	28.7	9/26/2002 14:38	1	NEG	0
70	Eielson PH IV	Morgan	MH 356	Vault	Metal	Lid	Poor	Brown	7.4	9/26/2002 14:40	6	NEG	0.05
71	Eielson PH IV	Morgan	MH 356	Pipe suppt	Metal	Pipe suppt	Poor	Black	5	9/26/2002 14:42	1.4	NEG	0.12
72	Eielson PH IV	Morgan	Calibrate						7.3	9/26/2002 14:50	1	NEG	0
73	Eielson PH IV	Morgan	Calibrate						22.6	9/26/2002 14:51	1	POS	1.04
74	Eielson PH IV	Morgan	Calibrate						18	9/26/2002 14:52	1.3	POS	3.108

Table Heading Descriptions:

Ssec: This is the nominal time in seconds that each sample was analyzed.

Depth Index: Indicates the relative depth of the lead. A Depth Index (DI) of less than 1.5 indicates lead very near the surface layer of paint. A DI between 1.5 and 4.0 indicates moderately covered lead. A DI greater than 4.0 indicates the lead paint is deeply buried beneath multiple layers of paint.

LBP: Results are shown as positive (POS $\geq$ 1.0 mg/cm^2), inconclusive (INC) or negative (NEG < 1.0 mg/cm^2). The results are based on the combined results of the K and L shell readings. L shell and K shell readings are not provided. Positive results are also in bold print.

mg/cm^2: This is the testing results produced by the NITON XL-309 instrument in milligrams of lead per square centimeter (mg/cm^2). The EPA defines lead based paint as paint containing lead at 1.0 mg/cm^2 or greater. A negative number is a result of an internal computation made by the instrument and should be interpreted as zero. Even though paint may be termed negative (less than 1.0 mg/cm) by EPA definition disturbance of the paint may still be regulated by OSHA under 29 CFR 1926.62. Where lead is present at any level, appropriate engineering controls, work practices and personal protective equipment should be used until a negative exposure assessment can be determined.

VOID: This indicates that the test was intentionally terminated by the operator due to operator error (e.g. - operator moved analyzer while testing

APPENDIX B

Field Survey Data Sheets
and
Laboratory Reports

EHS-Alaska, Inc.
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EHS ALASKA INCORPORATED

511/5.50

CHAIN OF CUSTODY RECORD/FIELD SURVEY DATA

Page 1 of 2

FIELD COLLECTION DATE: 8-2-02 | JOB #: 5707-07 | BULK ANALYSIS REQUESTED: (circle) PLM / TEM BULK / LEAD TCLP / LEAD PPM

PROJECT NAME: COE - EIELSON PHASE IV UTILIDORS

MATERIAL TYPE: (Circle) ASBESTOS LEAD | TOTAL QUANTITIES:

FACILITY: EIELSON UTILIDORS | DISPOSAL: CONTAM | TURNAROUND: 5 DAYS

SPECIAL INSTRUCTIONS:

COLLECTED BY (signature): [signature]
PRINTED NAME: BRIAN L. MORAN
CERT#: T-7577-E AHERA#
SHIPPING METHOD: 6358 1481 4757
COURIER (Signature):
DATE/TIME: 8/2/02 11AM

SELECTED LABORATORY: IATL
SAMPLES ACCEPTED BY: [signature] 8/2/02
DATE/TIME: 15
ANALYST'S SIGNATURE: [signature]
DATE: 8-2-02

COMMENTS: w/o 2130

w/o 8/20/02

SAMPLE ID	SAMPLE DESCRIPTION (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION / COMMENTS (INCLUDING PHOTO / XREF)	RESULTS
1. EUPHN-A01 1551794 MATL. CONDITION: GOOD FAIR POOR	AIRCELL DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MAN HOLE 103	40%C
2. EUPHN-A02 1551795 MATL. CONDITION: GOOD FAIR POOR	AIRCELL DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	CONDENSATE LINE BETWEEN MH 103 & MH 106 30' FROM MH 103	40%C
3. EUPHN-A03 1551796 MATL. CONDITION: GOOD FAIR POOR	PIPE INSULATION DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	STEAM LINE BETWEEN MH 103 & MH 106, 40' FROM MH 103	95%A
4. EUPHN-A04 1551797 MATL. CONDITION: GOOD FAIR POOR	PIPE INSUL DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	STEAM LINE BETWEEN MH 333 & MH 335, 20' FROM MH 335	95%A
5. EUPHN-A05 1551798 MATL. CONDITION: GOOD FAIR POOR	PIPE INSULATION DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	CONDENSATE LINE [illegible] MH 335 & MH 337-1, NEAR MH 335	90%A
6. EUPHN-A06 1551799 MATL. CONDITION: GOOD FAIR POOR	BLACK SEALANT. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	BETWEEN MH 208 & MH 209 AT OPENING OF BURIED CULVERT.	10%C
7. EUPHN-A07 1551800 MATL. CONDITION: GOOD FAIR POOR	PIPE INSULATION DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	CONDENSATE LINE N OF MH 713	30%C 15%A
8. EUPHN-A08 1551801 MATL. CONDITION: GOOD FAIR POOR	/ DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	STEAM LINE N. OF MH 713.	30%C 15%A

RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA

EHS ALASKA INCORPORATED

EHS-Alaska, Inc.
10928 Eagle River Road, Suite 202, Eagle River, AK 99577-8052
(907) 694-1383 phone • (907) 694-1382 fax
e-mail • ehsak@ehs-alaska.com

FIELD SURVEY DATA (*continued*)

PROJECT NAME: LEE EIELSON UTILIDOR PH IV
FACILITY: EIELSON UTILIDORS
JOB NUMBER: 5707-02
DATE: 8-7-02
COLLECTED BY: BG

SAMPLE ID	SAMPLE DESCRIPTION (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO / XREF)	RESULTS
EMPH IV-A09 1551802 MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	TAR.	TARPAPER WRAP ON INSULATED WATER LINE S. OF MH 713	10% C
EMPH IV-A10 1551803 MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	WALL MASTIC.	CORK PANELS IN UNDER FLOOR ACCESS HATCH, BLDG 3110	ND
EMPH IV-A11 1551804 MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	BLK TAR.	WALL OF FH 5103 MANHOLE	ND
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	END	LS 8-12-2	
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:			
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:			
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:			
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:			
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:			
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:			
MATL. CONDITION: GOOD FAIR POOR DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:			

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054

Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 08/13/2002
Project: COE-Elelson; PhaseIV; Utilidors
Project No.: 5707-02

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1551794 **Material Description:** Tan Insulation
Client No.: EUPHIV-A01 **Location:** Man Hole 103

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
40	Chrysotile	40	Cellulose	20

Lab No. 1551795 **Material Description:** Tan Insulation
Client No.: EUPHIV-A02 **Location:** Condensate Line Btwn MH103 & MH106

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
40	Chrysotile	40	Cellulose	20

Lab No. 1551796 **Material Description:** Tan Insulation
Client No.: EUPHIV-A03 **Location:** Steam Line Btwn. MH103 & MH106

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
95	Amosite	None Detected	None Detected	5

Lab No. 1551797 **Material Description:** Tan Insulation
Client No.: EUPHIV-A04 **Location:** Steam Line Btwn. MH333 & MH335

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
95	Amosite	None Detected	None Detected	5

NIST-NVLAP No. 1165 **NY-DOH No. 11021** **AIHA Lab No. 444**

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

Analysis Performed By: Louis P. Solebello
LOUIS SOLEBELLO

Date: AUG 12 2002

Approved By: Frank Ehrenfeld

Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054

Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 08/13/2002
Project: COE-Elelson; PhaseIV; Utilidors
Project No.: 5707-02

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1551798
Client No.: EUPHIV-A05
Material Description: Tan Insulation
Location: Condensate Line Btwn MH335 & MH337-1

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
90	Amosite	None Detected	None Detected	10

Lab No. 1551799
Client No.: EUPHIV-A06
Material Description: Black Tar
Location: Between MH208&MH209At OpeningOf Culvert

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
10	Chrysotile	None Detected	None Detected	90

Lab No. 1551800
Client No.: EUPHIV-A07
Material Description: White Insulation
Location: Condensate Line N. Of MH213

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
30	Chrysotile	None Detected	None Detected	55
15	Amosite			

Lab No. 1551801
Client No.: EUPHIV-A08
Material Description: White Insulation
Location: Steam Line N. Of MH213

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
30	Chrysotile	None Detected	None Detected	55
15	Amosite			

NIST-NVLAP No. 1165 **NY-DOH No. 11021** **AIHA Lab No. 444**

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

Analysis Performed By: Louis P. Solebello
Date: AUG 12
LOUIS SOLEBELLO

Approved By: Frank Ehrenfeld
Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054

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CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 08/13/2002
Project: COE-Eielson; PhaseIV; Utilidors
Project No.: 5707-02

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1551802
Client No.: EUPHIV-A09
Material Description: Black Tar
Location: Wrap On Insulated Water LincS.Of MH213

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
10	Chrysotile	None Detected	None Detected	90

Lab No. 1551803
Client No.: EUPHIV-A10
Material Description: Brown/Black Cork/Tar
Location: Cork Panel In Under Floor Access Hatch

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No. 1551804
Client No.: EUPHIV-A11
Material Description: Black Tar
Location: Wall Of FH5105 Man Hole

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	10	Fibrous Glass	90

NIST-NVLAP No. 1165 **NY-DOH No. 11021** **AIHA Lab No. 444**

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

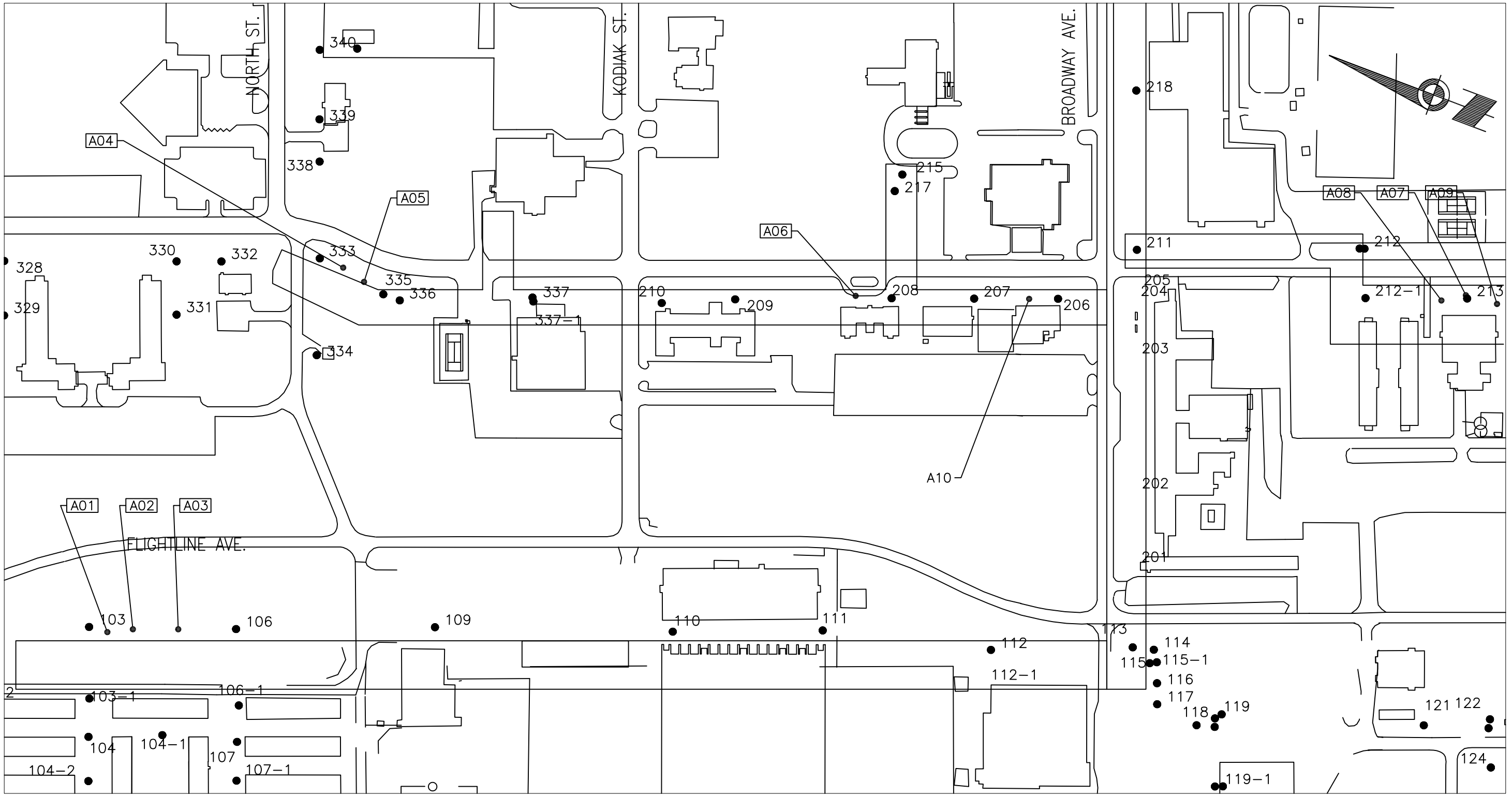
Analysis Performed By: Louis P. Solebello

Date: 8/13/2002 LOUIS SOLEBELLO

Approved By: Frank H. Ehrenfeld, III
Laboratory Director

APPENDIX C

Drawings of Asbestos Sample Locations From 2002 Surveys



LOCATION MAP A

SCALE IN FEET: 200 100 0 200 400 600

LEGEND

- AXX — ASBESTOS SAMPLE LOCATION
- [AXX] — SAMPLE LOCATIONS WHICH CONTAINED ASBESTOS

ALL SAMPLE NUMBERS ARE PRECEDED BY THE PREFIX EUPIV

EHS ALASKA INCORPORATED
ENGINEERING, HEALTH & SAFETY CONSULTANTS
10928 Eagle River Road, Suite 202, Eagle River, AK 99577-8052

EIELSON UTILIDORS
PHASE IV
EIELSON AFB, AK
HAZARDOUS ASSESMENT

PROJECT NO.	5707
DESIGNED:	BLM
DRAWN:	PDJ
CHECKED:	BLM
SCALE:	AS SHOWN
DWG. TITLE:	HAZMAT
JOB No.	5707
DATE:	9/9/02

APPENDIX D

Niton Performance Characteristic Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: April 17, 1998 **EDITION NO.: 4**

MANUFACTURER AND MODEL :
Make: *Niton Corporation*
Models: *XL-309, 701-A, 702-A, and 703-A Spectrum Analyzers*
Source: ^{109}Cd (10 - 40 mCi initial source strength)
Note: This Performance Characteristic Sheet (PCS) is applicable to the listed Niton XRF instruments which have an operating software version of 5.1 (or equivalent) using a variable-time mode, and to Niton instruments having an operating software version of 1.2C (or equivalent) using a fixed-time mode. This sheet supersedes all previous sheets for the XRF instruments made by the Niton Corporation and the 1993 testing of XL prototypes reported in the document titled: *A Field Test of Lead-Based Paint Testing Technologies* : *Technical Report* (EPA Report No. 747-R-95-002b, May 1995).

FIELD OPERATION GUIDANCE

This PCS provides supplemental information to be used in conjunction with Chapter 7 (Lead-Based Paint Inspection) of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown in this sheet are applicable only when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the HUD Guidelines.

OPERATING PARAMETERS :

Use of variable-time paint test mode ("K & L + Spectra" mode) on instruments running software version 5.1 (or equivalent) using the "Combined Lead Reading" with the instrument's display of a 95%--confident (2-sigma) *Positive* or *Negative* determination versus the action-level as the stopping point of the measurement.

Use of nominal 20-second readings for L -shell results or 120-second readings for K -shell results on instruments running software version 1.2C (or equivalent) in a fixed-time mode.

XRF CALIBRATION CHECK LIMITS :

0.9 to 1.2 mg/cm^2 (inclusive) for instruments running software version 5.1 (or equivalent)
0.9 to 1.1 mg/cm^2 (inclusive) for instruments running software version 1.2C (or equivalent)

SUBSTRATE CORRECTION :
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

For XRF results below 4.0 mg/cm^2, substrate correction recommended for:

None.

Substrate correction is <u>not</u> recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

THRESHOLDS :
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

DESCRIPTION	SUBSTRATE	THRESHOLD* (mg/cm^2)
Results not corrected for substrate bias	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

*For instruments running software version 1.2C (or equivalent), application of the decision making methodology recommended in this PCS can result in inconclusive results regardless of whether decisions are based on L-shell readings, K-shell readings, or both.

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE :

Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Three rounds of tests were conducted on approximately 150 test locations in each round.

One round of testing was conducted March 1995 using a single instrument with an October 1994 source at 10 mCi initial strength while running software version 1.2C in a fixed-time mode with nominal 20-second readings for L-shell results or 120-second readings for K-shell results.

The two other rounds of testing were conducted December 1997 using three different instruments, each running software version 5.1. Two of these instruments had new sources installed November 1997, the other instrument had a new source installed December 1997, all with 10 mCi initial strength. The December 1997 testing was performed in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the stopping point of the measurement.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film). Measurements should be bracketed by successful XRF calibration check readings. XRF calibration checks are performed at the beginning and end of the day's inspections or at extended delays in testing, and (at least) every four hours during inspections or at a frequency recommended by the manufacturer, whichever is more stringent. If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds. Measurements which are not bracketed by successful calibration checks should be considered suspect.

EVALUATING THE QUALITY OF XRF TESTING :

Randomly select ten testing combinations for re-testing from each house or from two randomly selected units in multifamily housing. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

For instruments running software version 5.1 (or equivalent), conduct the test in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the

stopping point of the measurement. For instruments running software version 1.2C (or equivalent) in the fixed-time mode, use either 20-second readings for the L-shell results or 120-second readings for the K-shell results, as described in the "Classifications of Results" section below.

Conduct XRF re-testing at the ten testing combinations selected for re-testing.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multifamily housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

BIAS AND PRECISION :

Bias and precision data were not computed for instruments using software version 5.1 and taking variable mode readings. (See Appendix B, Section B.3.2 of the document titled *Methodology for XRF Performance Characteristic Sheets* , EPA-747-R-45-008, September 1997). During the 1997 testing, there were 12 testing locations with laboratory-measured lead levels equal to or greater than 4.0 mg/cm ^{2} lead which were tested using two instruments in the variable-time paint test mode. None of these testing locations had XRF readings less than 1.0 mg/cm ^{2}. These data are for illustrative purposes only. Substrate correction is not recommended for this XRF instrument.

The bias and precision data given below are for instruments running software version 1.2C (or equivalent) and were computed without substrate correction using the 20 -second L-shell readings from samples with

reported laboratory results less than 4.0 mg/cm ^{2} lead. Readings reported by the instrument in the "*x*" or ">>*x*" format were not used in the computation. During the 1995 testing there were 15 test locations with a laboratory reported result equal to or greater than 4.0 mg/cm^2 lead. Of these, 12 readings were reported in the ">*x*" or ">>*x*" format, but of the 3 remaining, 1 had an XRF reading less than 1.0 mg/cm ^{2}.

Bias & Precision Results for Niton Model XL-309 Instruments Using Software Version 1.2C (or equivalent)

MEASURED AT	SUBSTRATE	BIAS (mg/cm^2)	PRECISION* (mg/cm^2)
0.0 mg/cm^2	All	0.0	<0.1
0.5 mg/cm^2	All	0.0	0.2
1.0 mg/cm^2	All	0.0	0.3
2.0 mg/cm^2	All	-0.1	0.5

*Precision at 1 standard deviation

CLASSIFICATION OF RESULTS :

This section describes how to apply information displayed by this instrument to determine the presence or absence of lead in paint using the procedures recommended in Chapter 7 of the HUD Guidelines. These guidelines recommend classifying XRF results as positive, negative, or inconclusive compared to the lead-based paint 1.0 mg/cm ^{2} standard.

For Niton Model XL-309, 701-A, 702-A, and 703-A instruments running software version 5.1 (or equivalent), XRF results are classified using a threshold. There is no inconclusive classification when using the threshold for instruments running software version 5.1. In single-family and multifamily housing, an XRF result is a single reading taken on each testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.) For computing the XRF result, use all digits that are displayed by the instrument as the "Combined Lead Reading." Results are classified as positive (i.e., $\geq$ 1.0 mg/cm^2), if greater than or equal to the threshold, or negative (< 1.0 mg/cm^2) if less than the threshold. Threshold values, provided in the tables above, were determined by comparing XRF test results to the 1.0 mg/cm^2 standard.

For Niton Model XL-309 instruments running software version 1.2C (or equivalent), additional procedures are needed to classify readings because this software displays readings and ancillary information useful for classification purposes. An algorithmic procedure is described that makes use of the XRF reading and other displayed information.

The algorithm for classifying results is first applied to 20-second nominal L-shell readings followed by 120-second nominal K-shell readings to resolve inconclusive results, or to recommend laboratory analysis of paint-chip samples, if necessary. A listing of laboratories recognized by the EPA National Lead Laboratory Accreditation Program (NLLAP) for the confirmational analysis of inconclusive results is available from the National Lead Clearinghouse at 1-800-424-LEAD.

XRF results are classified using threshold values for the Model XL-309 software version 1.2C (or equivalent). Results are classified as positive if greater than or equal to the threshold, and as negative if less than the threshold. There is no inconclusive classification when using threshold values. However, in some cases, inconclusive results still may be obtained regardless of whether decisions are based on L-shell readings, K-shell readings, or both, as described below. Use all digits that are reported by the instrument. Threshold values, which were determined for comparing results to the 1.0 mg/cm^2 standard, are provided in the table above.

This instrument displays its lead-based paint measurements as both L-shell and K-shell readings based on

the corresponding L-shell and K-shell X-ray fluorescence (refer to Chapter 7 of the HUD Guidelines for more details). The L-shell readings (or L-readings) are displayed as a numerical result alone, or as a numerical result preceded by either one greater-than symbol (">") or preceded by two greater-than symbols (">>"). The two greater-than symbols will only be displayed when the detected lead level is greater than 5.0 mg/cm^2. Since the maximum lead level reported by this instrument is 5.0 mg/cm^2, lead levels greater than 5.0 mg/cm^2 are displayed as ">>5.0". Other examples of how L-readings can be displayed (in mg/cm^2 units) are "0.6" and ">0.9". The numerical display alone implies that the instrument measured the lead in the paint at the displayed level using L-shell X-ray fluorescence ; 0.6 mg/cm^2 in the example. A number preceded by a single greater-than symbol indicates that the measurable lead is deeply buried in the paint and the detected lead level is greater than the displayed value. In the example, >0.9 indicates that the instrument detected lead deeply buried in paint at a level greater than 0.9 mg/cm^2. K-shell readings (or K-readings) are displayed in one of two ways: 1) as a single K-reading plus and minus a "precision" value or 2) as an upper K-reading and lower K-reading.

The same method is used for testing in single-family and multifamily housing. The HUD Guidelines recommend taking a single XRF reading on a testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

A. Take a single 20-second nominal reading on each testing combination.

B. Classify the L-reading based on the type of information displayed.

   <u>If two greater-than symbols are displayed then</u>:

   - Classify the >>5.0 L-reading as POSITIVE

   <u>If one greater-than symbol is displayed then</u>:

   - Classify the L-reading as POSITIVE if the numerical result that follows the greater than symbol is equal to or greater than 1.0.

   - Classify the L-reading as INCONCLUSIVE if the numerical result that follows the greater than symbol is less than 1.0.

   <u>If the numerical L-reading is displayed alone (that is, without any preceding greater-than symbols) then</u>:

   - Classify the L-reading as POSITIVE if the numerical result is equal to or greater than 1.0.

   - Classify the L-reading as NEGATIVE if the numerical result is less than 1.0.

C. Resolution of results classified as inconclusive.

   All results classified as inconclusive above require further investigation. Take a 120-second nominal XRF reading and use the K-shell reading. In multifamily housing, resolve the inconclusive classification with a single K-shell reading or laboratory analysis as described below.

   - Classify the result as POSITIVE if either the K-reading minus the displayed precision value <u>or</u> the lower K-reading is equal to or greater than 1.0.

   - Classify the result as NEGATIVE if either the K-reading plus the displayed precision value <u>or</u> the upper K-reading is less than 1.0.

   - Classify the result as INCONCLUSIVE if neither of the above decision rules using the K-reading provided a classification which can occur when the upper K-reading is equal to or greater than 1.0 or the lower K-reading is less than 1.0.

- To resolve a remaining INCONCLUSIVE classification, remove a paint-chip sample as described in Chapter 7 of the HUD Guidelines and have it analyzed by a qualified laboratory as described in Chapter 7.

TESTING TIMES (FOR SOFTWARE VERSION 5.1) :

For the variable-time paint test mode "K & L + Spectra," the instrument continues measuring until a positive or negative result is indicated relative to an action level (1.0 mg/cm ^{2} for archive testing) and the current precision, or until the reading is terminated by moving the instrument away from the testing surface. None of the variable mode readings were terminated because of the two-minute limit used for archive testing. The following table provides testing time information for this testing mode. Source strength and type of substrate will affect actual testing times.

Testing Times for Instruments Running Software Version 5.1						
Variable mode testing times (seconds)						
	All data			Median for laboratory—measured lead levels (mg/cm ^{2})		
Substrate	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 <= Pb < 1.0	1.0 <= Pb
Wood Drywall	6	8	15	6	20	5
Metal	6	13	20	13	20	6
Brick Concrete Plaster	6	11	20	9	18	6

DOCUMENTATION :
This PCS was developed in accordance with the methodology in the EPA report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008, September 1997). This report provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) under a grant from the U. S. Environmental Protection Agency and a separate contract between MRI and the XRF manufacturer. The U.S. Department of Housing and Urban Development (HUD) has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* . While MRI reserves the right to revise this XRF Performance Characteristic Sheet at any time, HUD's statement of acceptance would not apply to a revision until HUD has reviewed the revision and made a determination of its acceptability.

SURVEY REPORT
HAZARDOUS BUILDING MATERIALS

FLIGHTLINE, DIVISION AND CENTRAL UTILIDORS

EIELSON AFB, UTILIDOR REPAIR, PHASE III
EIELSON AIR FORCE BASE
ALASKA

June 29, 2001

EHS-ALASKA, INC.
ENGINEERING, HEALTH & SAFETY CONSULTANTS
10928 EAGLE RIVER ROAD, SUITE 202
EAGLE RIVER, ALASKA 99577-8052

HAZARDOUS MATERIALS DESIGN ANALYSIS
EIELSON AFB, UTILIDOR REPAIR, PHASE III

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APPENDICES

HAZARDOUS MATERIALS DESIGN ANALYSIS
EIELSON AFB, UTILIDOR REPAIR, PHASE III

A. OVERVIEW

The work on this project is to support the Alaska District Corps of Engineers in the project Repair Utilidors, Phase III, located at Eielson AFB, Alaska. The work on this project involves the repair of the utilidors in two non-contiguous areas. The west project area is along Flightline Avenue from manhole 704 to Division Street, along Division Street from the lift station to manhole 510, from the lift station to the service riser in building 1201. The east project area is along Central Ave. from manhole 551-1 to the water treatment plant entrance, from manhole 548 east to manhole 531 and north from manhole 531 to manhole 517. The utilidor sections that are included in this project have reached the end of their useful life and are in need of replacement.

EHS-Alaska, Inc., as a consultant to PDC Inc., inspected the utilidors during the week of June 4 - 8, and June 11 – 13, 2001 for the presence, extent, and condition of possible asbestos-containing materials (ACM) and lead-based paint. The purpose of this inspection was to identify hazardous materials that will be disturbed during planned repair and upgrade activities. As-built drawings and previous survey reports were used to supplement the inspection and sampling results.

B. SAMPLING AND ANALYSIS

1. Asbestos-Containing Materials

EHS-Alaska performed a survey of the utilidors and took 10 samples of materials suspected of containing asbestos. The survey and sampling done for this project supplements the previous sampling data collected by Eielson AFB personnel and Phase I and Phase II surveys of similar utilidors. The samples were analyzed for the presence of asbestos by polarized light microscopy (PLM), the method of analysis recommended by the U.S. Environmental Protection Agency (EPA) to determine the composition of suspected asbestos-containing materials. Samples were analyzed for asbestos content by International Asbestos Testing Laboratories (IATL), Mt. Laurel, New Jersey a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory. Only materials containing more than 1% total asbestos were classified as "asbestos-containing" based on EPA and the Occupational Safety and Health Administration (OSHA) criteria. Table 1 in Appendix A contains a summary list of asbestos samples and the results applicable to this project. Field survey data sheets and laboratory reports are included in Appendix B.

2. Lead-Containing Materials

EHS-Alaska tested paint in 61 locations throughout the project area. Paint was tested using a NITON XL309 X-Ray Fluorescence (XRF) lead paint analyzer (Serial # U862NR0666 with software version 5.3). The instrument was operated in the "K & L + Spectra" mode. Prior to testing and every four hours thereafter an instrument self-calibration test was performed and the instrument calibration was checked using a set of government traceable lead paint samples. Calibration was checked using known paint film samples containing 1.0 $\pm$ 0.1 mg/cm^2, 1.6 $\pm$ 0.2 mg/cm^2 and 0.3 $\pm$ 0.1 mg/cm^2 of lead. The instrument was calibrated and all calibration tests were successful. Calibration tests are indicated in the test results table with the word "calibration" in the room column.

EPA and the Department of Housing and Urban Development (HUD) have defined lead-based paint as any paint or other surface coating that contains lead equal to or in excess of 1.0 milligram per square centimeter (mg/ cm^2) or 0.5 percent by weight. XRF results are classified as positive (lead is present at 1.0 mg/cm^2 or greater), negative (less than 1.0 mg/ cm^2 of lead was present) or inconclusive (the XRF could not make a conclusive positive or negative determination). No inconclusive tests were recorded. Tests that were invalid due to operator error are shown as void tests. A copy of the test results is provided in Appendix C.

A Performance Characteristic Sheet (PCS) for the NITON XL309 is provided in Appendix D. This PCS data provides supplemental information to be used in conjunction with Chapter 7 of the "HUD Guidelines". Performance parameters provided in the PCS are applicable when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the "HUD Guidelines". The instrument was operated in accordance with manufacturer's instructions and Chapter 7 of the HUD Guidelines. No substrate correction is required for this instrument. There is no inconclusive classification for this instrument when using the 1.0 mg/cm threshold.

C. SURVEY RESULTS

1. Asbestos-Containing Materials in the Utilidors

Pipe Insulation

All steam, condensate and water piping in the utilidors eastern portion of the project area were insulated with asbestos-containing insulation or asbestos-contaminated insulation on both straight runs and fittings. Fiberglass insulation was only identified in manhole vaults and on a small percent of piping where repairs had been made. Most asbestos-containing insulation tested contained both chrysotile and amosite asbestos and is considered highly friable when disturbed. The planned repairs in this area will require that all piping in the utilidors be demolished. Typically, when piping insulated with asbestos-containing insulation is to be demolished, the pipe and insulation is wrapped and removed with the insulation intact. However, during earlier phases of this project, contractors have abated the piping prior to removal from the utilidors. Either approach is sound and the abatement contractor should be

allowed to propose the method he feels can accomplish the job in the safest, most cost-effective manner.

Gaskets and Packing on Valves

Flange gaskets and packing on valves throughout the utilidor system could not be sampled without disassembly, but were assumed to contain asbestos based on the age of the utilidors and equipment.

Cement Asbestos Pipe

Main sewer lines in the utilidors were primarily cement asbestos "transite" pipe. This material was in good condition and is not considered friable unless broken in very small pieces.

Dust and Debris

Loose asbestos-containing pipe insulation was noted on the floors of some service utilidors. Due to reported flooding of the utilidors, all surfaces in the utilidor are assumed contaminated with asbestos including non-asbestos type insulation. The one exception to this is the east-west section of utilidor along Division Street. This section contains all newly insulated (fiberglass) pipe and will require insulation removal only as necessary to complete the piping replacement.

2. Lead-Containing Materials in the Utilidors

Paint

Lead in paints tested varied from a trace amount to as high as 11.98 mg/cm^2. Lead based paints (paint containing more than 1.0 mg/cm^2 of lead) were identified on metal manhole hole lids, fire hydrants and vent pipes. Paints used on the concrete portion of the manhole covers contained lead but were below 1.0 mg/cm^2. Paint on both the metal and concrete portions of the manhole covers were in poor condition and peeling. Loose paint should be removed and disposed of as hazardous waste to prevent contamination of soils in the area. Paint on metal pipe supports in the utilidors also contained lead at low levels. Painted metal pipe supports are to be recycled and should not enter the waste stream.

Other metallic lead items identified in the utilidors include shielded communication cables. These cables should be removed for recycling.

3. PCB-Containing Materials in the Utilidors

No PCB-containing materials were identified in the utilidors.

4. Mercury-Containing Materials in the Utilidors

No mercury-containing materials were identified in the utilidors.

D. REGULATORY CONSTRAINTS

1. Asbestos-Containing Materials

The Federal Occupational Safety and Health Administration (29 CFR 1926.1101) and the State of Alaska Department of Labor (8 AAC 61) have promulgated regulations requiring testing for airborne asbestos fibers; setting allowable exposure limits for workers potentially exposed to airborne asbestos fibers; establishing contamination controls, work practices, and medical surveillance; and setting worker certification and protection requirements. These regulations apply to all workplace activities involving asbestos.

The EPA regulations, issued as Title 40 of the Code of Federal Regulations, Part 61 (40 CFR 61) under the National Emission Standards for Hazardous Air Pollutants (NESHAP) established procedures for handling ACM during asbestos removal and waste disposal. These regulations required an owner (or the owner's contractor) to notify the EPA of asbestos removal operations and to establish responsibility for the removal, transportation, and disposal of asbestos.

The disposal of asbestos waste is regulated by the EPA, the State of Alaska Department of Environmental Conservation, and the disposal site operator. Wastes being transported to the disposal site must be sealed in leak tight containers prior to disposal and must be accompanied by disposal permits and waste manifests.

2. Lead-Containing Materials

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead. The disturbance of any surfaces painted with lead-containing paint requires lead-trained personnel, personnel protective procedures, and air monitoring until exposure levels can be determined. If initial monitoring verifies that the work practices being used are not exposing workers, monitoring and protection procedures may be relaxed.

The EPA requires that actual construction or demolition debris that contains lead or lead-containing paint be tested using TCLP to determine if the waste must be treated as hazardous waste. All federal, state and local standards regulating lead and lead-containing wastes should be followed during the renovation demolition of this building.

E. RECOMMENDATIONS

1. Asbestos-Containing Materials

All asbestos-containing materials that will be disturbed by the planned repair or demolition work should be removed by trained asbestos workers prior to repair or demolition activities. Asbestos-containing materials identified in the utilidors include pipe insulation, cement asbestos pipe and dust and debris.

2. Lead-Containing Materials

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead. Lead-containing or lead based paints were used throughout the building and portions of the utilidors and therefore should be addressed to protect construction/demolition workers. Lead is a hazardous waste and the EPA requires that all waste that contains lead be tested to determine if they must be treated as hazardous waste. TCLP test results indicated the expected waste stream should be non-hazardous for lead. All stripping agents and loose paint chips must be treated as hazardous waste.

APPENDIX A

Summary of Sample Results

TABLE 1 - ASBESTOS-CONTAINING MATERIALS

The following table is a summary list of the samples collected from Project Utilidors and the results of the laboratory analysis.

SAMPLE #	*MATERIAL*	*LOCATION*	*ASBESTOS*
Various Utilidors			
UPIII-A01	Fibrous pipe insulation	Condensate pipe, manhole 551-1, north portal	85% Amosite
UPIII-A02	Fibrous pipe insulation	Condensate pipe, manhole 550, south portal	85% Amosite
UPIII-A03	Fibrous pipe insulation	Steam pipe, manhole 550, north portal	85% Amosite
UPIII-A04	Black tar paper	Water pipe, Manhole 549	None Detected
UPIII-A05	Brown papery wrap and fiberglass insulation	Water pipe, Manhole 548, north portal	None Detected
UPIII-A06	Tarry fabric insulation	Water pipe, Manhole 535, south portal	Trace < 1%
UPIII-A07	Fibrous pipe insulation	Steam pipe, manhole 535, south portal	85% Amosite
UPIII-A08	Black mastic from insulating board	Ceiling, Manhole 140, north portal	3.8% Chrysotile
UPIII-A09	Black tar paper	Water pipe, Manhole 503, south portal	None Detected
UPIII-A10	Fibrous pipe insulation	Steam pipe, manhole 704, north portal	85% Amosite

The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission light microscopy (TEM).

APPENDIX B

Field Survey Data Sheets
and
Laboratory Reports

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054

Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 06/30/2001
Project: Eielson Utilidors; Phase III
Project No.: 5513-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1296072 **Material Description:** Tan Insulation
Client No.: UPIII-A01 **Location:** Manhole 551-1 N.Portal6"Condensate

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
85	Amosite	None Detected	None Detected	15

Lab No. 1296073 **Material Description:** Tan Insulation
Client No.: UPIII-A02 **Location:** Manhole 550 S.Portal Condensate

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
85	Amosite	None Detected	None Detected	15

Lab No. 1296074 **Material Description:** Tan Insulation
Client No.: UPIII-A03 **Location:** Manhole 550 S.Portal; SteamLine

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
85	Amosite	None Detected	None Detected	15

Lab No. 1296075 **Material Description:** Black Roof Material
Client No.: UPIII-A04 **Location:** Manhole 549 Water Line

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	30	Cellulose	70

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EHS - ALASKA, INC.

NIST-NVLAP No. 1165 **NY-DOH No. 11021** **AIHA Lab No. 444**

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

Analysis Performed By: H. Sonny Robb, AIHA-AAR 4883

Date: JUN 22 2001

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054

Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 06/30/2001
Project: Eielson Utilidors; Phase III
Project No.: 5513-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1296076 **Material Description:** Tan Insulation
Client No.: UPIII-A05 **Location:** Manhole548; N.Portal 16" Water Line

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	20	Cellulose	15
		65	Mineral Wool	

Lab No. 1296077 **Material Description:** Tan Insulation
Client No.: UPIII-A06 **Location:** Manhole535; S.Portal 10" Water Line

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC Trace	Chrysotile	20	Cellulose	80

Lab No. 1296078 **Material Description:** Tan Insulation
Client No.: UPIII-A07 **Location:** Manhole535; S.Portal 12" Steam Line

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
85	Amosite	None Detected	None Detected	15

Lab No. 1296079 **Material Description:** Black Tar
Client No.: UPIII-A08 **Location:** Manhole140; N.Portal Ceiling

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 3.8	Chrysotile	None Detected	None Detected	PC 96.2

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EHS - ALASKA, INC.

NIST-NVLAP No. 1165 **NY-DOH No. 11021** **AIHA Lab No. 444**

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

Analysis Performed By: H. Sonny Robb, AIHA-AAR 4883

Date: JUN 22 2001

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054

Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 06/30/2001
Project: Eielson Utilidors; Phase III
Project No.: 5513-01

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1296080
Client No.: UPIII-A09
Material Description: Black Tar Paper
Location: Manhole503; S.Portal Water Line

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	35	Cellulose	65

Lab No. 1296081
Client No.: UPIII-A10
Material Description: Tan Insulation
Location: Manhole704; N.Portal Steam Line

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
85	Amosite	None Detected	None Detected	15

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NIST-NVLAP No. 1165 **NY-DOH No. 11021** **AIHA Lab No. 444**

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

Analysis Performed By: H. Sonny Robb, AIHA-AAR 4883

Date: JUN 22 2001

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

EHS-Alaska, Inc.
10928 Eagle River Road, Suite 202, Eagle River, AK 99577-8052
(907) 694-1383 phone • (907) 694-1382 fax
e-mail • ehsak@ehs-alaska.com

511/4

CHAIN OF CUSTODY RECORD/FIELD SURVEY DATA

Page 1 of 2

FIELD COLLECTION DATE: 6-4 → 6-13-01	JOB #: 5513-01	BULK ANALYSIS REQUESTED: (circle) PLM / TEM BULK / LEAD TCLP / LEAD PPM
PROJECT NAME: EIELSON UTILIDORS - PHASE III	MATERIAL TYPE: (Circle) ASBESTOS LEAD	TOTAL QUANTITIES: 10
FACILITY: EIELSON AFB - MISC	DISPOSAL: ROUTINE	TURNAROUND: 5 DAYS

SPECIAL INSTRUCTIONS:

COLLECTED BY (signature)	SELECTED LABORATORY: IAT	COMMENTS:
PRINTED NAME: BRIAN L. MORGAN	SAMPLES ACCEPTED BY	
CERT#: T-7577-E AHERA#:	DATE/TIME: JUN 15 2001	
SHIPPING METHOD: Fedex 8256 0090 7230	ANALYST'S SIGNATURE	
COURIER (signature)	DATE	
DATE/TIME: 6/14/01 11 a.m.		

RECEIVED JUN 15 2001

LG 6/21 1550

NJ 6/20/01 6/22/01

SAMPLE ID	SAMPLE DESCRIPTION (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION / COMMENTS (INCLUDING PHOTO / XREF)	RESULTS
1. UPIII-A01 1296072 MATL. CONDITION: GOOD FAIR POOR	FIBROUS PIPE INSUL. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MANHOLE 551-1 N. PORTAL 6" CONDENSATE LINE	85% A
2. UPIII-A02 1296073 MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MANHOLE 550 S. PORTAL CONDENSATE LINE	85% A
3. UPIII-A03 1296074 MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MANHOLE 550 N. PORTAL STEAM LINE	85% A
4. UPIII-A04 1296075 MATL. CONDITION: GOOD FAIR POOR	BLACK TAR PAPER DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MANHOLE 549 H_2O LINE	ND
5. UPIII-A05 1296076 MATL. CONDITION: GOOD FAIR POOR	BRN PAPERY WRAP & FIBERGLASS INSUL DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MANHOLE 548 N. PORTAL 16" H_2O LINE	ND
6. UPIII-A06 1296077 MATL. CONDITION: GOOD FAIR POOR	TARRY FABRIC INSULATION DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MANHOLE 535 S. PORTAL 10" H_2O LINE	TRACE
7. UPIII-A07 1296078 MATL. CONDITION: GOOD FAIR POOR	FIBROUS PIPE INSUL DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MANHOLE 535 S. PORTAL 12" STEAM LINE	85% A
8. UPIII-A08 1296079 MATL. CONDITION: GOOD FAIR POOR	BLK MASTIC FROM INSUL. BOARD DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MANHOLE 140 N. PORTAL CEILING	3.8% C

RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA

EHS ALASKA INCORPORATED

EHS-Alaska, Inc.
10928 Eagle River Road, Suite 202, Eagle River, AK 99577-8052
(907) 694-1383 phone • (907) 694-1382 fax
e-mail • ehsak@ehs-alaska.com

FIELD SURVEY DATA (*continued*)

PROJECT NAME: EIELSON UTILIDORS ~~PHASE~~ III
FACILITY: EIELSON AFB - MISC
JOB NUMBER: 5513-01
DATE: 6-4-7613-01
COLLECTED BY: BL

SAMPLE ID	SAMPLE DESCRIPTION (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO / XREF)	RESULTS
UPIII-A09 1296080 MATL. CONDITION: GOOD FAIR POOR	BLACK TAR PAPER DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MANHOLE 503 S. PORTAL H_2O LINE	ND
UPIII-A10 1296081 MATL. CONDITION: GOOD FAIR POOR	FIBROUS INSUL DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MANHOLE 704 N. PORTAL STEAM LINE	85% A
MATL. CONDITION: GOOD FAIR POOR	END DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		

APPENDIX C

Lead Analyzer Test Results

PAINTED SURFACE SAMPLING
Site: eielson AFB Utilidors Phase III

No	Room	Manhole #	Structure	Substrate	Condition	Color	Result	mg/sq cm	Error +/-
1	Shutter Cal						...	NA	
2	Calibrate						NEG	0	0.01
3	Calibrate						NEG	0.26	0.1
4	Calibrate						POS	1.01	0.12
5	Calibrate						POS	1.5	0.22
6	Calibrate						POS	3.65	0.85
7	Outside	551	Door	Metal	Fair	Beige	NEG	0.28	0.3
8	Outside	551-1	Door	Metal	Fair	Beige	NEG	0.55	0.23
9	Outside	550-1	Door	Metal	Fair	Beige	NEG	0	0.07
10	Outside	adj to 550-1	Vent Pipe	Metal	Fair	Brown	NEG	0.03	0.17
11	**Outside**	**adj to 550**	**Fire Hyd**	**Metal**	**Fair**	**Brown**	**POS**	**2.38**	**1.09**
12	Outside	550	Door	Metal	Fair	Beige	NEG	0.45	0.26
13	Outside	550-2	Door	Metal	Fair	Beige	NEG	0	0.02
14	Outside	549	Door	Metal	Fair	Beige	NEG	0.37	0.26
15	**Outside**	**adj to 549**	**Fire Hyd**	**Metal**	**Fair**	**Brown**	**POS**	**1.93**	**0.41**
16	Outside	548	Door	Metal	Fair	Black	NEG	0.17	0.18
17	Outside	548-2	Door	Metal	Intact	Grey	NEG	0.08	0.96
18	**Outside**	**547**	**Door**	**Metal**	**Fair**	**Beige**	**POS**	**11.98**	**5.13**
19	Outside	547	Box	Concrte	Fair	Beige	NEG	0.03	0.13
20	Shutter Cal	1					...	NA	
21	Calibrate	2					NEG	0	0.01
22	Calibrate	1					NEG	0.39	0.26
23	Calibrate	0					POS	0.97	0.11
24	Calibrate	1					POS	1.62	0.27
25	Calibrate	1					POS	3.5	0.81
26	**Outside**	**adj to 547**	**Fire Hyd**	**Metal**	**Fair**	**Brown**	**POS**	**6.11**	**2.37**
27	Calibrate	547	Wall	Concrte	Peeling	Beige	NEG	0	0.01
28	Shutter Cal	1					...	NA	
29	Calibrate						NEG	0.03	0.11
No	**Room**	**Manhole #**	**Structure**	**Substrate**	**Condition**	**Color**	**Result**	**mg/sq cm**	**Error +/-**
30	Calibrate						NEG	0.25	0.05
31	Calibrate						NEG	0.93	0.1

32	Calibrate						POS		1.59	0.21
33	Calibrate						POS		3.59	0.85
34	Calibrate						POS		3.55	0.34
35	Outside	546	Door	Metal	Poor	Beige	NEG		0.3	0.33
36	**Outside**	**531**	**Door**	**Metal**	**Poor**	**Beige**	**POS**		**2.5**	**0.7**
37	**Outside**	**530**	**Door**	**Metal**	**Poor**	**Beige**	**POS**		**2.18**	**0.58**
38	Outside	532	Door	Metal	Poor	Beige	NEG		0.85	0.11
39	**Outside**	**adj to 532**	**Fire Hyd**	**Metal**	**Fair**	**Brown**	**POS**		**1.21**	**0.15**
40	Shutter Cal	1					...	NA		
41	Calibrate						NEG		0	0.02
42	Calibrate						NEG		0.37	0.17
43	Calibrate						POS		3.42	0.43
44	Calibrate						POS		65.95	4.37
45	Outside	533	Door	Metal	Poor	Black	NEG		0.07	0.13
46	Outside	533-1	Door	Metal	Poor	Black	NEG		0.87	0.23
47	**Outside**	**adj to 533**	**Fire Hyd**	**Metal**	**Poor**	**Brown**	**POS**		**2.3**	**0.53**
48	Shutter Cal	1					...	NA		
49	Calibrate						NEG		0	0.01
50	Calibrate						NEG		0.35	0.13
51	Calibrate						POS		1.64	0.22
52	Calibrate						POS		3.54	0.3
53	**Outside**	**537**	**Door**	**Metal**	**Peeling**	**Black**	**POS**		**3.15**	**0.81**
54	**Outside**	**538**	**Door**	**Metal**	**Poor**	**Beige**	**POS**		**8.93**	**3.2**
55	**Outside**	**538**	**Inside Door**	**Metal**	**Poor**	**Black**	**POS**		**6.98**	**2.65**
56	Outside	adj to 538	Fire Hyd	Metal	Fair	Brown	NEG		0	0.06
57	Outside	535	Door	Metal	Peeling	Black	NEG		0.01	0.04
58	Outside	535-1	Door	Metal	Poor	Black	NEG		0.12	0.07
59	**Outside**	**535-1**	**Door**	**Metal**	**Fair**	**Brown**	**POS**		**1.84**	**0.41**
60	**Outside**	**FH 3414**	**Fire Hyd**	**Metal**	**Fair**	**Brown**	**POS**		**1.47**	**0.28**
61	Shutter Cal	1					...	NA		
62	Calibrate						NEG		0	0.01
63	Calibrate						NEG		0.3	0.1
No	**Room**	**Manhole #**	**Structure**	**Substrate**	**Condition**	**Color**	**Result**	**mg/sq cm**		**Error +/-**
64	Calibrate						POS		1.56	0.23
65	Calibrate						POS		3.53	0.3
66	**Outside**	**adj to 518**	**Fire Hyd**	**Metal**	**Fair**	**Brown**	**POS**		**1.44**	**0.29**
67	Outside	518	Door	Metal	Poor	Beige	NEG		0.38	0.2

No	Room	Manhole #	Structure	Substrate	Condition	Color	Result	mg/sq cm	Error +/-
68	Outside	516	Door	Metal	Peeling	Beige	NEG	0.3	0.17
69	**Outside**	**517**	**Door**	**Metal**	**Fair**	**Beige**	**POS**	**5.1**	**1.6**
70	Outside	510	Door	Metal	Poor	Beige	NEG	0.24	0.11
71	Outside	510-1	Door	Metal	Poor	Beige	NEG	0	0.09
72	Outside	509	Door	Metal	Peeling	Beige	NEG	0.01	0.04
73	Outside	509	Inside Door	Metal	Peeling	Black	NEG	0.17	0.1
74	Shutter Cal	1					...	NA	
75	Calibrate						NEG	0	0.01
76	Calibrate						NEG	0.26	0.03
77	Calibrate						POS	3.48	0.27
78	Outside	508	Door	Metal	Poor	Beige	NEG	0	0.02
79	Outside	adj to 507	Vertical Door	Metal	Fair	Beige	NEG	0.03	0.1
80	Shutter Cal	1					...	NA	
81	Calibrate						NEG	0	0.14
82	Calibrate						NEG	0.29	0.05
83	Calibrate						NEG	0.9	0.09
84	Calibrate						POS	1.58	0.21
85	Calibrate						POS	3.52	0.34
86	Outside	145	Door	Metal	Poor	Beige	NEG	0.36	0.3
87	**Outside**	**Adj to FH 1201**	**Pipe**	**Metal**	**Fair**	**Brown**	**POS**	**2.86**	**0.7**
88	Outside	140	Door	Metal	Poor	Black	NEG	0.19	0.11
89	Shutter Cal	1					...	NA	
90	Calibrate						NEG	0	0.02
91	Calibrate						NEG	0.3	0.1
92	Calibrate						POS	1.64	0.22
93	Calibrate						POS	3.48	0.31
94	Outside	506	Door	Metal	Poor	Beige	NEG	0.11	0.14
95	Outside	FH 506	Fire Hyd	Metal	Fair	Brown	NEG	0	0.06
96	Outside	505	Door	Metal	Poor	Beige	NEG	0.28	0.25
97	**Outside**	**adj to 505**	**Fire Hyd**	**Metal**	**Poor**	**Brown**	**POS**	**3.16**	**0.82**
98	Shutter Cal	1					...	NA	
99	Calibrate						NEG	0	0.01
100	Calibrate						POS	1.56	0.23
101	Calibrate						POS	3.49	0.25
102	**Outside**	**504**	**Door**	**Metal**	**Fair**	**Brown**	**POS**	**1.83**	**0.4**
103	**Outside**	**adj to 504**	**Fire Hyd**	**Metal**	**Fair**	**Brown**	**POS**	**2.17**	**0.45**

104	Shutter Cal	1					...	NA			
105	Calibrate						NEG		0	0.02	
106	Calibrate						NEG		0.25	0.06	
107	Calibrate						NEG		0.95	0.08	
108	Calibrate						POS		1.41	0.09	
109	Calibrate						POS		3.55	0.34	
110	Outside	(	503	Door	Metal	Poor	Beige	NEG		0.24	0.2
111	**Outside**		**adj to 503**	**Door**	**Metal**	**Poor**	**Brown**	**POS**		**2.14**	**0.43**
112	**Outside**		**2**	**Door**	**Metal**	**Poor**	**Beige**	**POS**		**3.39**	**0.94**
113	Shutter Cal	1					...	NA			
114	Calibrate						NEG		0	0.01	
115	Calibrate						POS		1.58	0.23	
116	Calibrate						POS		3.41	0.21	
117	Outside	(	501	Door	Metal	Fair	Beige	NEG		0.29	0.39
118	**Outside**		**501**	**Door**	**Metal**	**Peeling**	**Beige**	**POS**		**5.1**	**1**
119	**Outside**		**701**	**Door**	**Metal**	**Fair**	**Beige**	**POS**		**6.84**	**2.02**
120	Outside	3	702	Door	Metal	Fair	Beige	NEG		0.07	0.11
121	**Outside**		**FH 32-11**	**Fire Hyd**	**Metal**	**Fair**	**Brown**	**POS**		**1.6**	**0.39**
122	Outside	5	705	Door	Metal	Poor	Beige	NEG		0.01	0.01
123	**Outside**		**703**	**Door**	**Metal**	**Poor**	**Beige**	**POS**		**4.44**	**1.66**
124	Outside	7	704	Door	Metal	Poor	Beige	NEG		0.12	0.31

APPENDIX D

NITON
Performance Characteristics Sheets

Performance Characteristic Sheet

EFFECTIVE DATE: April 17, 1998 **EDITION NO.: 4**

MANUFACTURER AND MODEL :
Make: *Niton Corporation*
Models: *XL-309, 701-A, 702-A, and 703-A Spectrum Analyzers*
Source: ^{109}Cd (10 - 40 mCi initial source strength)
Note: This Performance Characteristic Sheet (PCS) is applicable to the listed Niton XRF instruments which have an operating software version of 5.1 (or equivalent) using a variable-time mode, and to Niton instruments having an operating software version of 1.2C (or equivalent) using a fixed-time mode. This sheet supersedes all previous sheets for the XRF instruments made by the Niton Corporation and the 1993 testing of XL prototypes reported in the document titled: *A Field Test of Lead-Based Paint Testing Technologies* : *Technical Report* (EPA Report No. 747-R-95-002b, May 1995).

FIELD OPERATION GUIDANCE

This PCS provides supplemental information to be used in conjunction with Chapter 7 (Lead-Based Paint Inspection) of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown in this sheet are applicable only when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the HUD Guidelines.

OPERATING PARAMETERS :

Use of variable-time paint test mode ("K & L + Spectra" mode) on instruments running software version 5.1 (or equivalent) using the "Combined Lead Reading" with the instrument's display of a 95%--confident (2-sigma) *Positive* or *Negative* determination versus the action-level as the stopping point of the measurement.

Use of nominal 20-second readings for L -shell results or 120-second readings for K -shell results on instruments running software version 1.2C (or equivalent) in a fixed-time mode.

XRF CALIBRATION CHECK LIMITS :

0.9 to 1.2 mg/cm^2 (inclusive) for instruments running software version 5.1 (or equivalent)
0.9 to 1.1 mg/cm^2 (inclusive) for instruments running software version 1.2C (or equivalent)

SUBSTRATE CORRECTION :
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

For XRF results below 4.0 mg/cm^2, substrate correction recommended for:

None.

Substrate correction is <u>not</u> recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

THRESHOLDS :
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

DESCRIPTION	SUBSTRATE	THRESHOLD* (mg/cm^2)
Results not corrected for substrate bias	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

*For instruments running software version 1.2C (or equivalent), application of the decision making methodology recommended in this PCS can result in inconclusive results regardless of whether decisions are based on L-shell readings, K-shell readings, or both.

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE :

Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Three rounds of tests were conducted on approximately 150 test locations in each round.

One round of testing was conducted March 1995 using a single instrument with an October 1994 source at 10 mCi initial strength while running software version 1.2C in a fixed-time mode with nominal 20-second readings for L-shell results or 120-second readings for K-shell results.

The two other rounds of testing were conducted December 1997 using three different instruments, each running software version 5.1. Two of these instruments had new sources installed November 1997, the other instrument had a new source installed December 1997, all with 10 mCi initial strength. The December 1997 testing was performed in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the stopping point of the measurement.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film). Measurements should be bracketed by successful XRF calibration check readings. XRF calibration checks are performed at the beginning and end of the day's inspections or at extended delays in testing, and (at least) every four hours during inspections or at a frequency recommended by the manufacturer, whichever is more stringent. If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds. Measurements which are not bracketed by successful calibration checks should be considered suspect.

EVALUATING THE QUALITY OF XRF TESTING :

Randomly select ten testing combinations for re-testing from each house or from two randomly selected units in multifamily housing. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

For instruments running software version 5.1 (or equivalent), conduct the test in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the

stopping point of the measurement. For instruments running software version 1.2C (or equivalent) in the fixed-time mode, use either 20-second readings for the L-shell results or 120-second readings for the K-shell results, as described in the "Classifications of Results" section below.

Conduct XRF re-testing at the ten testing combinations selected for re-testing.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multifamily housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

BIAS AND PRECISION :

Bias and precision data were not computed for instruments using software version 5.1 and taking variable mode readings. (See Appendix B, Section B.3.2 of the document titled *Methodology for XRF Performance Characteristic Sheets* , EPA-747-R-45-008, September 1997). During the 1997 testing, there were 12 testing locations with laboratory-measured lead levels equal to or greater than 4.0 mg/cm ^{2} lead which were tested using two instruments in the variable-time paint test mode. None of these testing locations had XRF readings less than 1.0 mg/cm ^{2}. These data are for illustrative purposes only. Substrate correction is not recommended for this XRF instrument.

The bias and precision data given below are for instruments running software version 1.2C (or equivalent) and were computed without substrate correction using the 20 -second L-shell readings from samples with

reported laboratory results less than 4.0 mg/cm ^{2} lead. Readings reported by the instrument in the "*x*" or ">>*x*" format were not used in the computation. During the 1995 testing there were 15 test locations with a laboratory reported result equal to or greater than 4.0 mg/cm^2 lead. Of these, 12 readings were reported in the ">*x*" or ">>*x*" format, but of the 3 remaining, 1 had an XRF reading less than 1.0 mg/cm ^{2}.

Bias & Precision Results for Niton Model XL-309 Instruments Using Software Version 1.2C (or equivalent)

MEASURED AT	SUBSTRATE	BIAS (mg/cm^2)	PRECISION* (mg/cm^2)
0.0 mg/cm^2	All	0.0	<0.1
0.5 mg/cm^2	All	0.0	0.2
1.0 mg/cm^2	All	0.0	0.3
2.0 mg/cm^2	All	-0.1	0.5

*Precision at 1 standard deviation

CLASSIFICATION OF RESULTS :

This section describes how to apply information displayed by this instrument to determine the presence or absence of lead in paint using the procedures recommended in Chapter 7 of the HUD Guidelines. These guidelines recommend classifying XRF results as positive, negative, or inconclusive compared to the lead-based paint 1.0 mg/cm ^{2} standard.

For Niton Model XL-309, 701-A, 702-A, and 703-A instruments running software version 5.1 (or equivalent), XRF results are classified using a threshold. There is no inconclusive classification when using the threshold for instruments running software version 5.1. In single-family and multifamily housing, an XRF result is a single reading taken on each testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.) For computing the XRF result, use all digits that are displayed by the instrument as the "Combined Lead Reading." Results are classified as positive (i.e., $\geq$ 1.0 mg/cm^2), if greater than or equal to the threshold, or negative (< 1.0 mg/cm^2) if less than the threshold. Threshold values, provided in the tables above, were determined by comparing XRF test results to the 1.0 mg/cm^2 standard.

For Niton Model XL-309 instruments running software version 1.2C (or equivalent), additional procedures are needed to classify readings because this software displays readings and ancillary information useful for classification purposes. An algorithmic procedure is described that makes use of the XRF reading and other displayed information.

The algorithm for classifying results is first applied to 20-second nominal L-shell readings followed by 120-second nominal K-shell readings to resolve inconclusive results, or to recommend laboratory analysis of paint-chip samples, if necessary. A listing of laboratories recognized by the EPA National Lead Laboratory Accreditation Program (NLLAP) for the confirmational analysis of inconclusive results is available from the National Lead Clearinghouse at 1-800-424-LEAD.

XRF results are classified using threshold values for the Model XL-309 software version 1.2C (or equivalent). Results are classified as positive if greater than or equal to the threshold, and as negative if less than the threshold. There is no inconclusive classification when using threshold values. However, in some cases, inconclusive results still may be obtained regardless of whether decisions are based on L-shell readings, K-shell readings, or both, as described below. Use all digits that are reported by the instrument. Threshold values, which were determined for comparing results to the 1.0 mg/cm^2 standard, are provided in the table above.

This instrument displays its lead-based paint measurements as both L-shell and K-shell readings based on

the corresponding L-shell and K-shell X-ray fluorescence (refer to Chapter 7 of the HUD Guidelines for more details). The L-shell readings (or L-readings) are displayed as a numerical result alone, or as a numerical result preceded by either one greater-than symbol (">") or preceded by two greater-than symbols (">>"). The two greater-than symbols will only be displayed when the detected lead level is greater than 5.0 mg/cm^2. Since the maximum lead level reported by this instrument is 5.0 mg/cm^2, lead levels greater than 5.0 mg/cm^2 are displayed as ">>5.0". Other examples of how L-readings can be displayed (in mg/cm^2 units) are "0.6" and ">0.9". The numerical display alone implies that the instrument measured the lead in the paint at the displayed level using L-shell X-ray fluorescence ; 0.6 mg/cm^2 in the example. A number preceded by a single greater-than symbol indicates that the measurable lead is deeply buried in the paint and the detected lead level is greater than the displayed value. In the example, >0.9 indicates that the instrument detected lead deeply buried in paint at a level greater than 0.9 mg/cm^2. K-shell readings (or K-readings) are displayed in one of two ways: 1) as a single K-reading plus and minus a "precision" value or 2) as an upper K-reading and lower K-reading.

The same method is used for testing in single-family and multifamily housing. The HUD Guidelines recommend taking a single XRF reading on a testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

A. Take a single 20-second nominal reading on each testing combination.

B. Classify the L-reading based on the type of information displayed.

   <u>If two greater-than symbols are displayed then</u>:

   - Classify the >>5.0 L-reading as POSITIVE

   <u>If one greater-than symbol is displayed then</u>:

   - Classify the L-reading as POSITIVE if the numerical result that follows the greater than symbol is equal to or greater than 1.0.

   - Classify the L-reading as INCONCLUSIVE if the numerical result that follows the greater than symbol is less than 1.0.

   <u>If the numerical L-reading is displayed alone (that is, without any preceding greater-than symbols) then</u>:

   - Classify the L-reading as POSITIVE if the numerical result is equal to or greater than 1.0.

   - Classify the L-reading as NEGATIVE if the numerical result is less than 1.0.

C. Resolution of results classified as inconclusive.

   All results classified as inconclusive above require further investigation. Take a 120-second nominal XRF reading and use the K-shell reading. In multifamily housing, resolve the inconclusive classification with a single K-shell reading or laboratory analysis as described below.

   - Classify the result as POSITIVE if either the K-reading minus the displayed precision value <u>or</u> the lower K-reading is equal to or greater than 1.0.

   - Classify the result as NEGATIVE if either the K-reading plus the displayed precision value <u>or</u> the upper K-reading is less than 1.0.

   - Classify the result as INCONCLUSIVE if neither of the above decision rules using the K-reading provided a classification which can occur when the upper K-reading is equal to or greater than 1.0 or the lower K-reading is less than 1.0.

- To resolve a remaining INCONCLUSIVE classification, remove a paint-chip sample as described in Chapter 7 of the HUD Guidelines and have it analyzed by a qualified laboratory as described in Chapter 7.

TESTING TIMES (FOR SOFTWARE VERSION 5.1) :

For the variable-time paint test mode "K & L + Spectra," the instrument continues measuring until a positive or negative result is indicated relative to an action level (1.0 mg/cm ^{2} for archive testing) and the current precision, or until the reading is terminated by moving the instrument away from the testing surface. None of the variable mode readings were terminated because of the two-minute limit used for archive testing. The following table provides testing time information for this testing mode. Source strength and type of substrate will affect actual testing times.

Testing Times for Instruments Running Software Version 5.1						
Variable mode testing times (seconds)						
	All data			Median for laboratory—measured lead levels (mg/cm ^{2})		
Substrate	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 <= Pb < 1.0	1.0 <= Pb
Wood Drywall	6	8	15	6	20	5
Metal	6	13	20	13	20	6
Brick Concrete Plaster	6	11	20	9	18	6

DOCUMENTATION :
This PCS was developed in accordance with the methodology in the EPA report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008, September 1997). This report provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) under a grant from the U. S. Environmental Protection Agency and a separate contract between MRI and the XRF manufacturer. The U.S. Department of Housing and Urban Development (HUD) has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* . While MRI reserves the right to revise this XRF Performance Characteristic Sheet at any time, HUD's statement of acceptance would not apply to a revision until HUD has reviewed the revision and made a determination of its acceptability.

APPENDIX G

JANUARY 2002 EIELSON UTILIDOR DESIGN GUIDE *(revised for Repair Utilidors, Phase IV)*

TABLE OF CONTENTS

NOTE: CONDENSATE LINE SHOWN IN SKETCHES SHALL BE BELOW STEAM AND NOT ON THE FLOOR AS SHOWN. SEE DB/RFP PLANS FOR PIPE ARRANGEMENT.

I. General Utilidor Construction Criteria

1. Pipe anchors in utilidors shall consist of welded steel plates, channels and wide-flange sections as required. Channel sections that extend between concrete walls and welded steel plates in the walls and channel sections that extend between the ceiling and floor and welded plates in floor and ceiling are acceptable. Wall anchors for steam and condensate piping shall have bolts extending all the way through the walls with bolts sized according to the size of steam and condensate piping. Floor anchors must be approved by Utilidor Shop Supervisor, [Al Myers 377-2172]

2. Cast-in-place anchor points should be used when possible.

3. ASTM C533, type 1 calcium silicate pipe insulation with aluminum jackets should be used to insulate pipe in high-traffic areas including manholes. In all other locations, use fiberglass insulation with button or Velcro®-fastened padded insulation for all valves and fittings.

4. Manholes will have Bilco-style aluminum lids (J-AL, JD-AL or approved equal) with fixed ladders. Frost lids will also have Bilco-style aluminum insulated lids. Some lids may open at the center of the ladder in two halves, opening right and left. Some lids may open at the center of the ladder toward the back of the manhole. See drawing example.

5. Welding shall be preformed with qualified procedures with performance qualified welders in accordance with latest edition of ASME BPV Section IX code and ANSI B31.1. A qualified weld inspector shall perform 100% visual and 10% radiographic weld inspection. A complete weld inspection report shall be provided at conclusion of job as a record document.

   Repair Utilidors, Phase IV clarification: 100% visual inspection of final welds and random visual inspection of 10% of weld passes.

6. Air Force Civil Engineering Utilidor and or Water Distribution Shop personnel will perform periodic site inspections and report deficiencies to the project inspector.

7. Cracked or damaged utilidor lids must be replaced prior to backfilling. Joints between utilidor lid sections shall be sealed with expanding foam and an elastomeric sealer.

8. Guide and support all steam, condensate, and domestic water piping in accordance with the respective expansion joint manufacturer's recommendations.

9. ~~Government retains salvage rights~~. *Repair Utilidors, Phase IV edit: Specific salvage items are listed on Sht G1.2*

10. All utility main shut downs and start-ups will be done by base Utilidor Shop personnel.

11. Questions regarding this guide can be directed to Mr. Al Myers (CEOWD – 377-2172) or Mr. Malcolm Nason (CEOW – 377-2264).

II. Steam Distribution and Condensate Return

A. Steam distribution

1. All steam mains or service lateral mains shall be schedule 40 ASTM A106 or A53 black carbon steel pipe and have shielded metal arc welded joints, in the utilidor corridors and the manhole, regardless of size. On smaller diameter piping socket weld fittings are acceptable.

2. All steam trace lines shall be schedule 80 ASTM A106 or A53 black carbon steel pipe and have shielded metal arc welded joints, in the utilidor corridors and the manhole, regardless of size. On smaller diameter piping socket weld fittings are acceptable.

3. Two-inch and smaller diameter pipe used for drain or trap assemblies shall be schedule 80 ASTM A106 or A53 black carbon steel pipe with threaded or welded connections.

4. Valves over two inches shall be 150-pound class outside screw and yoke cast steel valves with class 150 flange.

5. Valves two inches and under shall be 200-pound class ~~water~~ *steam*/400-pound class ~~steam~~ *water*, threaded bronze, union-bonnet gate valves.

6. Valves on straight-line runs of the main distribution shall be flanged regardless of their size.

7. Expansion joints shall be internally- and externally guided packed metal type (Hyspan model 6501 or approved equal). Slip tube shall be schedule 80 with a chrome-plated seal surface. Expansion joints shall be designed to allow injection of packing and lubricant under full operating pressure. Joints shall have 150-pound class flanges with matching raised face companion flanges.

8. All flanges shall be provided with spiral wound, steel ring gaskets with centering rings. Gaskets shall be of appropriate pressure class and temperature rating for selected application. Paper or composition gaskets are not permitted.

9. Flanges shall utilize ASTM A193 grade B7 studs with matching ASTM A194 grade 2H nuts. Do not use bolts.

10. Provide drip legs with condensate trap assemblies and blow down at steam main low points. For pipes smaller than six inches in diameter, drip pocket diameter shall equal the pipe diameter. For pipes six inches and larger diameter, drip leg diameter shall be two thirds of the pipe diameter. Blow downs shall be one and one half-inch diameter as a minimum. Install trap assemblies and blow downs as shown in attached detail.

11. <u>Flanges in man holes only. Absolutely no flanges on any size piping or fittings except joining valves or expansion joints. No flanged pups, drip legs, or fittings except joining valves or expansion joints. No flanged fittings, drip legs, or pups entering or leaving manholes. They must be welded.</u>

12. Install warm-up valves on each isolation valve larger than 4 inches in diameter.

13. Welded tee fittings shall be used at connection of service mains or laterals to main distribution lines instead of weld-o-lets when possible. Locate lateral shut-off valves as

close to the main as possible followed by properly anchored and guided expansion joints. No elbows, tees or other fittings shall be installed between the main and the shut-off valve. Do not substitute swing joints, flex-pipe or any other device for specified expansion joints. Keep all components in an accessible arrangement.

14. Steam trace is not required in steam distribution or service utilidors. Steam trace is required in fire hydrant service utilidors. Steam trace should be installed in a looped configuration with manually operated isolation valves at the steam distribution main or lateral. Piping shall be not less than one inch in diameter with welded sockets. Welded joints are acceptable. Manual valves shall be used for steam trace control. Thermostatic valves are not acceptable.

15. Steam distribution main and lateral piping should be supported *at least* every twelve feet to allow for axial pipe movement during expansion and contraction. Roller and shoe supports are preferred.

16. All piping shall have a minimum of eight inches clearance from utilidor wall and ceiling surfaces, adjacent piping and other equipment.

B. Condensate return

1. All condensate return piping shall be scheduling 80 ASTM A106 or A53 black carbon steel pipe, shielded metal arc welded regardless of size, in the utilidors and the manholes. For smaller diameter pipe socket weld fittings are acceptable. Flex lines and threaded pipe are not acceptable.

2. Provide drains (one and one-quarter inch minimum diameter) at all low points.

3. Nipples on drip and tracer lines shall be schedule 80.

4. Steam trap assemblies shall be ¾ inch in size and connect steam distribution main and lateral line drip legs and condensate return main or lateral lines via thread-o-lets. Connection to the drip leg shall be via threadolet. Steam traps shall discharge into the condensate return through threadolet connections with one pipe size smaller long-radius elbow welded inside the threadolet. Direct elbow to discharge in direction of flow. Unions shall be schedule 80. Threaded components will be assembled with Teflon tape applied to the male threads; pipe joint compound is not acceptable.

5. Steam traps shall be thermostatic-type with bimetallic regulator element (~~Gestra BK-16, Velan SF-150 or approved equal~~). Refer to attached detail for steam trap assembly details.

6. Steam trap assemblies shall have all valves as close to drip legs, steam or condensate lines as possible, on the first nipple before any fittings. All piping and fittings shall be schedule 80.

7. Expansion joints shall be internally- and externally guided packed metal type (Hyspan model 6501 or approved equal). Slip tube shall be schedule 80 with a chrome-plated seal surface. Expansion joints shall be designed to allow injection of packing and lubricant under full operating pressure. Joints shall have 150-pound class flanges with matching raised face companion flanges.

8. All flanges shall be provided with spiral wound, steel ring gaskets with centering rings. Gaskets shall be of appropriate pressure class and temperature rating for selected application. Paper or composition gaskets are not permitted.

9. Valves over two inches shall be 150-pound class outside screw and yoke cast steel valves with 150-pound class flange.

10. Valves two inches and under shall be ~~400-pound class water/200-pound class steam~~*200-pound class steam/400-pound class water,* threaded bronze, union-bonnet gate valves.

III. Domestic Water and Sewer

A. Domestic Water Distribution

1. All main, service and lateral pipe greater than ~~two~~ *four* inches in diameter shall be ANSI C151 ductile iron with ANSI C104 cement lining.

2. ~~Two~~ *Four*-inch diameter and smaller pipe shall be schedule 40 ASTM A53 galvanized steel.

3. Joints may be welded, flanged or ANSI/AWWA C606 mechanically connected grooved and shouldered joints. *4-inch diameter galvanized steel pipe shall have ANSI/AWWA C606 joints. Galvanized steel pipe less than 4-inches shall have threaded joints.*

4. Valves larger than two inches shall be 125-pound class, flanged, cast steel gate valves. Service line from the main shall include valves next to the main allowing room for operation and maintenance.

5. Valves two inches and smaller shall be 125-pound class bronze, union bonnet gate valves, *except where noted in plans*. Provide one schedule 40 union adjacent to valve but not between valve and the main. Butterfly and globe valves are not permitted.

6. All flanges shall be provided with one-eighth inch thick rubber gaskets. Use galvanized fasteners.

7. Service lateral piping to hydrants shall not have check valves. Provide Waterous, Kennedy or approved equal hydrants. All hydrants shall be dry-type. Butterfly valves are not acceptable on service lateral to hydrant.

8. Expansion joints shall be laminated bellows-type (Hyspan model 1501 or approved equal). Joint shall feature a stainless steel flow liner and 150-pound class flanges with matching raised face companion flanges. Guide and anchor pipe in accordance with expansion joint manufacturer's recommendations.

B. Sanitary Sewer

1. All main, service and lateral pipe shall be ANSI C151 ductile iron.

2. Sump pump discharge pipe shall be Schedule 40 ASTM A53 galvanized steel. Pipe diameter shall be as noted in plans.

3. Joints shall be ANSI/AWWA C606 mechanically connected grooved and shouldered joints. Flexible, restrained, push-on joints meeting ANSI/AWWA C111/A21.11 are also acceptable. Restrained joint fittings and the restraining components shall be Ductile Iron

in accordance with applicable requirements of ANSI/AWWA C110/A21.10 and/or C153/A21.53. No-hub joints are not acceptable.

4. ~~Gravity sewers shall be sloped at one-quarter inch per foot minimum~~. *New sewer line shall have the following minimum slopes:*

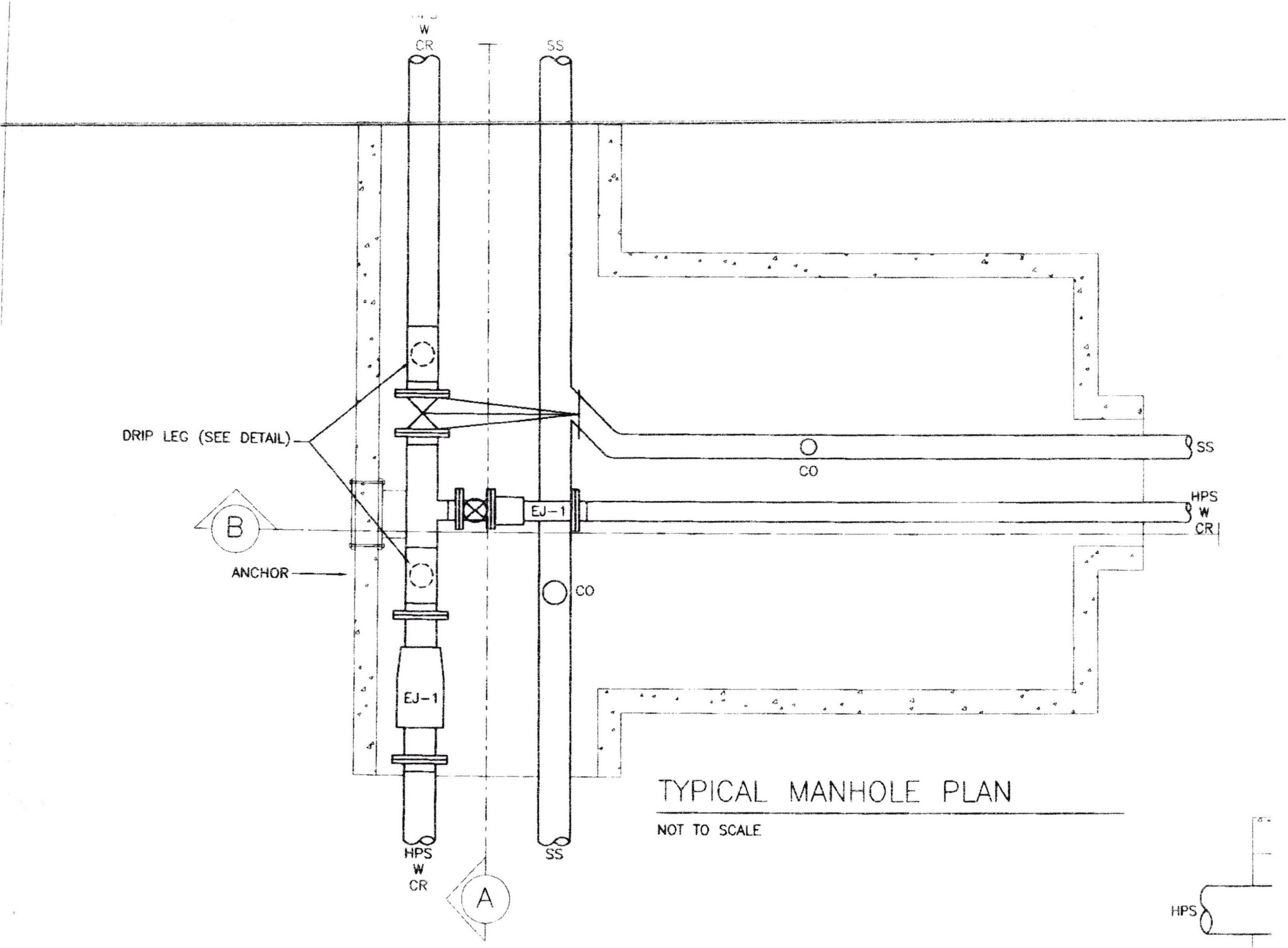
    - 6 inch services 2%
    - 8 inch 0.40%
    - 10 inch 0.30%
    - 12 inch 0.22%
    - 14 inch 0.17%
    - 16 inch 0.14%
    - 20 inch 0.10%
    - 24 inch 0.08%
    - 30 inch 0.06%

5. Sewer lines eight inches in diameter and greater can be direct buried.

6. Provide at least one clean out in each manhole. Sewers eight inches and larger in diameter shall have Y-style clean outs. Sewers smaller than eight inches in diameter shall have saddle-style clean outs with removable hatch measuring no less than 4 inches by 8 inches.

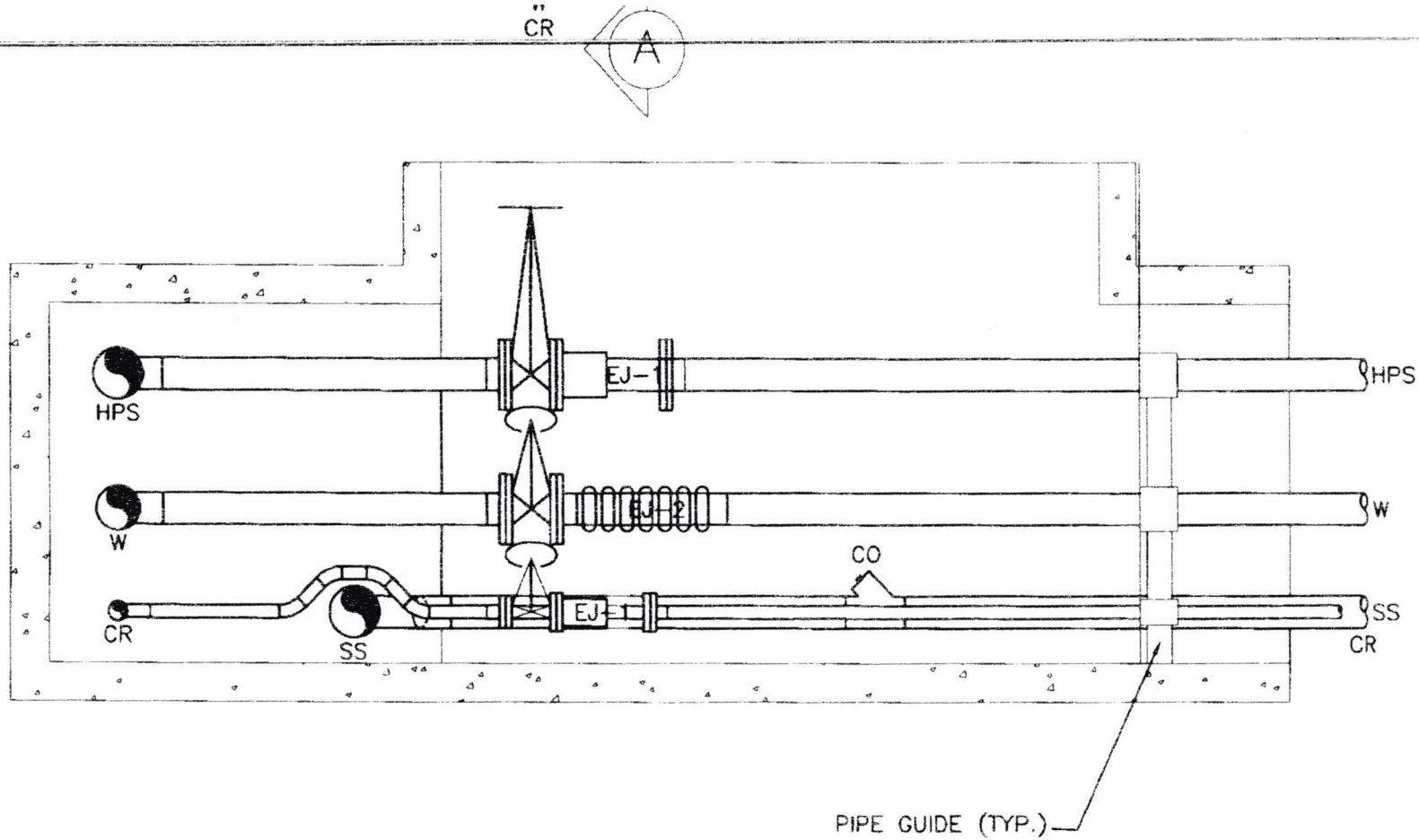
7. All sewer mains and laterals will be properly anchored. Concrete saddles are preferred.

8. To prevent cross-contamination, *new* sewer main and lateral piping shall be installed below other piping. *Utilidor repair projects utilize existing slopes and pipe alignments determined by project boundary points of connection.* Observe Alaska Department of Environmental Conservation (ADEC) requirements for pipe separation *and installation in utilidors*.



TYPICAL MANHOLE PLAN

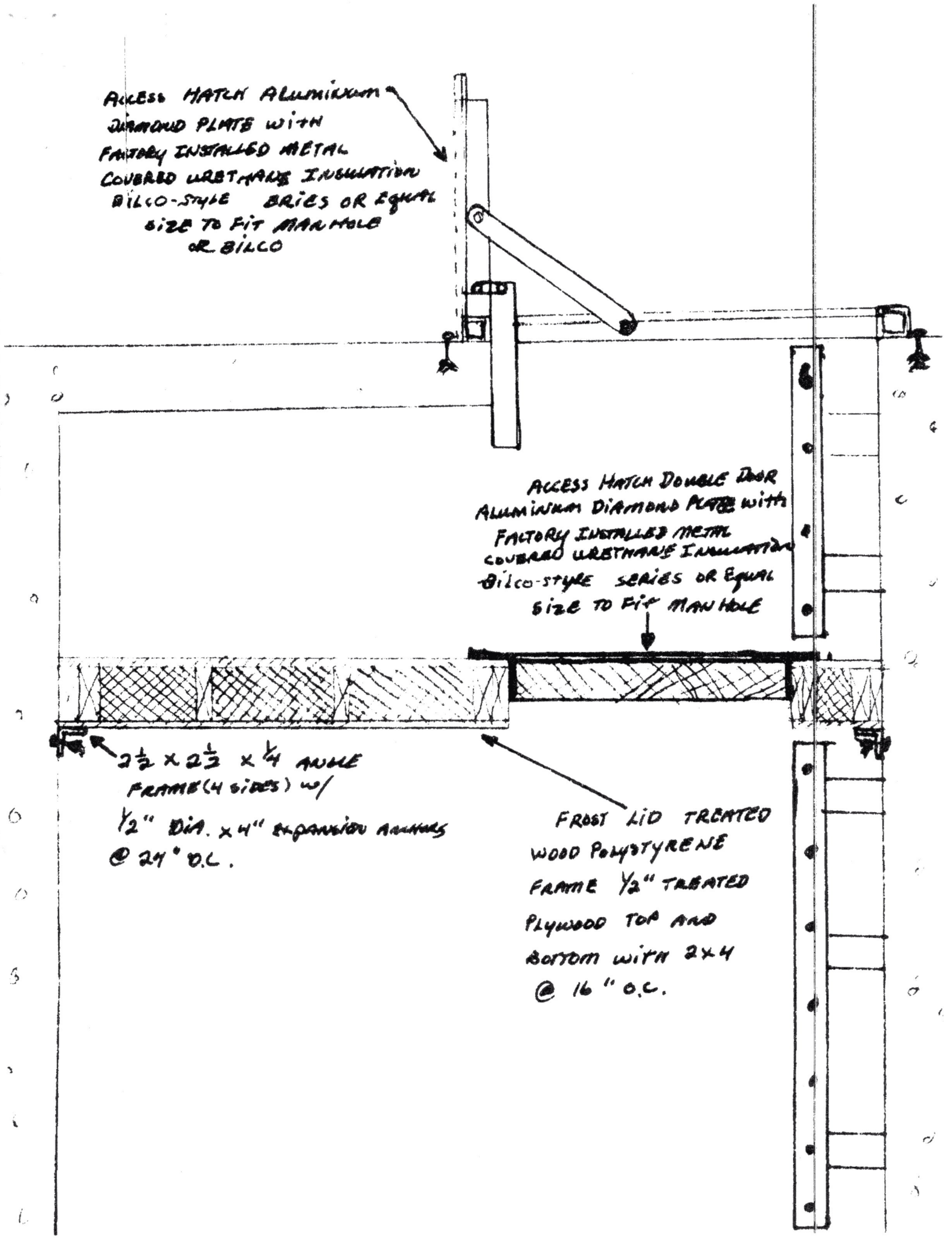
NOT TO SCALE

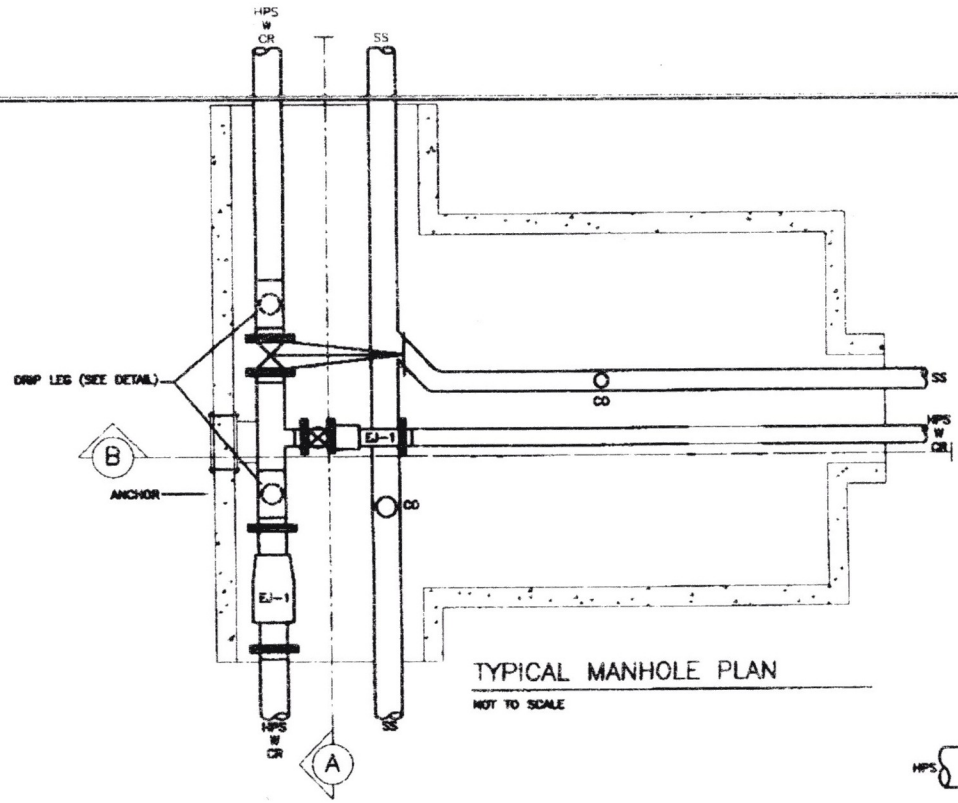


(SEE 1

SECTION A

NOT TO SCALE


ACCESS HATCH ALUMINUM DIAMOND PLATE WITH FACTORY INSTALLED METAL COVERED URETHANE INSULATION BILCO-STYLE BRIES OR EQUAL SIZE TO FIT MAN HOLE OR BILCO
ACCESS HATCH DOUBLE DOOR ALUMINUM DIAMOND PLATE WITH FACTORY INSTALLED METAL COVERED URETHANE INSULATION BILCO-STYLE SERIES OR EQUAL SIZE TO FIT MAN HOLE
2½ x 2½ x ¼ ANGLE FRAME (4 SIDES) W/ ½" DIA. x 4" EXPANSION ANCHORS @ 24" O.C.
FROST LID TREATED WOOD POLYSTYRENE FRAME ½" TREATED PLYWOOD TOP AND BOTTOM WITH 2x4 @ 16" O.C.



TYPICAL MANHOLE PLAN

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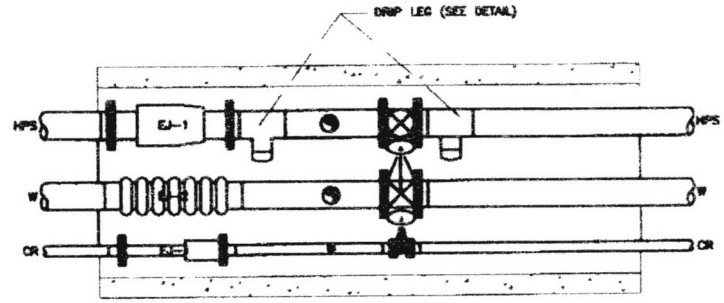

SECTION B

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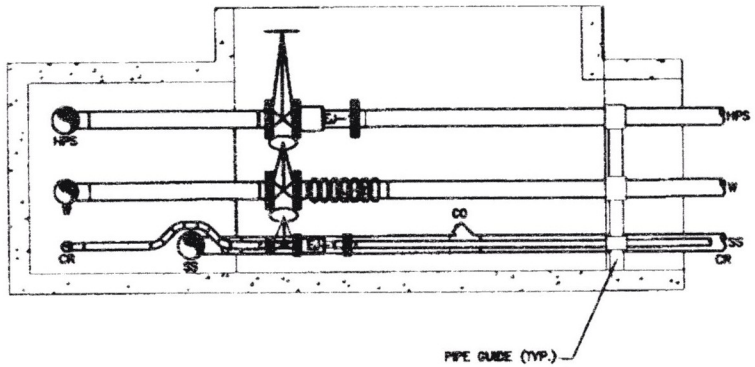

SECTION A

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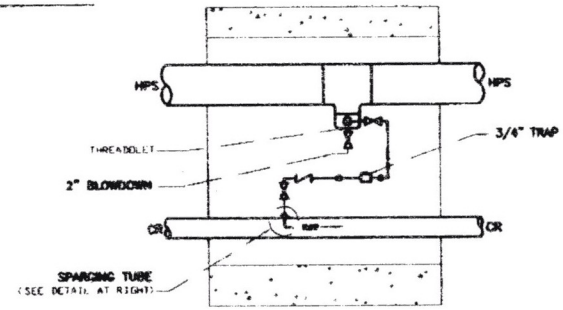

DRIP LEG DETAIL

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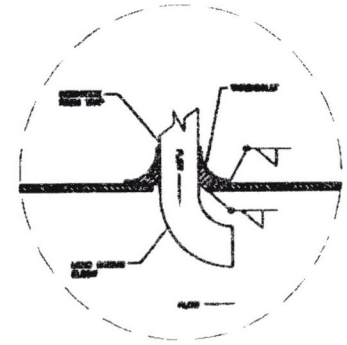

LEGEND

HPS	HIGH PRESSURE STEAM
W	WATER
SS	SANITARY SEWER
CR	CONDENSATE RETURN
EJ-1	PACKED METAL EXPANSION JOINT
EJ-2	LAMINATED BELLOWS EXPANSION JOINT
CO	CLEANOUT

SECTION 01010 – DESIGN REQUIREMENTS

DESIGN AFTER AWARD SUBMITTAL REGISTER

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Repair Utilidors Phase IV Cantonment Area, Eielson AFB

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAG # RAPH	CLASSIFICATION	GOVT A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION		DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		02280	SD-01 Preconstruction Submittals															
			Sampling and Analysis Plan	1.7														
			Work Plan	1.6														
			Qualifications	1.5.1														
			Correspondence	1.8														
			Disposal of Contaminated Soil	3.4.3	G													
			Certificate of Thermal Remediation		G													
			SD-06 Test Reports															
			Site Assessment Report	3.7														
		02300	SD-01 Preconstruction Submittals															
			Design Drawings	2.1	G													
			Specifications	2.1	G													
			Design Analysis	2.1	G													
			Strucutural Fill Sieve Analysis	2.1.3														
		02509	SD-01 Preconstruction Submittals															
			Design Drawings	2.2.6	G													
			Specifications	2.2.6	G													
			Design Analysis	2.2.6	G													
			SD-03 Product Data															
			Manhole Ladders	2.2.5														
			Corrosion Protection	2.2.7														
			Insulation	2.2.8														
			Waterproofing and Dampproofing	2.2.9														
			Chemical Grouting	2.2.10														
			Access Hatch	2.2.11														

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		02509	Exterior Paint for Above Grade Structure	2.2.12														
			Concrete Masonry Units (CMU) for Facade and Planter Replacement	2.2.13														
			Pipe Support System	2.2.6														
		02510	SD-01 Preconstruction Submittals															
			Design Drawings	2.1	G													
			Specifications	2.1	G													
			Design Analysis	2.1	G													
			SD-03 Product Data															
			Pipe Material	2.1.1														
			Fittings and Specials	2.1.2														
			Joints and Gaskets	2.1.3														
			Pipe Insulation and Jacket System	2.1.4														
			Water Valve and Equipment Insulation Covers	2.1.4.1														
			Hydrants	2.1.5														
			Check Valves	2.1.8														
			Gate Valves	2.1.7														
			Expansion Joints	2.1.9														
			Supports	2.1.10														
			Hangers	2.1.10														
			Guides	2.1.10														
			Guides	2.1.11														

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			SD-07 Certificates															
			Hyperchlorinated Water Disposal	3.3.3														
		02531	SD-01 Preconstruction Submittals															
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			Specifications	2.1	G													
			Design Analysis	2.1	G													
			SD-03 Product Data															
			Pipe Material	2.1.1.1														
			Pipe Material	2.1.2.1														
			Fittings and Specials	2.1.1.2														
			Fittings and Specials	2.1.2.2														
			Joints and Gaskets	2.1.1.3														
			Joints and Gaskets	2.1.2.3														
			Insulation and Jacketing	2.1.1.4														
			Expansion Joints	2.1.2.4														
			Supports	2.1.2.5														
			Hangers	2.1.2.5														
		02559	SD-01 Preconstruction Submittals															
			Design Drawings	2.1.1	G													
			Specifications	2.1.1	G													
			Design Analysis	2.1.1	G													
			SD-03 Product Data															
			PIPING AND FITTINGS	2.2														
			VALVES	2.3														
			STEAM TRAPS	2.4														

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			STRAINERS	2.6														
			STEAM VENTURI EJECTOR	2.8														
			ALIGNMENT GUIDES	2.9														
			EXPANSION JOINTS	2.11														
			INSULATION	2.12														
			MANHOLE SUMP PUMPS	2.7														
		02741	SD-01 Preconstruction Submittals															
			Design Drawings	2.1	G													
			Specifications	2.1	G													
			Design Analysis	2.1	G													
			Subbase Analysis	2.1.3														
			Aggregate Base Course	2.1.4														
		02770	SD-01 Preconstruction Submittals															
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			Specifications	2.1	G													
			Design Analysis	2.1	G													
			Concrete mix design	2.7	G													
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			Design Drawings	3.2	G													
			Specifications	3.2	G													
			Design Analysis	3.2	G													
		16000	SD-01 Preconstruction Submittals															
			Design Drawings	2.1	G													

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(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		16000	Specifications	2.1	G													
			Design Analysis	2.1	G													
			SD-03 Product Data															
			Conduit and Fittings	2.2.1.1														
			Wire and Cable	2.2.1.2														
			Grounding and Bonding	2.2.2														
			Equipment															

SECTION 01012

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DESIGN AFTER AWARD

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SECTION 01012

DESIGN AFTER AWARD

PART 1 GENERAL

1.1 SECTION INCLUDES

This section lists items that must be submitted for review at various times during the preparation of the construction plans and specifications. At a minimum, design submittals are required at the 65% and 95% design stage with the 100% design submittal consisting of the final contract documents.

Design submittals must comply with all requirements stated in this RFP. In the event of any conflict between the RFP criteria and the Contractor's submittals, the RFP criteria will govern unless there is a written and signed agreement between the Contractor and the Contracting Officer waiving a specific requirement.

The Contractor shall provide 20 hard copy sets of each design review submittal. Drawings shall be half-size bond. Four (4) of the 20 review sets submitted shall also have full size site plans.

1.2 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.

U.S. ARMY CORPS OF ENGINEERS (USACE)

ER1110-345-700	Design Analysis, Drawings, and Specifications
Sections as Required For Design	(UFGS) Unified Facilities Guide Specifications
EM 385-1-1	Safety and Health Requirements Manual
ETL 01-1	Reliability and Maintainability Design Checklist
DD Form 1354	Transfer and Acceptance of Military Real Property
DA PAM 415-28	Guide to Army Real Property Codes

1.3 GOVERNMENT REVIEW COMMENTS

Design submittals and review conferences shall follow the schedule of the Contractor's initial proposal and shall incorporate a period for Government review. Changes to that schedule must be requested in writing and approved by the Government.

After receipt of the 65% and 95% submittal package as described in Part 2, the Government shall have thirty (30) days for review and comment. A review conference shall be scheduled at Eielson Air Force Base, Alaska during the first week after that period. The review will be for conformance with the requirements of the solicitation with the successful offeror's (Contractor's) proposal and the Contractor shall bring the key design personnel for each discipline to the review.

At the conference, or just prior to the conference, the Government will furnish the Contractor comments from the various design sections and from other concerned agencies involved in the review process. Many of the comments will be posted by the Government in the Internet based Dr. Checks Review System. During the conference, the Contractor will then have the opportunity to either accept the comment, with or without provisions, or have the comment withdrawn if generally agreed upon.

All review comments must be incorporated or withdrawn. The final design must be approved by the Government, prior to the commencement of any construction activity.

1.3.1 Dr. Checks Review System

The Contractor shall ensure all members of the design team are tied in with the Internet based Dr. Checks Review System. Please contact the Government's Project Manager (PM) for assistance in accessing this system. After each submittal, the Contractor will be furnished design review comments from the various reviewers involved in the review process. Many of the comments will be posted in Dr. Checks Review System. Some of the comments may be provided by the PM in hardcopy or other electronic means. For all reviewer comments posted in Dr. Checks or provided by other formats three (3) working days before a review conference, the Contractor shall post designer responses in Dr. Checks prior to the conference. Reviewers may post comments after this 3-day period, however, the Contractor is not expected to respond to these comments until the scheduled review conference. The Contractor shall provide twenty (20) copies of all comments and responses and, newer comments posted in Dr. Checks at noon (or after) on the workday before the review conference. Any other comments in other formats received by 1700 hr the workday before the conference shall be copied as well. The Contractor shall post in Dr. Checks the disposition of each review comment at the conference within three (3) days after the conference. The disposition will clearly indicate the specific actions taken in response to each comment. Merely stating "concur" or "will comply" is not considered an adequate indication of action taken.

The Contractor is cautioned that if he or she believes the action required by any comment exceed the requirements of the RFP, he shall take no action and immediately notify the USACE in writing immediately. No work or services shall be performed for which an additional cost will be charged without prior written authorization of the Contracting Officer.

1.3.2 Review Conference, Site Visit, Telephonic Discussion Records

The Contractor shall within seven (7) working days of each review conference prepare a written record of the meeting. Two (2) copies shall be provided to the PM. The written report shall include the project name, contract number, subject, name of participants, outline of the discussions, recommendations, and conclusions. All meetings, review conferences, and telephonic discussions require written records.

1.4 DESIGNER OF RECORD

The Contractor shall identify, for approval, the Designer of Record for each discipline of work. One Designer of Record may be responsible for more than one discipline provided he or she is a listed, registered professional Engineer/Architect in that area. The Designer(s) of Record shall stamp, sign, and date all design drawings under their responsible discipline at 100% design submittal stage. Designer of record shall be licensed in the State of Alaska.

The ADEC Approval to Construct and Approval to Operate for the water and wastewater systems, obtained by the Contractor, will require a State of Alaska registered engineer to provide plans, specifications, observing engineer, and as-built plans.

1.5 CONTRACTOR DESIGN DOCUMENT REVIEW

The Contractor shall ensure that a registered senior engineer in the required discipline who is independent from and not associated with the design reviews all design documents submitted after award, including all drawings and calculations. The independent reviewer may or may not be associated with the organization having done the original design.

The independent reviewer must submit a signed letter of certification with each design submittal stating that he or she has reviewed the design documents for that discipline and that he or she agrees that the design is complete, correct, and in conformance with the requirements of the RFP.

1.6 CONSTRUCTOR'S ROLE DURING THE DESIGN PROCESS

The Contractor's construction management key personnel shall be actively involved during the design process to effectively integrate the design and construction requirements of this contract. In addition to the typical required construction activities, the Contractor's involvement includes, but is not limited to, actions such as: integrating the design schedule into the Master Schedule to maximize the effectiveness of fast-tracking design and construction (within the limits allowed in the contract), ensuring constructibility and economy of the design, integrating the shop drawing and installation drawing process into the design, executing the material and equipment acquisition programs to meet critical schedules, effectively interfacing the construction QC program with the design QC program, and maintaining and providing the design team with accurate, up-to-date redline and as-built documentation as described below. The Contractor shall require and manage the active involvement of key trade subcontractors in the above activities.

PART 2 PRODUCTS

2.1 PROPOSAL FOR COMPREHENSIVE REVIEW

Immediately after notice of award, the Contractor shall have fifteen (15) days to submit an additional twenty (20) copies of his proposal submittal to the Government for review. The Government shall have thirty (30) days thereafter for distribution and review. A “Proposal Design Documents Review Conference” shall be scheduled at the end of this distribution and review period, and within forty five (45) of the notice of award, at or near Eielson

AFB, Alaska according to Paragraph 1.3, GOVERNMENT REVIEW COMMENTS. The Contractor shall respond to review comments as described in Paragraph 1.3, GOVERNMENT REVIEW COMMENTS.

2.2 65% DESIGN SUBMITTAL REQUIREMENTS

2.2.1 Design Analysis (DA)

The Design Analysis shall follow the format presented in Appendix B of ER1110-345-700 available on the United States Army Corps of Engineers (USACE) "Techinfo" web site (http://www.hnd.usace.army.mil/techninfo/) excluding part 6 "Exceptions to Appendix B Requirements." The Contents shall include design calculations for all disciplines and reflect the minimum requirements listed in this RFP and the Contractor's proposal along with any subsequent negotiated items.

2.2.2 Design Drawings

Drawings for the 65% submittal shall follow the format presented in Appendix C of ER1110-345-700 for standard and definitive design drawings and specifically shall follow the Alaska District USACE CADD guidelines. Drawings shall follow the graphic standards and title block selections to match Alaska District USACE standards. The conceptual drawings presented in the DB/RFP shall not be presented in lieu of design drawings. The drawing set shall include the following as a minimum.

2.2.2.1 Civil Design Drawings

(1) Location and Vicinity Map.
(2) Site Plan with typical section cuts and pavement cuts.
(3) Grading Plan with contour lines at 1-foot intervals and spot elevations to 0.1 foot accuracy. Show new and existing storm drain lines and inlets.
(4) Utility Site Plan. Provide utility plans showing all utilities and associated products (cleanouts, manholes, fire hydrants, valve boxes, etc.), existing water lines, points of connection, and relocations. Show existing sanitary sewer lines, new laterals, and manholes. Show steam distribution lines, both existing and proposed.
(5) Utility Profiles. Provide utilidor-piping profiles for water, sewer and steam lines with stationing for major fittings, service connections, appurtenances, supports, anchors, and guides. Profile shall also indicate piping slope, diameter and lengths.
(6) Utility Manhole Details. Provide 1/2"=1'-0" plans and sections for each manhole. Provide a section in each direction. Equipment shall be located to insure proper maintenance access. Drawings shall show all piping, valves, fittings, flanges, supports, expansion joints, anchors and trap assemblies. All piping 2 inches and over shall be drawn as double line "true" size within the utilidor and manholes. For large complicated manholes provide two (2) plan level views (upper and lower) as necessary to clearly show new piping.
(7) Landscape removal plan showing areas of disturbance including trees, shrubs and other plantings.

(8) Landscape plan showing replacement landscaping.
(9) Demolition drawings with notes and instructions for hazardous materials removal. Hazardous Materials Removal may be shown on separate drawings if necessary.

2.2.2.2 Structural Design Drawings

(1) Manhole Floor plans showing complete dimensions, slabs, new sumps, ladders, etc.
(2) Details showing ladders, manhole covers, reinforcing steel, anchor bolts, etc.
(3) Sections through foundations, floors, and roof framing with dimensions.
(4) Details showing structural steel pipe supports.
(5) Details showing structural steel pipe anchors and utilidor structural reinforcement as required to address pipe anchor loads.
(6) Detail for new utilidor lids to replace those damaged during removal.
(7) Floor plan showing complete dimensions, column gridlines, beams and designations, including top of steel/concrete elevations.
(8) Layouts of expansion, construction or control joints showing dimensions and steel reinforcement.
(9) Roof plan with dimensions and designations of joists, girders, trusses, reinforcement and thickness of roof decks.
(10) Wall section through foundations, floors and roof framing with dimensions.
(11) Sections and details on footings and member sixes of anchor bolts, basic plates and reinforcing, etc.
(12) Sections and details on connections, bracing, etc.

2.2.2.3 Mechanical Design Drawings

(1) Mechanical Legend/Notes.
(2) Mechanical Equipment Schedules: Including expansion joint schedule.
(3) Details:
   a) High pressure drip leg detail
   b) Main steam trap assembly
   c) Utilidor sump pump
   d) Fire hydrant steam trace detail
   e) Pressure regulating valves assembly
   f) Expansion joints
   g) Typical manhole water service connection
   h) Pipe anchors and supports coordinated with structural drawings
   i) Utility monitoring sensor pipe tap details and locations
(4) Utility service entrance details for each building.
(5) Control Building Floor Plan with ventilation.

2.2.2.4 Electrical Design Drawings

(1) Electrical Legend/Notes.
(2) Site Plan of electrical service locations for manholes.
(3) Schedule of existing communication cables and rack system details.
(4) Electrical One-Line Diagrams of manhole service, sump power, and manhole lighting.
(5) Electrical details of service and sump power connections.

2.2.3 Specifications Development

Submit outline specifications Division 2 through Division 16 Unified Facilities Guide Specifications (UFGS) and the USACE Alaska District Guide Specifications. Where UFGS and Alaska District specifications are used, Contractor shall follow guidance provided in ER1110-345-700 Appendix D. 65% outline specifications shall consist of Part 2 PRODUCTS, of each section listing all materials as a minimum.

2.2.4 Health and Safety Plan

The Contractor shall provide a health and safety plan including but, not limited to confined space entry, energized utilities, power pole shoring and protection of the public. The Contractor shall follow all health and safety procedures found in the latest edition of EM 385-1-1, Safety and Health Requirements Manual, that apply to the Project work.

2.2.5 Asbestos Abatement

The Contractor shall submit the Hazardous Materials Work Plan per Section G1050, HAZARDOUS MATERIALS ABATEMENT, Paragraphs 1.3.1, Design Submittals and, 1.5, Hazardous Materials Work Plan.

2.2.6 Waste Disposal and Borrow Pit Plan

Submit page 1 and 2 of the Eielson AFB Waste Disposal/Borrow Pit Coordination Review, which is found in Appendix A of the preliminary plan (preliminary plan appended to this RFP in Appendix D), to 354 CES/CEVN (phone number (907)377-5182). See Section G1040, EARTHWORK, Paragraph 3.2, WASTE DISPOSAL AND BORROW SOURCE for submittal preparation.

2.2.7 Operability and Maintainability (O&M) Report

The Contractor shall develop an O&M Report, using ETL 01-1, Reliability and Maintainability Design Checklist, dated 11 October 2001 as a guide. The report shall specifically address the following areas: a) Water and Wastewater systems, b) Steam and Condensate system, c) Electrical and Communications, d) Corrosion prevention and control.

2.3 95% DESIGN SUBMITTAL REQUIREMENTS

Incorporate all Government review comments from the 65% review.

2.3.1 95% Design Analysis

The Design Analysis shall follow the format presented in Appendix B of ER1110-345-700 excluding Part 6 “Exceptions to Appendix B Requirements”. The contents shall include design calculations, other information as needed to support Contractor’s design conclusions, reflect the minimum design requirements of this RFP, and any subsequent negotiated items.

2.3.1.1 Civil Design Analysis

(1) Demolition:
    a) Demolition Work/Disposal Plan.
    b) Dust Control Plan.

c) Schedule of proposed demolition work.
d) Waste Disposal/Borrow Pit Coordination and Review Worksheet.
e) Temporary Erosion and Pollution Control Plan.
f) Hazardous Materials Work Plan.

(2) Earthwork: Shall include site work narratives with thorough discussion of site grading, earthwork, classified soil materials, compactive effort, and testing/inspection. Discussion shall include materials, equipment, and product cut sheet information. Include all calculations or assumptions for site improvements and drainage storm water routing as necessary.

(3) Asphalt Paving/Concrete Paving Replacement: Narrative shall include a discussion of paving criteria, job mix design, vehicle loading criteria, performance requirements, and material criteria found in Sections G2010, ROADWAY, and G2030, SIDEWALK, CURB, AND GUTTER. Include all design calculations, material information, and product cut sheets as necessary.

(4) Utilidor System:

a) Design Analysis: Narrative shall include a thorough discussion for each utility system including steam, condensate, fire hydrants, water supply for domestic needs as well as fire protection and sanitary sewer in accordance with RFP stated requirements. Discussion shall include piping materials, all necessary utility fittings and appurtenances, product selection, and cut sheet information. Design analysis shall include all necessary calculations to include but not limited to utilidor heat loss calculations, water and sewer hydraulic calculations, etc.

A water and sewer system hydraulic model has been developed for Eielson AFB. It confirms the existing sanitary sewer pipe diameters in the project areas have required capacity for existing and future flow. The model also confirms the existing pipe sizes for the water system with exceptions. Increased water pipe diameters based on the model requirements are noted in the plans. If the design requires deviation from the water and sewer pipe diameters listed in the plans, hydraulic calculations will be required.

b) Heating and Temperature Monitoring Plan: A plan for heating and temperature monitoring for the utilidor system shall be submitted. This plan shall include, but not be limited to: heater types and locations monitor types and locations, inspection schedule, and contingency plan.

(5) Temporary Utility Service Plan: Plan shall address Contractors approach to provide all affected facilities with temporary service during construction. See the Schedule on Sheet G1.3 of the RFP plans.

(6) Traffic Control Plan: The plan shall provide for pedestrian and vehicle access to all Base facilities.

2.3.1.2 Structural Design Analysis

(1) Design Narrative: Narrative shall include codes, design criteria (live loads), and references.

(2) Calculations: Calculations shall include Design Loads (Dead and Live) for Elements, Miscellaneous Analysis Supporting Civil, Mechanical, and Electrical Disciplines Interfacing with the utilidor system elements. Calculations shall also include analysis for the pipe support and anchoring systems to include the evaluation of expansion, seismic, and thrust restraint issues.

2.3.1.3 Mechanical Design Analysis

(1) Steam Utility Design Analysis: Shall include system narratives with thorough discussion of steam and condensate piping systems. Discussion shall include piping materials, equipment selection, and cut sheets.

(2) Calculations: The design analysis shall include the following calculations:

a) Steam and condensate piping anchor loads
b) Pipe expansion calculations with expansion joint selections
c) Steam and condensate alignment guide calculations
d) Sump pump sizing calculations
e) Hydrant steam trace line sizing calculations

2.3.1.4 Electrical Design Analysis

(1) Communication Cables: Design Analysis shall include system narrative with thorough discussion of existing cable system and building services. Discussion shall include mounting rack type, and cut sheets of rack system materials.

(2) Electrical: Design Analysis shall include system narrative with thorough discussion of electrical services to manholes, sump power and manhole lighting. Discussion shall include electrical materials, equipment selection, and cut sheets. The design analysis shall include service load calculations for each manhole requiring electrical service in accordance with NEC requirements.

2.3.2 95% Design Drawings

Drawings for all submittals shall follow the format presented in Appendix C of ER1110-345-700 for standard and definitive design drawings and, specifically, shall follow the Alaska District USACE CADD guidelines available upon request. Drawings shall be complete and organized as outlined therein and in such a manner that any qualified Contractor would be able to construct the facility without any additional assistance except for shop drawings or as may be required to deal with unforeseen conditions encountered during construction. Drawing set shall include the following as a minimum.

2.3.2.1 Civil Design Drawings

(1) Earthwork: The drawings shall include all site plans and/or grading plans necessary to meet the stated requirements outlined in the RFP and as listed in the 65% submittal requirements. All minimum dimensions shall be clearly delineated on the drawings. Provide sufficient detail to determine that site layout and site amenities meet the minimum RFP requirements. Show proposed finish elevations, site grading/drainage improvements, and all proposed amenities.

(2) Asphalt Paving/Concrete Paving Replacement: The drawings shall designate all AC paving replacements on the site plan as well as concrete improvements such as walks, miscellaneous slabs, and curbs and gutters.

(3) Utilidor Piping Systems: Develop all drawings listed in the 65% submittal to 95% completion and add additional details or sections as required to fully depict the utilidor piping systems proposed in accordance with the requirements of this RFP.

2.3.2.2 Structural Design Drawings

(1) Drawings shall be complete such that all materials, material layouts, connections, elevations, and dimensions are clearly noted.

(2) Manholes: Plan views, elevations, foundation sections, concrete reinforcing details, and structural notes. Details and notes for interior ladder, exterior handhold, lift out frost lids, mechanical vent, exterior hatch and topping slabs, and pipe system anchoring.

(3) Utilidors: Plan views, elevations and sections showing any utilidor modifications or replacement. Replacement lid details, and new manhole tie-ins shall also be detailed. Provide pipe rack, piping supports, thrust restraint and pipe anchor details.

2.3.2.3 Mechanical Design Drawings

Develop all drawings listed in the 65% submittal to 95% completion and add additional details or sections as required to fully depict the mechanical systems proposed in accordance with the requirements of this RFP.

2.3.2.4 Electrical Design Drawings

(1) Communications: The drawings shall be complete such that all rack materials, material layouts, connections, elevations, and dimensions are clearly shown. A schedule of existing cables, clearly denoting all cable sizes, types and locations, shall be shown on the drawings.

(2) Electrical: The drawings shall include all required electrical work in utilidor and as listed in the 65% submittal requirements.

Provide details as required to fully depict all electrical systems and system connections.

2.3.3 95% Specifications Development

Develop specifications Division 1 through Division 16 UFGS and the USACE Alaska District Guide Specifications. Where UFGS and Alaska District specifications are used Contractor shall follow guidance provided in ER1110-345-700 Appendix D using the SpecsIntact system. Specifications shall require all materials used in construction, shop drawings, testing plans & procedures, welding qualifications & procedures, and all testing reports to be submitted "For Information Only" to the Government. All construction submittals shall be reviewed and approved by the engineer of record prior to submission to the Government.

2.3.4 Asbestos Abatement

The Contractor shall submit the Hazardous Materials Work Plan per Section G1050, HAZARDOUS MATERIALS ABATEMENT, Paragraphs 1.3.1, Design Submittals and, 1.5, Hazardous Materials Work Plan.

2.3.5 DD Form 1354

The Contractor shall provide a completed DD Form 1354, Transfer and Acceptance of Military Real Property dated February 1990 available from Corps of Engineers. DD Form 1354 itemizes component costs for the construction of this project and shall be completed in accordance with User Handbook DD FORM 1354 Transfer and Acceptance of Military Real Property and DA Pamphlet 415-28 available from the Corps of Engineers.

2.4 100% DESIGN SUBMITTAL REQUIREMENTS

2.4.1 Final Submittal

Incorporate all Government review comments from the 95% review into the design analysis, drawings, and specifications. The Contractor shall submit a master set of review comments indicating that all accepted review comments from the 95% review conference have been incorporated. Final submittal to include:

(1) Mylars: One reproducible set of Mylar drawings stamped by registered A/E designers of record.

(2) Specifications: One unbound set of specification originals.

(3) Electronic Files: All electronic files shall be included on one compact disc. Drawing files shall be submitted in AutoCAD 2000 format with all references bound. Specifications shall be prepared and submitted in SpecsIntact format. "Read Me" files shall be prepared indexing the drawing and specification files, and procedures for viewing and plotting the documents using proper fonts and pen sizes.

(4) Submittals required in Section 13280 ASBESTOS ABATEMENT and 13281 LEAD HAZARD CONTROL ACTIVITIES, that were developed during the design phase and required in accordance with Section G1050, HAZARDOUS MATERIALS ABATEMENT of the RFP, shall be submitted with the final design submittal.

2.5 AS-BUILT DRAWINGS

Upon completion of design and construction, the Contractor shall provide the Government with one printed half-size set and one electronic copy recorded on compact discs (CDs) and CD-ROM of the as-built drawings for this project. As-built drawings shall incorporate all changes made to the approved 100% design submittal which occur during construction. All changes to the drawings shall be made using AutoCAD such that photocopies of sheets with redlines are not acceptable.

2.6 ADEC REVIEW

Provide the ADEC Approval to Construct and Approval to Operate for the water distribution and wastewater collection system. Point of Contact is Linda Taylor at Alaska Division of Environmental Conservation, 610 University Avenue, Fairbanks Alaska.

PART 3 EXECUTION

3.1 DESIGN SUBMITTAL QUALITY

All submittals (Drawings, Specifications, Design Analysis, Forms, and Annotated Comments) shall be clearly organized, legible, and free from excessive spelling and drafting errors.

3.2 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION

See Section 00800, CONTRACT CLAUSES, Clause No. 52.236-0021. In addition, upon completing the work under this contract, the Contractor shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the equipment is completed and accepted.

-- End of Section --

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SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01015

SPECIAL ITEMS

-- End of Section Table of Contents --

SECTION 01015

SPECIAL ITEMS

PART 1 GENERAL

1.1 SCOPE

Items included in this section cover special features and/or requirements which are not otherwise specified or indicated.

1.2 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. AIR FORCE (USAF)

AFOSHSTD91-5	(1997) Welding, Cutting, and Brazing

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E 1527	(1993) Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process

U.S. ARMY CORPS OF ENGINEERS (USACE)

TI 809-04	(1998) Seismic Design for Buildings

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 241	(1996) Safeguarding Construction, alteration, and Demolition Operations

STATE OF ALASKA ADMINISTRATIVE CODE (AAC)

18 AAC 72	Wastewater Treatment and Disposal

1.3 ACCIDENT PREVENTION PLAN

The Contractor shall obtain the Contracting Officer's approval of the Accident Prevention Plan required by the Safety and Health Requirements Manual referenced in paragraph Accident Prevention of the Contract Clauses prior to start of any work at the project site.

1.4 FIRE SAFETY

The Contractor shall obtain a permit from the organization having jurisdiction over the job site for any welding or open flame work.

1.4.1 Fire Protection

The Contractor shall comply with local Air Force fire protection

requirements and NFPA 241.

1.4.2 Welding Permit

The Contractor shall obtain AF Form 592; USAF Welding, Cutting, and Brazing Permit (copy attached to this section) from the Installation Fire Chief prior to any welding operations. Welding shall conform to AFOSHSTD91-5 and requires inspection and approval by the Installation Fire Department.

1.5 WORK CLEARANCE AND UTILITY OUTAGES

1.5.1 Clearance Request

The Contractor shall have a properly executed AF Form 103, Base Civil Engineering Work Clearance Request (copy attached to this section), coordinated through the Contracting Officer and signed by the Base Civil Engineer prior to any work at the project site.

1.5.2 Utility Outages

Utility outages shall be coordinated with the Base Civil Engineer through the Contracting Officer at least 7 days prior to the planned utility interruption. Outage periods shall exclude Saturdays, Sundays and holidays.

1.6 DISPOSITION OF MATERIALS

Combustible and noncombustible waste material shall be disposed of off-site at an authorized solid waste disposal facility, except as otherwise specified. No burning will be permitted. The Contractor shall comply with all Federal, State and local regulations. Covered vehicles shall be used for hauling to prevent spillage. Clean (uncontaminated) soil, gravel, and rock; concrete, recyclable asphalt, and asbestos may be disposed of at various designated sites, generally within a five mile radius of the project sites. The Contractor shall include a plan covering waste disposal, borrow pit operations and project site operations as part of the Environmental Protection Plan specified in SECTION 01411 ENVIRONMENTAL PROTECTION.

1.6.1 Disposal of Soils

No existing soil stockpile shall be moved from its present location without written permission from the Contracting Officer. No soils shall be removed from the installation for off-site disposition. Soils may be temporarily removed from the installation when approved for off-site remediation. Such soils shall be properly tracked and fully accounted for until returned to the installation and shall not be mixed with other soils at any time.

1.6.2 Salvageable Material

Salvageable material, if not otherwise indicated, shall become the property of the Contractor. The value of such salvage shall be reflected in the contract price.

1.7 TESTS

The Contractor shall provide testing, except where specifically noted to

be performed by the Government, in accordance with SECTION 01451 CONTRACTOR QUALITY CONTROL.

1.8 WARRANTY OF CONSTRUCTION

a. In addition to any other warranties in this contract, the Contractor warrants, except as provided in subparagraph "i" herein, that the work performed under this contract conforms to the contract requirements and is free of any defect of equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or -controlled real or personal property, when that damage is the result of:

1. The Contractor's failure to conform to contract requirements; or

2. Any defect of equipment, material, workmanship, or design furnished.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

e. The Contracting Officer will notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, expressed or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:

1. Obtain all warranties that would be given in normal commercial practice;

2. Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

3. Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

h. In the event the Contractor's warranty under subparagraph "b"

herein has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

i. Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage which results from any defect in Government-furnished material or design.

j. This warranty shall not limit the Government's rights under the Inspection of Construction clause of this contract with respect to latent defects, gross mistakes, or fraud.

k. Defects in design or manufacture of equipment, specified by the Government on a "brand name and model" basis, shall not be included in this warranty. In this event, the Contractor shall require any subcontractors, manufacturers, or suppliers thereof to execute their warranties, in writing, directly to the Government.

1.8.1 Failures

Upon receipt of notice from the Government of failure of any part of warranted items during the warranty period, the affected part or parts shall be promptly replaced. Such replacement shall include furnishing and installing the necessary new part or parts, making all necessary repairs, restoring the affected item to the operating condition specified in this contract and making all such tests as are necessary to ensure that there are no remaining defects. Such tests shall be performed in the presence of representatives of the Using Agency indicated below. Upon final acceptance of the work or transfer of responsibility to the Government for operation and maintenance of the items covered, whichever is earlier, the Contractor shall be responsible to the Using Agency for the warranty provisions of this contract. A letter stating the applicable warranty provisions shall be furnished to the Contracting Officer in duplicate, in the format and text shown in the sample letter attached to this section.

1.8.2 Warranty Tag

The Contractor shall provide the following information typed or printed in ink on tag stock or card stock which shall be affixed in easy view location on the warranted installed equipment:

"This equipment was installed by contract DACA85-0[_____]-C-00[_____] and is under warranty by [Construction Company Name] at [Phone Number] until [Day Month Year].

All maintenance by installation personnel is to be performed in accordance with maintenance manual provided at time of acceptance to avoid possible negation of the warranty.

In case of requirements for major adjustments, repairs or replacements, call the Base Civil Engineer's Contract Manager at (907) 337-5128."

1.9 CAMP FACILITIES

There are no Government owned camp facilities at the jobsite for the Contractor's use.

1.10 FURNISHINGS FOR GOVERNMENT FIELD OFFICE

The Government field office specified in SECTION 01500 TEMPORARY CONSTRUCTION FACILITIES shall be furnished with one desk, one drawing layout table, three chairs, a four-drawer vertical or two-drawer lateral file cabinet, a plain paper FAX machine, a business telephone with answering machine, a portable copier with automatic document feed, and an IBM compatible personal computer with SVGA monitor, 32 MB RAM, 2+ GB hard drive, MS Windows, Microsoft Office Professional latest version, Microsoft Exchange Client latest version, 56K Fax/Modem, and HP Deskjet 340 printer. The telephone and FAX machine shall have single party lines, different from each other, and separate from the Contractor's phone line(s). All costs shall be borne by the Contractor and included in the contract price, except that long distance charges incurred by the Government representative will be paid for by the Government upon arrangement with the Contracting Officer.

1.11 PARTNERING

a. The Government intends to encourage the foundation of a cohesive partnership with the Contractor and its subcontractors. This partnership will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives are effective and efficient contract performance, intended to achieve completion within budget, on schedule, and in accordance with plans and specifications.

b. This partnership will be bilateral in makeup, and participation will be totally voluntary. Implementation of this initiative will be a topic of discussion at the Preconstruction Conference. Other recurring or special purpose meetings, as agreed between the Government and the Contractor, will be held as necessary to resolve contentious issues and maintain the partnering spirit.

1.12 OPERATION AND MAINTENANCE (O & M) MANUALS

Six copies shall be submitted to the Contracting Officer not later than 30 days prior to scheduled contract completion. Failure to submit manuals by this date will be considered cause to withhold any payments due the Contractor. All equipment manual materials shall be durable, clearly printed or reproduced copies, not more than 8-1/2 x 11 inches in size, or neatly folded to that size without overlapping into the binding. Materials shall be indexed and bound in stiff covers with tab separators. Approval of manuals shall be obtained prior to scheduling operating tests and field training courses.

1.13 EARTHQUAKE-RESISTANT EQUIPMENT SUPPORTS

All items of electrical, mechanical, and other installed equipment shall be mounted to prevent damage from lateral motion caused by earthquake. Restraints for seismic loading shall comply with requirements in TI 809-04. Any hooks from which light fixtures or other equipment are suspended shall be closed. Items of suspended or supported equipment subject to causing damage by swaying or tipping shall be cross-braced or laterally secured to the building structure. Any items of equipment mounted without rigid restraint of lateral motion shall have sufficient clearances and flexibility of associated wiring, piping, or other connections to accommodate the full range of such motion as might occur.

1.14 NPDES

Work shall comply with EPA National Pollutant Discharge Elimination System (NPDES General Permit No. AK-R-10-0000 for Construction Activities). See SECTION 01356 STORMWATER POLLUTION PREVENTION MEASURES for additional specific requirements.

1.14.1 Storm Water Pollution Prevention Plan

The Contractor shall prepare a Storm Water Pollution Prevention Plan (SWPPP) in accordance with Alaska Department of Transportation and Public Facilities Manual titled Contractor Guidance for Preparing and Executing Storm Water Pollution Prevention Plans, Oct. 92. The Contracting Officer will retain authority assigned therein to the State. The SWPPP shall be submitted to the Contracting Officer for review and approval as part of the Environmental Protection Plan specified in SECTION Z01410 ENVIRONMENTAL PROTECTION.

1.14.2 Notice of Intent

The Contractor shall complete EPA Form 3510-9, Notice of Intent for Storm Water Discharges Associated with Construction Activity Under a NPDES General Permit, in accordance with the aforementioned manual. A copy of the form is attached hereto and made a part of these specifications. The Contractor shall complete and submit the form, along with the SWPPP and a one page description of the project, to the Contracting Officer for review.

1.14.3 Filing

Upon receipt of satisfactory submittal from the Contractor, the Government will promptly complete a separate 3510-9 and forward both the Contractor-prepared and Government-prepared forms to the NPDES Program Director. In accordance with applicable requirements, no onsite work shall be performed until two days after the documents have been post marked, notwithstanding any other provisions of the contract.

1.14.4 ADEC

The Government will forward copies of both Form 3510-9's, along with the SWPPP and the one-page project description, to the State of Alaska Department of Environmental Conservation (ADEC) in accordance with State of Alaska regulations. The final plans and specifications will be included. The Contractor shall pay the fee required for review in accordance with 18 AAC 72.

1.14.5 Notice of Termination

Upon completion of work at the project site, the Contractor shall prepare EPA Form 3510-7, Notice of Termination of Coverage Under the NPDES General Permit for Storm Water Discharges Associated with Industrial Activity, in accordance with the requirements stated on the form. A copy of the form is attached hereto and made a part of these specifications. The completed form shall be submitted to the Contracting Officer within 10 days after the earliest date that final site conditions meet filing requirements. The Government will forward the form to the NPDES Program Director.

1.15 NON-GOVERNMENT BORROW SOURCES

The Contractor shall check any non-Government, proposed borrow sources for the presence of hazardous substances and petroleum products as defined in ASTM E 1527. The publication includes guidance on previously examined sites. A Phase I Environmental Site Assessment, also as defined therein, shall be submitted for each proposed borrow site as a supplement to the Environmental Protection Plan specified in SECTION 01411 ENVIRONMENTAL PROTECTION. The report shall identify any previous or current presence of hazardous substances at the site, regardless of whether they have been, or can be, released to the environment. The Assessment shall be performed under the direct supervision of an independent, registered professional engineer, currently licensed by the State in which the borrow source is located, and within such time frame as will ensure reports are valid when submitted. The engineer shall have a minimum of 3 years experience in performing satisfactory Environmental Site Assessments. All reports shall be certified in writing by the engineer and submitted in the standard format specified in the referenced publication, through the Contracting Officer, to the Base Environmental Office for review. Reports shall be submitted at least 30 days prior to needing borrow materials in the work. The qualifications of the engineer performing the Assessment shall be included with the report.
Where hazardous materials are indicated, use of the source will not be allowed. No borrow materials shall be brought onto Government property without approval of the Contracting Officer. The Government reserves the right to sample and test any borrow materials delivered to the project for conformance with this specification.

1.16 BIRDS' PROTECTION

Federal and State law protects the Cliff Swallows that build mud nests on Base/Post facilities. Once the Cliff Swallow establishes nest and lays eggs, then the nest cannot be removed or annoyed until the nests are no longer occupied. Forcing or annoying the birds to abandon an occupied nest is a violation of State and Federal law. Any work including demolition of know Cliff Swallows nesting areas (i.e., eaves, porches, entranceways, tanks, etc.) shall be done prior to 10 May or after 1 August to avoid project delays.

The Contractor shall initiate a program to remove the partially completed nests daily from 10 May to 21 July to avoid work stoppage. The Contractor is responsible for all or any delays and charges filed by U.S. Fish and Wildlife Service and the State of Alaska Department of Public Safety due to his/her negligence in removing and/or annoying such established nests.

1.17 SCHEDULING OF WORK

Heating system interruption shall be limited to between 1 May and 15 September.

1.18 DEFINITION

Where the terms "Owner" or "Owner's" appear in these technical specifications, interpret them to mean "Government".

1.19 ATTACHMENTS

Notice of Intent (NOI) for Storm Water Discharges (EPA Form 3510-9)

Notice of Termination (NOT) of Coverage (EPA Form 3510-7)

AF Form 592

AF Form 103

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

S A M P L E L E T T E R

Contracting Officer
Date_____
Address (as stated in Notice of Award)

SUBJECT: Warranty Provisions, Contract

GENTLEMEN:

This is to acknowledge our responsibility in connection with the warranty provisions of this contract as set forth in the contract specifications.

The following items, equipment or systems furnished or installed under this contract are hereby warranted against defective design, material and workmanship for a period as indicated:

Warranted Item, Equipment or System	Identification Serial Number, Etc.	Warranty Expires at 11:59 PM Std. Time
_____	_____	_____
	_____	
_____	_____	

Upon receipt of notice from the Government of failure of any part or parts of the warranted item, equipment, or system during the warranty period, the affected part or parts will be replaced promptly with new parts. Such replacement will include furnishing and installing the new part or parts, making all necessary repairs, restoring the item, equipment, or system to the operating condition specified in this contract
and making all such tests as are necessary to ensure that there are no remaining defects. Such tests will be performed in the presence of the Representative of the Using Agency indicated below.

We are responsible to _____ for the warranty provisions of this contract. Correspondence regarding the failure of any of the preceding items, equipment or systems covered by the warranty provisions of this contract should be addressed to:

	Telephone Number:
_____	
_____	_____
_____	_____

Very truly yours,

Signed: _____
Title: _____
Organization: _____

THIS FORM REPLACES PREVIOUS FORM 3510-6 (8-98)
See Reverse for Instructions

Form Approved. OMB No. 2040-0188

NPDES FORM

United States Environmental Protection Agency
Washington, DC 20460

Notice of Intent (NOI) for Storm Water Discharges Associated with CONSTRUCTION ACTIVITY Under a NPDES General Permit

Submission of this Notice of Intent constitutes notice that the party identified in Section I of this form intends to be authorized by a NPDES permit issued for storm water discharges associated with construction activity in the State/Indian Country Land identified in Section II of this form. Submission of this Notice of Intent also constitutes notice that the party identified in Section I of this form meets the eligibility requirements in Part I.B. of the general permit (including those related to protection of endangered species determined through the procedures in Addendum A of the general permit), understands that continued authorization to discharge is contingent on maintaining permit eligibility, and that implementation of the Storm Water Pollution Prevention Plan required under Part IV of the general permit will begin at the time the permittee commences work on the construction project identified in Section II below. IN ORDER TO OBTAIN AUTHORIZATION, ALL INFORMATION REQUESTED MUST BE INCLUDED ON THIS FORM. SEE INSTRUCTIONS ON BACK OF FORM.

I. Owner/Operator (Applicant) Information

Name: Phone:

Address: Status of Owner/Operator: ☐

City: State: Zip Code:

II. Project/Site Information

Is the facility located on Indian Country Lands? Yes ☐ No ☐

Project Name:

Project Address/Location:

City: State: Zip Code:

Latitude: Longitude: County:

Has the Storm Water Pollution Prevention Plan (SWPPP) been prepared? Yes ☐ No ☐

Optional: Address of location of SWPPP for viewing ☐ Address in Section I above ☐ Address in Section II above ☐ Other address (if known) below:

SWPPP Address: Phone:

City: State: Zip Code:

Name of Receiving Water:

Estimated Construction Start Date (Month Day Year)

Estimated Completion Date (Month Day Year)

Estimate of area to be disturbed (to nearest acre):

Estimate of Likelihood of Discharge (choose only one):

1. ☐ Unlikely
2. ☐ Once per month
3. ☐ Once per week
4. ☐ Once per day
5. ☐ Continual

Based on instruction provided in Addendum A of the permit, are there any listed endangered or threatened species, or designated critical habitat in the project area? Yes ☐ No ☐

I have satisfied permit eligibility with regard to protection of endangered species through the indicated section of Part I.B.3.e.(2) of the permit (check one or more boxes):

(a) ☐ (b) ☐ (c) ☐ (d) ☐

III. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: Date:

Signature: _____

EPA Form 3510-9 replaced 3510-6 (8-98)

EPA

Instructions – EPA Form 3510-9

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity to be Covered Under a NPDES Permit

Form Approved. OMB No. 2040-0188

Who Must File a Notice of Intent Form

Under the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et.seq.; the Act), except as provided by Part I.B.3 the permit, Federal law prohibits discharges of pollutants in storm water from construction activities without a National Pollutant Discharge Elimination System Permit. Operator(s) of construction sites where 5 or more acres are disturbed, smaller sites that are part of a larger common plan of development or sale where there is a cumulative disturbance of at least 5 acres, or any site designated by the Director, must submit an NOI to obtain coverage under an NPDES Storm Water Construction General Permit. If you have questions about whether you need a permit under the NPDES Storm Water program, or if you need information as to whether a particular program is administered by EPA or a State agency, write to or telephone the Notice of Intent Processing Center at (703) 931-3230.

Where to File NOI Form

NOIs must be sent to the following address:

Storm Water Notice of Intent (4203)
USEPA
401 M. Street, SW
Washington, D.C. 20460

Do not send Storm Water Pollution Prevention Plans (SWPPPs) to the above address. For overnight/express delivery of NOIs, please include the room number 2104 Northeast Mall and phone number (202) 260-9541 in the address.

When to File

This form must be filed at least 48 hours before construction begins.

Completing the Form

OBTAIN AND READ A COPY OF THE APPROPRIATE EPA STORM WATER CONSTRUCTION GENERAL PERMIT FOR YOUR AREA. To complete this form, type or print, using uppercase letters, in the appropriate areas only. Please place each character between the marks (abbreviate if necessary to stay within the number of characters allowed for each item). Use one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions on this form, call the Notice of Intent Processing Center at (703) 931-3230.

Section I. Facility Owner/Operator (Applicant) Information

Provide the legal name, mailing address, and telephone number of the person, firm, public organization, or any other entity that meet either of the following two criteria: (1) they have operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or (2) they have the day-to-day operational control of those activities at the project necessary to ensure compliance with SWPPP requirements or other permit conditions. Each person that meets either of these criteria must file this form. Do not use a colloquial name. Correspondence for the permit will be sent to this address.

Enter the appropriate letter to indicate the legal status of the owner/operator of the project: F = Federal; S = State; M = Public (other than federal or state); P = Private.

Section II. Project/Site Information

Enter the official or legal name and complete street address, including city, county, state, zip code, and phone number of the project or site. If it lacks a street address, indicate with a general statement the location of the site (e.g., Intersection of State Highways 61 and 34). Complete site information must be provided for permit coverage to be granted.

The applicant must also provide the latitude and longitude of the facility in degrees, minutes, and seconds to the nearest 15 seconds. The latitude and longitude of your facility can be located on USGS quadrangle maps. Quadrangle maps can be obtained by calling 1-800 USA MAPS. Longitude and latitude may also be obtained at the Census Bureau Internet site: http://www.census.gov/cgi-bin/gazetteer.

Latitude and longitude for a facility in decimal form must be converted to degrees, minutes and seconds for proper entry on the NOI form. To convert decimal latitude or longitude to degrees, minutes, and seconds, follow the steps in the following example.

Convert decimal latitude 45.1234567 to degrees, minutes, and seconds.

1) The numbers to the left of the decimal point are degrees.
2) To obtain minutes, multiply the first four numbers to the right of the decimal point by 0.006. 1234 x .006 = 7.404.
3) The numbers to the left of the decimal point in the result obtained in step 2 are the minutes: 7'.
4) To obtain seconds, multiply the remaining three numbers to the right of the decimal from the result in step 2 by 0.06: 404 x 0.06 = 24.24. Since the numbers to the right of the decimal point are not used, the result is 24".
5) The conversion for 45.1234 = 45° 7' 24".

Indicate whether the project is on Indian Country Lands.

Indicate if the Storm Water Pollution Prevention Plan (SWPPP) has been developed. Refer to Part IV of the general permit for information on SWPPPs. To be eligible for coverage, a SWPPP must have been prepared.

Optional: Provide the address and phone number where the SWPPP can be viewed if different from addresses previously given. Check appropriate box.

Enter the name of the closest water body which receives the project's construction storm water discharge.

Enter the estimated construction start and completion dates using four digits for the year (i.e. 05/27/1998).

Enter the estimated area to be disturbed including but not limited to: grubbing, excavation, grading, and utilities and infrastructure installation. Indicate to the nearest acre; if less than 1 acre, enter "1." Note: 1 acre = 43,560 sq. ft.

Indicate your best estimate of the likelihood of storm water discharges from the project. EPA recognizes that actual discharges may differ from this estimate due to unforeseen or chance circumstances.

Indicate if there are any listed endangered or threatened species, or designated critical habitat in the project area.

Indicate which Part of the permit that the applicant is eligible with regard to protection of endangered or threatened species, or designated critical habitat.

Section III. Certification

Federal Statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner of the proprietor, or

For a municipality, state, federal, or other public facility: by eithier a principal executive or ranking elected official. An unsigned or undated NOI form will not be granted permit coverage.

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 3.7 hours. This estimate includes time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Director, OPPE Regulatory Information Division (2137), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, D.C. 20460. Include the OMB control number on any correspondence. Do not send the completed form to this address.

THIS FORM REPLACES PREVIOUS FORM 3510-7 (8-92)
Please See Instructions Before Completing This Form

Form Approved. OMB No. 2040-0086
Approval expires: 8-31-98

NPDES FORM

EPA

United States Environmental Protection Agency
Washington, DC 20460

Notice of Termination (NOT) of Coverage Under a NPDES General Permit for Storm Water Discharges Associated with Industrial Activity

Submission of this Notice of Termination constitutes notice that the party identified in Section II of this form is no longer authorized to discharge storm water associated with industrial activity under the NPDES program. ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM.

I. Permit Information

NPDES Storm Water General Permit Number: _____

Check Here if You are No Longer the Operator of the Facility: ☐

Check Here if the Storm Water Discharge is Being Terminated: ☐

II. Facility Operator Information

Name: _____ Phone: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

III. Facility/Site Location Information

Name: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Latitude: _____ Longitude: _____ Quarter: _____ Section: _____ Township: _____ Range: _____

IV. Certification

I certify under penalty of law that all storm water discharges associated with industrial activity from the identified facility that are authorized by a NPDES general permit have been eliminated or that I am no longer the operator of the facility or construction site. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge storm water associated with industrial activity under this general permit, and that discharging pollutants in storm water associated with industrial activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

Print Name: _____ Date: _____

Signature: _____

Instructions for Completing Notice of Termination (NOT) Form

Who May File a Notice of Termination (NOT) Form

Permittees who are presently covered under an EPA-issued National Pollutant Discharge Elimination System (NPDES) General Permit (including the 1995 Multi-Sector Permit) for Storm Water Dicharges Associated with Industrial Activity may submit a Notice of Termination (NOT) form when their facilities no longer have any storm water discharges associated with industrial activity as defined in the storm water regulations at 40 CFR 122.26(b)(14), or when they are no longer the operator of the facilities.

For construction activities, elimination of all storm water discharges associated with industrial activity occurs when disturbed soils at the construction site have been finally stabilized and temporary erosion and sediment control measures have been removed or will be removed at an appropriate time, or that all storm water discharges associated with industrial activity from the construction site that are authorized by a NPDES general permit have otherwise been eliminated. Final stabilization means that all soil-disturbing activities at the site have been completed, and that a uniform perennial vegetative cover with a density of 70% of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

Where to File NOT Form

Send this form to the the following address:

Storm Water Notice of Termination (4203)
401 M Street, S.W.
Washington, DC 20460

Completing the Form

Type or print, using upper-case letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use only one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions about this form, telephone or write the Notice of Intent Processing Center at (703) 931-3230.

EPA Form 3510-7 (8-98)

Instructions - EPA Form 3510-7
Notice of Termination (NOT) of Coverage Under The NPDES General Permit
for Storm Water Discharges Associated With Industrial Activity

Section I Permit Information

Enter the existing NPDES Storm Water General Permit number assigned to th e facility or site identified in Section III. If you do not know the permit number , telephone or write your EPA Regional storm water contact person.

Indicate your reason for submitting this Notice of Termination by checking th e appropriate box:

If there has been a change of operator and you are no longer the operator of the facility or site identified in Section III, check the corresponding box.

If all storm wate r discharges at the facility or site identified in Section III have been terminated, check the corresponding box.

Section II Facility Operator Information

Give the legal nam e of the person, firm, public organization, or any other entity that operates the facility or site described in this application. The name of the operator may or may not be the same name as the facility. The operator of the facility is the legal entity which controls the facility's operation, rather than the plant or sit e manager. Do not use a colloquial nam e. Enter the complete address and telephone number of the operator.

Section III Facility/Site Location Information

Enter the facility's or site's official or legal name and complete address, including city, state and ZIP code. If the facility lacks a street address, indicate the state, the latitude and longitude of the facility to the nearest 15 seconds, or the quarter , section, township, and range (to the nearest quarter section) of the approximat e center of the site.

Section IV Certification

Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed a s follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principa l business function, or any other person who performs similar policy or decisio n making functions, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

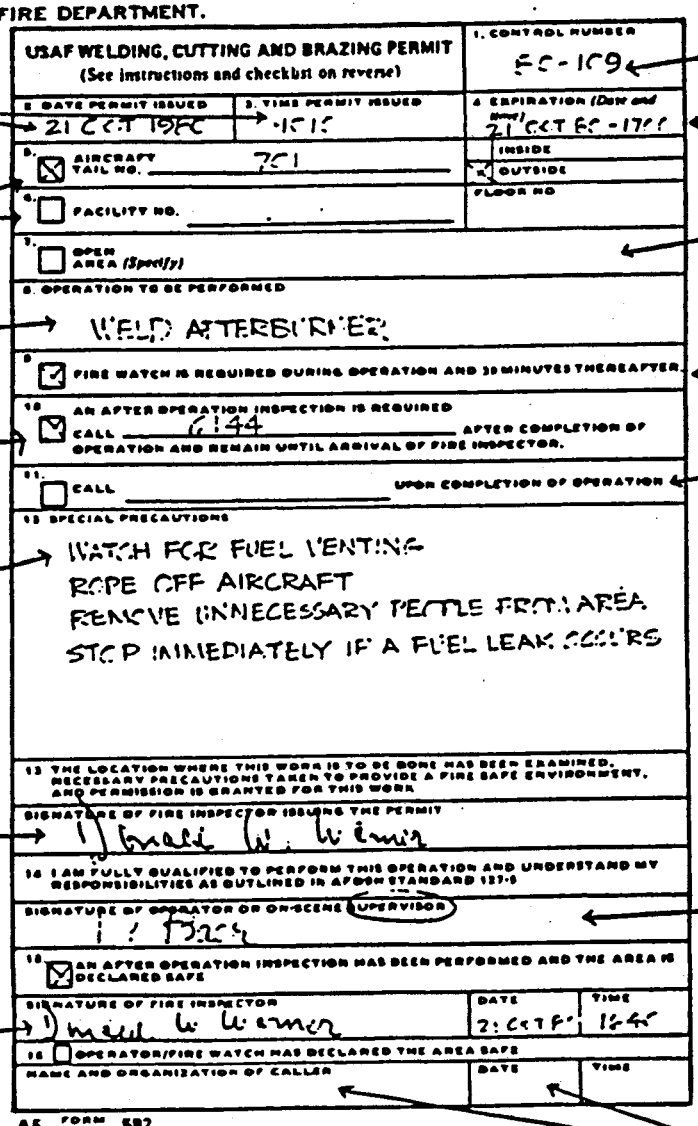
For a municipality, State, Federal, or other public facility: by either a principa l executive officer or ranking elected official.

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 0.5 hours pe r application, including time for reviewing instructions, searching existing dat a sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Chief , Information Policy Branch, 2136, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460, or Director, Office of Information an d Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

USAF WELDING, CUTTING AND BRAZING PERMIT (AF FORM 592)

THIS PERMIT WILL BE RETAINED AT THE WORKSITE UNTIL THE JOB IS COMPLETED WITH A COPY RETAINED BY THE FIRE DEPARTMENT. PERMITS ARE NOT REQUIRED FOR WELDING SHOPS OR OTHER AREAS APPROVED BY THE FIRE DEPARTMENT.



USAF WELDING, CUTTING AND BRAZING PERMIT
(See instructions and checklist on reverse)

1. CONTROL NUMBER: EC-109

2. DATE PERMIT ISSUED: 21 OCT 1982
3. TIME PERMIT ISSUED: 1515
4. EXPIRATION (Date and time): 21 OCT 82 - 1715

5. ☒ AIRCRAFT TAIL NO. 751 — ☐ INSIDE ☒ OUTSIDE
6. ☐ FACILITY NO. _____ FLOOR NO

7. ☐ OPEN AREA (Specify)

8. OPERATION TO BE PERFORMED: WELD AFTERBURNER

9. ☑ FIRE WATCH IS REQUIRED DURING OPERATION AND 30 MINUTES THEREAFTER.

10. ☒ AN AFTER OPERATION INSPECTION IS REQUIRED. CALL 6144 AFTER COMPLETION OF OPERATION AND REMAIN UNTIL ARRIVAL OF FIRE INSPECTOR.

11. ☐ CALL _____ UPON COMPLETION OF OPERATION

12. SPECIAL PRECAUTIONS:
WATCH FOR FUEL VENTING
ROPE OFF AIRCRAFT
REMOVE UNNECESSARY PETTLE FROM AREA
STOP IMMEDIATELY IF A FUEL LEAK OCCURS

13. THE LOCATION WHERE THIS WORK IS TO BE DONE HAS BEEN EXAMINED, NECESSARY PRECAUTIONS TAKEN TO PROVIDE A FIRE SAFE ENVIRONMENT, AND PERMISSION IS GRANTED FOR THIS WORK.

SIGNATURE OF FIRE INSPECTOR ISSUING THE PERMIT: [signature]

14. I AM FULLY QUALIFIED TO PERFORM THIS OPERATION AND UNDERSTAND MY RESPONSIBILITIES AS OUTLINED IN AFOSH STANDARD 127-9

SIGNATURE OF OPERATOR OR ON-SCENE SUPERVISOR: [signature]

15. ☒ AN AFTER OPERATION INSPECTION HAS BEEN PERFORMED AND THE AREA IS DECLARED SAFE

SIGNATURE OF FIRE INSPECTOR	DATE	TIME
[signature]	21 OCT 82	1545

16. ☐ OPERATOR/FIRE WATCH HAS DECLARED THE AREA SAFE

NAME AND ORGANIZATION OF CALLER	DATE	TIME

AF FORM OCT 82 592

DATE AND TIME PERMIT ISSUED

CONTROL NUMBER (OPTIONAL)

DATE AND TIME PERMIT EXPIRES

IDENTIFY AIRCRAFT TAIL NUMBER OR BUILDING NUMBER AND FLOOR NUMBER.

IDENTIFY LOCATION IF WELDING IN AN OPEN AREA.

BRIEF DESCRIPTION OF WORK

CHECK IF FIRE WATCH REQUIRED.

CHECK IF FOLLOW-UP INSPECTION NEEDED AND ENTER FIRE INSPECTOR'S PHONE NUMBER

CHECK IF ONLY NOTIFICATION OF COMPLETION IS NEEDED. ENTER FIRE INSPECTOR'S PHONE NUMBER.

FILLED OUT BY FIRE INSPECTOR

FIRE INSPECTOR'S SIGNATURE

OPERATOR OR ON-SCENE SUPERVISOR SIGNS HERE.

AFTER COMPLETION INSPECTION AND SIGNATURE OF FIRE INSPECTOR

CHECK IF OPERATOR OR FIRE WATCH CALLS TO INDICATE JOB IS COMPLETE AND THE AREA IS SAFE. FILL IN CALLER'S NAME, DATE AND TIME.

BASE CIVIL ENGINEERING WORK CLEARANCE REQUEST

DATE PREPARED

1. Clearance is requested to proceed with work at _____

on Work Order/Job No. _____, Contract No. _____, involving excavation or utility disturbance per attached sketch. The area involved ☐ Has ☐ Has not been staked or clearly marked.

2. TYPE OF FACILITY/WORK INVOLVED

	A. PAVEMENTS		B. DRAINAGE SYSTEMS		C. RAILROAD TRACKS		D. FIRE DETECTION AND PROTECTION SYSTEMS
	E. UTILITY ☐ OVERHEAD ☐ UNDERGROUND		F. COMM. ☐ OVERHEAD ☐ UNDERGROUND		G. AIRCRAFT OR VEHICULAR TRAFFIC FLOW		H. SECURITY
	I. OTHER *(Specify)*						

3. INSTRUCTIONS: The BCE work clearance request is used for any work (contract or in house) that may disrupt aircraft or vehicular traffic flow, base utility services, protection provided by fire and intrusion alarm system, or routine activities of the installation. This form is used to coordinate the required work with key base activities and keep customer inconvenience to a minimum. It is also used to identify potentially hazardous work conditions in an attempt to prevent accidents. The work clearance request is processed just prior to the start of work. If delays are encountered and the conditions at the job site change (or may have changed) this work clearance request must be reprocessed.

4. DATE CLEARANCE REQUIRED	5. DATE CLEARANCE TERMINATED

6. REQUESTING OFFICIAL *(Signature)*	7. PHONE NO.	8. ORGANIZATION

CLEARANCE REVIEW

	ORGANIZATION	REMARKS	REVIEWER'S NAME AND INITIALS
9. BASE CIVIL ENGINEERING	A. ELECTRICAL DISTRIBUTION		
	B. STEAM DISTRIBUTION		
	C. WATER DISTRIBUTION		
	D. POL DISTRIBUTION		
	E. SEWER LINES		
	F. DRAINAGE SYSTEMS		
	G. PAVEMENTS, GROUNDS, RAILROADS		
	H. FIRE DEPARTMENT		
	I. ENGINEERING & ENVIRONMENTAL PLANNING		
	J. CATHODIC PROTECTION		
	K. OTHER		
10. SECURITY POLICE			
11. SAFETY			
12. COMMUNICATIONS			
13. BASE OPERATIONS			
14. COMMERCIAL UTILITY COMPANY *(Telephone, Gas, Electrical, etc.)*			
15. OTHER *(Specify)*			

AF FORM JUL 82 103 PREVIOUS EDITION WILL BE USED.

6. **REMARKS** *(This section must describe specific precautionary measures to be taken before and during work accomplishment. Specific comments concerning the approved method of excavation, hand or powered equipment should be included.)*

REQUESTED CLEARANCE	☐ APPROVED ☐ DISAPPROVED
DATE	SIGNATURE OF APPROVING OFFICER *(Chief of Operations or Chief of Engineering and Environmental Planning)*

GPO : 1984 O - 428-544

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01180

RADIOACTIVE MATERIALS PROCEDURES

-- End of Section Table of Contents --

SECTION 01180

RADIOACTIVE MATERIALS PROCEDURES

PART 1 GENERAL

1.1 SCOPE

This section covers the use of items containing radioactive substances, such as soil density measuring devices, on military property or installations.

1.2 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. AIR FORCE (USAF)

AFI 40-201	Managing Radioactive Material in the Air Force

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

10 CFR 0-199	Code of Federal Regulations, Title 10, Chapter I, Nuclear Regulatory Commission (NRC)

1.3 REQUIREMENTS

Use of radioactive material on military property or installations shall conform to the following requirements.

1.3.1 Standards

The Contractor shall comply with 10 CFR 0-199 and AFI 40-201.

1.3.2 Usage Request

The Contractor shall submit a temporary radioactive material usage request, through the Contracting Officer, to the Base Radiation Safety Officer (RSO), Bioenvironmental Engineering Services. Submittal shall be made at least 60 days prior to the desired start date or date of arrival of the material, whichever is sooner, for NRC licensed items, and at least 120 days prior to such date for items which do not require an NRC license, such as certain density gages. The request shall include the following information:

a. A detailed description of the proposed activities or usage, to include safety precautions to be enforced.

b. A copy of the written procedures established by the Contractor to ensure the radiological health and safety of Air Force personnel

and the public while the material is on an Air Force installation.

c. A copy of the applicable NRC or Agreement State License possessed by the Contractor, if available. If the material is not controlled by the NRC, the Contractor shall provide a complete and accurate NRC Form 313 for each type of unit to be used, with all necessary supporting documentation, for review and subsequent forwarding to the USAF Radioisotope Committee (RIC), requesting an Air Force Radioactive Materials Use Permit be granted the Contractor for the specified period of use.

NOTE: The RIC may temporarily deny the request until additional information they require for evaluation is provided, or may totally deny the request if the Contractor's proposal does not meet 10 CFR 0-199, AFI 40-201, or other Air Force requirements. An additional 90 day period will be required for review of each additional submittal to the RIC. A decision of the RIC to totally deny a permit will be considered final.

d. A copy of the NRC Form 241 or a similar document for each specific licensable item the Contractor wishes to use.

e. A copy of the contract section(s) describing the work to be performed, and the inclusive dates during which the work will be conducted.

f. The Contractor shall also provide documentation of the names and qualifications of all personnel who will handle, store, transport and/or use the radioactive material proving that they are properly trained to perform these functions. Specific documentation (such as course completion certificates and in-house training certifications and plans) shall be included to show that these personnel are properly trained in accordance with the stipulations of the license(s) or the proposed permit.

1.4 INITIAL NOTIFICATION

Once the Contractor has received written approval for use of the radioactive material through the Contracting Officer, the radioactive material may be brought onto the installation. The Contractor shall notify the RSO immediately upon bringing the material onto the installation, and again 3 working days prior to the initial use of the materials.

1.5 COMPLETE NOTIFICATION

The Contractor shall notify the RSO immediately upon completion of use, and when the material is removed from the installation.

1.6 VIOLATIONS

The Contractor will be subject to inspection by the Contracting Officer, the RSO, and Federal and State agencies or their designated representatives at all times when the materials are on the installation. Any violations of the conditions of the approval, or of applicable regulations, will require immediate cessation of work until the cause is corrected, and written approval for re-start of work is received by the Contracting Officer from the RSO. All delays, down time, etc. incurred as a result of such cessation of work shall be at the Contractor's

expense.

1.7 ACCIDENTS

Accidents or incidents involving the radioactive material, and any known or potential exposure of Contractor or non-Contractor personnel to radiation, shall be reported immediately to the RSO and the Contracting Officer, and operations suspended until the circumstances have been evaluated by the RSO, and approval for the re-start has been received by the Contracting Officer.

1.8 ATTACHMENT

CONRAS Permit Summary of Requirements

Application for Eielson AFB CONRAS Permit

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

-- End of Section --

Here's a summary of the requirements for your Contractor radiation safety (CONRAS) permit. We must receive the documents at least 10 days before you plan to bring the source(s) on base - the earlier the better.

From AFI 40-201, paragraph 3.4 (attached):

3.4.4.10.2. Requests must be in writing and include:

3.4.4.10.2.1. A **brief description of the proposed activities**.

3.4.4.10.2.2. A copy **of a current NRC or Agreement State license with current NRC Form 241 specifying specific use locations**.

3.4.4.10.2.3. The **name, local address, and telephone number for the responsible local representative and the name, address, and telephone number of the RSO named on their license**.

3.4.4.10.2.4. A **copy of that part of the Air Force contract describing work to be done at the installation and the inclusive dates of the work**.

3.4.4.10.2.5. An **acknowledgment that the installation RSO can make periodic checks to ensure that Contractor personnel follow radiation safety practices** to prevent exposures to Air Force personnel and avoid contamination of government property. In addition, **the installation RSO must have authority to suspend Contractor operations believed to be unsafe**.

From 354 FWI 40-201, paragraph 11 (attached):

11.1 For work at EAFB, the following additional requirements apply:

11.1.1. The base RSO is the 354 FW/CC's designee to approve CONRAS permits. The RSO approves permits only for a specific period of time and for the activities, materials, and equipment specified in the permit. The RSO will return disapproved permit applications to the requester with required actions. The RSO will forward unresolved issues concerning licensed radioactive materials to the USAF RIC who is final approval authority.

11.1.2 Submit a **copy of the organization's radiation safety program** with the CONRAS application, including the procedures established to ensure the safety and health of AF personnel and the public while operation on AF property.

11.1.3. **Copies of training documents** or other proof showing personnel are adequately trained to perform their functions.

11.1.4. Owner/user ensures **security arrangements** while the material or device is left on base during lunch times, non-working hours, weekends, and holidays.

11.1.5.. **A copy of the latest leak tests.** If the radioactive source has not been leak-tested within 180 days before the anticipated commencement of activities, the Contractor has this test performed. Provide the results at least 5 working days before bringing the materials on AF property.

Based on the description of proposed activities you submit, we may also require monthly activity reports if your work will be on various dates and locations on base (see paragraph 11.6 of FWI).

You're welcome to submit what you can electronically, or fax to 377-2233. For longer documents, our mailing address is:
354 MDOS/SGOAB

3349 Central Ave, Suite 1M07
Eielson AFB, AK 99702

Let me know if you have any more questions, or need further assistance. Let me stress that it's imperative this be accomplished and you have your permit in hand BEFORE you attempt to bring the source through the front gate.

afi40-201.pdf

fwi40201.pdf

Application For Eielson AFB CONRAS Permit

Company's Local Representative:

Local Address:

Local Phone:

RSO Name:

RSO Address (If Different From Above):

RSO Phone (If Different From Above):

Eielson AFB Contract/Project Number (Attach Copy Of Applicable Pages):

Description Of Work:

Dates Of Work:

Where/How Will You Secure The Source/Device At Eielson?

Describe/Attach The Procedures You Will Use To Prevent Exposure To AF Personnel and the General Public During This Project:

We acknowledge that the Eielson RSO can make periodic checks to ensure our personnel are following radiation safety practices to prevent exposures to Air Force personnel and avoid contamination of government property. In addition, the installation RSO has the authority to suspend our operations if he/she believes them to be unsafe.

We have attached the required documents (listed below).

Signature and Typed/Printed Name of Local Representative

Attach the following documents

1. **Copy of NRC/agreement state license <u>OR</u>**
   State Registration for NORM & Generally-Licensed Sources
2. **Proof of Training for Users Working the Eielson Project**
3. **Copy of Latest Leak Test**
4. **Copy of Project Radiation Safety Plan (if not described above)**
5. **Copy of Applicable Pages From Contract**

--END OF SECTION--

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01271

MEASUREMENT, PAYMENT, AND CONTRACT COST BREAKDOWN

-- End of Section Table of Contents --

SECTION 01271

MEASUREMENT, PAYMENT, AND CONTRACT COST BREAKDOWN

PART 1 GENERAL

1.1 MEASUREMENT

1.1.1 Lump Sum

Each lump sum item will be measured for payment as a complete item.

1.2 PAYMENT

Payment will be made at the contract unit or lump sum price. The price for each item shall constitute full compensation for furnishing all labor, equipment, and materials, and performing all operations necessary to construct and complete the work in accordance with the specifications and drawings. Payment shall be considered as full compensation, notwithstanding that minor features of the work to complete the item may not be mentioned. Work paid for under one item will not be paid for under any other item.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 CONTRACT COST BREAKDOWN

The Contractor shall furnish within 30 days after the date of Notice to Proceed, and prior to the submission of its first partial payment estimate, a breakdown of its lump-sum pay item or items which will be reviewed by the Contracting Officer as to propriety of distribution of the total cost to the various accounts. Any unbalanced items as between early and late payment items or other discrepancies will be revised by the Contracting Officer to agree with a reasonable cost of the work included in the various items. This contract cost breakdown will then be utilized as the basis for progress payments to the Contractor.

-- End of Section --

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01312

QUALITY CONTROL SYSTEM (QCS)

-- End of Section Table of Contents --

SECTION 01312

QUALITY CONTROL SYSTEM (QCS)

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

The Government will use the Resident Management System for Windows (RMS) to assist in its monitoring and administration of this contract. The Contractor shall use the Government-furnished Construction Contractor Module of RMS, referred to as QCS, to record, maintain, and submit various information throughout the contract period. This joint Government-Contractor use of RMS and QCS will facilitate electronic exchange of information and overall management of the contract. QCS provides the means for the Contractor to input, track, and electronically share information with the Government in the following areas:

Administration
Finances
Quality Control
Submittal Monitoring
Scheduling
Import/Export of Data

1.1.1 Correspondence and Electronic Communications

For ease and speed of communications, both Government and Contractor will, to the maximum extent feasible, exchange correspondence and other documents in electronic format. Correspondence, pay requests and other documents comprising the official contract record shall also be provided in paper format, with signatures and dates where necessary. Paper documents will govern, in the event of discrepancy with the electronic version.

1.1.2 Other Factors

Particular attention is directed to Contract Clause, "Schedules for Construction Contracts", Contract Clause, "Payments", SECTION 01320, PROJECT SCHEDULE, SECTION 01330, SUBMITTAL PROCEDURES, and SECTION 01451, CONTRACTOR QUALITY CONTROL, which have a direct relationship to the reporting to be accomplished through QCS. Also, there is no separate payment for establishing and maintaining the QCS database; all costs associated therewith shall be included in the contract pricing for the work.

1.2 QCS SOFTWARE

QCS is a Windows-based program that can be run on a stand-alone personal computer or on a network. The Government will make available the QCS software to the Contractor after award of the construction contract. Prior to the Pre-Construction Conference, the Contractor shall be responsible to download, install and use the latest version of the QCS software from the Government's RMS Internet Website. Upon specific

justification and request by the Contractor, the Government can provide QCS on 3-1/2 inch high-density diskettes or CD-ROM. Any program updates of QCS will be made available to the Contractor via the Government RMS Website as they become available.

1.3 SYSTEM REQUIREMENTS

The following listed hardware and software is the minimum system configuration that the Contractor shall have to run QCS:

Hardware

IBM-compatible PC with 200 MHz Pentium or higher processor

32+ MB RAM

4 GB hard drive disk space for sole use by the QCS system

3-1/2 inch high-density floppy drive

Compact disk (CD) Reader

Color monitor

Laser printer compatible with HP LaserJet III or better, with minimum 4 MB installed memory.

Connection to the Internet, minimum 28 BPS

Software

MS Windows 95 or newer version operating system (MS Windows NT 4.0 or newer is recommended)

Word Processing software compatible with MS Word 97 or newer

Internet browser

The Contractor's computer system shall be protected by virus protection software that is regularly upgraded with all issued manufacturer's updates throughout the life of the contract.

Electronic mail (E-mail) compatible with MS Outlook

1.4 RELATED INFORMATION

1.4.1 QCS User Guide

After contract award, the Contractor shall download instructions for the installation and use of QCS from the Government RMS Internet Website; the Contractor can obtain the current address from the Government. In case of justifiable difficulties, the Government will provide the Contractor with a CD-ROM containing these instructions.

1.4.2 Contractor Quality Control(CQC) Training

The use of QCS will be discussed with the Contractor's QC System Manager during the mandatory CQC Training class.

1.5 CONTRACT DATABASE

Prior to the pre-construction conference, the Government shall provide the Contractor with basic contract award data to use for QCS. The Government will provide data updates to the Contractor as needed, generally by files attached to E-mail. These updates will generally consist of submittal reviews, correspondence status, QA comments, and other administrative and QA data.

1.6 DATABASE MAINTENANCE

The Contractor shall establish, maintain, and update data for the contract in the QCS database throughout the duration of the contract. The Contractor shall establish and maintain the QCS database at the Contractor's site office. Data updates to the Government shall be submitted by E-mail with file attachments, e.g., daily reports, schedule updates, payment requests. If permitted by the Contracting Officer, a data diskette or CD-ROM may be used instead of E-mail (see paragraph DATA SUBMISSION VIA COMPUTER DISKETTE OR CD-ROM). The QCS database typically shall include current data on the following items:

1.6.1 Administration

1.6.1.1 Contractor Information

The database shall contain the Contractor's name, address, telephone numbers, management staff, and other required items. Within 14 calendar days of receipt of QCS software from the Government, the Contractor shall deliver Contractor administrative data in electronic format via E-mail.

1.6.1.2 Subcontractor Information

The database shall contain the name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor must be listed separately for each trade to be performed. Each subcontractor/trade shall be assigned a unique Responsibility Code, provided in QCS. Within 14 calendar days of receipt of QCS software from the Government, the Contractor shall deliver subcontractor administrative data in electronic format via E-mail.

1.6.1.3 Correspondence

All Contractor correspondence to the Government shall be identified with a serial number. Correspondence initiated by the Contractor's site office shall be prefixed with "S". Letters initiated by the Contractor's home (main) office shall be prefixed with "H". Letters shall be numbered starting from 0001 (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C".

1.6.1.4 Equipment

The Contractor's QCS database shall contain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

1.6.1.5 Management Reporting

QCS includes a number of reports that Contractor management can use to

track the status of the project. The value of these reports is reflective of the quality of the data input, and is maintained in the various sections of QCS. Among these reports are: Progress Payment Request worksheet, QA/QC comments, Submittal Register Status, Three-Phase Inspection checklists.

1.6.2 Finances

1.6.2.1 Pay Activity Data

The QCS database shall include a list of pay activities that the Contractor shall develop in conjunction with the construction schedule. The sum of all pay activities shall be equal to the total contract amount, including modifications. Pay activities shall be grouped by Contract Line Item Number (CLIN), and the sum of the activities shall equal the amount of each CLIN. The total of all CLINs equals the Contract Amount.

1.6.2.2 Payment Requests

All progress payment requests shall be prepared using QCS. The Contractor shall complete the payment request worksheet and include it with the payment request. The work completed under the contract, measured as percent or as specific quantities, shall be updated at least monthly. After the update, the Contractor shall generate a payment request report using QCS. The Contractor shall submit the payment requests with supporting data by E-mail with file attachment(s). If permitted by the Contracting Officer, a data diskette may be used instead of E-mail. A signed paper copy of the approved payment request is also required, which shall govern in the event of discrepancy with the electronic version.

1.6.3 Quality Control (QC)

QCS provides a means to track implementation of the 3-phase QC Control System, prepare daily reports, identify and track deficiencies, document progress of work, and support other Contractor QC requirements. The Contractor shall maintain this data on a daily basis. Entered data shall automatically output to the QCS generated daily report. The Contractor shall provide the Government a Contractor Quality Control (CQC) Plan within the time required in SECTION 01451, CONTRACTOR QUALITY CONTROL. Within seven calendar days of Government acceptance, the Contractor shall submit a data diskette or CD-ROM reflecting the information contained in the accepted CQC Plan: schedule, pay activities, features of work, submittal register, QC requirements, and equipment list.

1.6.3.1 Daily Contractor Quality Control (CQC) Reports.

QCS includes the means to produce the Daily CQC Report. The Contractor may use other formats to record basic QC data. However, the Daily CQC Report generated by QCS shall be the Contractor's official report. Data from any supplemental reports by the Contractor shall be summarized and consolidated onto the QCS-generated Daily CQC Report. Daily CQC Reports shall be submitted as required by SECTION 01451, CONTRACTOR QUALITY CONTROL. Reports shall be submitted electronically to the Government using E-mail or diskette within 24 hours after the date covered by the report. Use of either mode of submittal shall be coordinated with the Government representative. The Contractor shall also provide the

Government a signed, printed copy of the daily CQC report.

1.6.3.2 Deficiency Tracking.

The Contractor shall use QCS to track deficiencies. Deficiencies identified by the Contractor shall be numerically tracked using QC punch list items. The Contractor shall maintain a current log of its QC punch list items in the QCS database. The Government will log the deficiencies it has identified using its QA punch list items. The Government's QA punch list items will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of both QC and QA punch list items.

1.6.3.3 Three-Phase Control Meetings

The Contractor shall maintain scheduled and actual dates and times of preparatory and initial control meetings in QCS.

1.6.3.4 Accident/Safety Tracking.

The Government will issue safety comments, directions, or guidance whenever safety deficiencies are observed. The Government's safety comments will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of the safety comments. In addition, the Contractor shall utilize QCS to advise the Government of any accidents occurring on the jobsite. This brief supplemental entry is not to be considered as a substitute for completion of mandatory reports, e.g., ENG Form 3394 and OSHA Form 200.

1.6.3.5 Features of Work

The Contractor shall include a complete list of the features of work in the QCS database. A feature of work may be associated with multiple pay activities. However, each pay activity (see subparagraph "Pay Activity Data" of paragraph "Finances") will only be linked to a single feature of work.

1.6.3.6 QC Requirements

The Contractor shall develop and maintain a complete list of QC testing, transferred and installed property, and user training requirements in QCS. The Contractor shall update all data on these QC requirements as work progresses, and shall promptly provide this information to the Government via QCS.

1.6.4 Submittal Management

The Government will provide the initial submittal register, ENG Form 4288, SUBMITTAL REGISTER, in electronic format. Thereafter, the Contractor shall maintain a complete list of all submittals, including completion of all data columns. Dates on which submittals are received and returned by the Government will be included in its export file to the Contractor. The Contractor shall use QCS to track and transmit all submittals. ENG Form 4025, submittal transmittal form, and the submittal register update, ENG Form 4288, shall be produced using QCS. RMS will be used to update, store and exchange submittal registers and transmittals, but will not be used for storage of actual submittals.

1.6.5 Schedule

The Contractor shall develop a construction schedule consisting of pay activities, in accordance with Contract Clause "Schedules for Construction Contracts", or SECTION 01320, PROJECT SCHEDULE, as applicable. This schedule shall be input and maintained in the QCS database either manually or by using the Standard Data Exchange Format (SDEF) (see SECTION 01320 PROJECT SCHEDULE). The updated schedule data shall be included with each pay request submitted by the Contractor.

1.6.6 Import/Export of Data

QCS includes the ability to export Contractor data to the Government and to import submittal register and other Government-provided data, and schedule data using SDEF.

1.7 IMPLEMENTATION

Contractor use of QCS as described in the preceding paragraphs is mandatory. The Contractor shall ensure that sufficient resources are available to maintain its QCS database, and to provide the Government with regular database updates. QCS shall be an integral part of the Contractor's management of quality control.

1.8 DATA SUBMISSION VIA COMPUTER DISKETTE OR CD-ROM

The Government-preferred method for Contractor's submission of updates, payment requests, correspondence and other data is by E-mail with file attachment(s). For locations where this is not feasible, the Contracting Officer may permit use of computer diskettes or CD-ROM for data transfer. Data on the disks or CDs shall be exported using the QCS built-in export function. If used, diskettes and CD-ROMs shall be submitted in accordance with the following:

1.8.1 File Medium

The Contractor shall submit required data on 3-1/2 inch double-sided high-density diskettes formatted to hold 1.44 MB of data, capable of running under Microsoft Windows 95 or newer. Alternatively, CD-ROMs may be used. They shall conform to industry standards used in the United States. All data shall be provided in English.

1.8.2 Disk or CD-ROM Labels

The Contractor shall affix a permanent exterior label to each diskette and CD-ROM submitted. The label shall indicate, in English, the QCS file name, full contract number, contract name, project location, data date, name and telephone number of person responsible for the data.

1.8.3 File Names

The Government will provide the file names to be used by the Contractor with the QCS software.

1.9 MONTHLY COORDINATION MEETING

The Contractor shall update the QCS database each workday. At least monthly, the Contractor shall generate and submit an export file to the Government with schedule update and progress payment request. As required in Contract Clause "Payments", at least one week prior to

submittal, the Contractor shall meet with the Government representative to review the planned progress payment data submission for errors and omissions.
The Contractor shall make all required corrections prior to Government acceptance of the export file and progress payment request. Payment requests accompanied by incomplete or incorrect data submittals will be returned. The Government will not process progress payments until an acceptable QCS export file is received.

1.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. 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.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

-- End of Section --

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01320

PROJECT SCHEDULE

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SECTION 01320

PROJECT SCHEDULE

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of the specification to the extent referenced. The publications are referenced in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

ER 1-1-11 (1995) Progress, Schedules, and Network Analysis Systems

1.2 QUALIFICATIONS

The Contractor shall designate an authorized representative who shall be responsible for the preparation of all required project schedule reports.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Pursuant to the Contract Clause, SCHEDULE FOR CONSTRUCTION CONTRACTS, a Project Schedule as described below shall be prepared. The scheduling of construction shall be the responsibility of the Contractor. Contractor management personnel shall actively participate in its development. Subcontractors and suppliers working on the project shall also contribute in developing and maintaining an accurate Project Schedule. The approved Project Schedule shall be used to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis of all progress payments.

3.2 BASIS FOR PAYMENT

The schedule shall be the basis for measuring Contractor progress. Lack of an approved schedule or scheduling personnel will result in an inability of the Contracting Officer to evaluate Contractor's 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. In the case where Project Schedule revisions have been directed by the Contracting Officer and those revisions have not been included in the Project Schedule, the Contracting Officer may hold retainage up to the maximum allowed by contract, each payment period, until revisions to the Project Schedule have been made.

3.3 PROJECT SCHEDULE

The computer software system utilized by the Contractor to produce the Project Schedule shall be capable of providing all requirements of this specification. Failure of the Contractor to meet the requirements of this specification shall result in the disapproval of the schedule. Manual methods used to produce any required information shall require approval by the Contracting Officer.

3.3.1 Use of the Critical Path Method

The Critical Path Method (CPM) of network calculation shall be used to generate the Project Schedule. The Contractor shall provide the Project Schedule in the Precedence Diagram Method (PDM).

3.3.2 Level of Detail Required

The Project Schedule shall include an appropriate level of detail. Failure to develop or update the Project Schedule or provide data to the Contracting Officer at the appropriate level of detail, as specified by the Contracting Officer, shall result in the disapproval of the schedule. 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:

3.3.2.1 Activity Durations

Contractor submissions shall follow the direction of the Contracting Officer regarding reasonable activity durations. Reasonable durations are those that allow the progress of activities to be accurately determined between payment periods (usually less than 2 percent of all non-procurement activities' Original Durations are greater than 20 days).

3.3.2.2 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 90 days. Examples of procurement process activities include, but are not limited to: submittals, approvals, procurement, fabrication, and delivery.

3.3.2.3 Critical Activities

The following activities shall be listed as separate line activities on the Contractor's project schedule:

a. Submission and approval of mechanical/electrical layout drawings.

b. Submission and approval of O & M manuals.

c. Submission and approval of as-built drawings.

d. Submission and approval of 1354 data and installed equipment lists.

e. Submission and approval of testing and air balance (TAB).

f. Submission of TAB specialist design review report.

g. Submission and approval of fire protection specialist.

h. Submission and approval of testing and balancing of HVAC plus commissioning plans and data.

i. Air and water balance dates.

j. HVAC commissioning dates.

k. Controls testing plan.

l. Controls testing.

m. Performance Verification testing.

n. Other systems testing, if required.

o. Prefinal inspection.

p. Correction of punchlist from prefinal inspection.

q. Final inspection.

3.3.2.4 Government Activities

Government and other agency activities that could impact progress shall be shown. These activities include, but are not limited to: approvals, inspections, utility tie-in, and Notice to Proceed (NTP) for phasing requirements.

3.3.2.5 Responsibility

All activities shall be identified in the project schedule by the party responsible to perform the work. Responsibility includes, but is not limited to, the subcontracting firm, Contractor work force, or government agency performing a given task. Activities shall not belong to more than one responsible party. The responsible party for each activity shall be identified by the Responsibility Code.

3.3.2.6 Work Areas

All activities shall be identified in the project schedule by the work area in which the activity occurs. Activities shall not be allowed to cover more than one work area. The work area of each activity shall be identified by the Work Area Code.

3.3.2.7 Modification or Claim Number

Any activity that is added or changed by contract modification or used to justify claimed time shall be identified by a mod or claim code that changed the activity. Activities shall not belong to more than one modification or claim item. The modification or claim number of each activity shall be identified by the Mod or Claim Number. Whenever possible, changes shall be added to the schedule by adding new activities. Existing activities shall not normally be changed to reflect modifications.

3.3.2.8 Offer Item

All activities shall be identified in the project schedule by the Offer

Item to which the activity belongs. An activity shall not contain work in more than one offer item. The offer item for each appropriate activity shall be identified by the Offer Item Code.

3.3.2.9 Phase of Work

All activities shall be identified in the project schedule by the phases of work in which the activity occurs. Activities shall not contain work in more than one phase of work. The project phase of each activity shall be by the unique Phase of Work Code.

3.3.2.10 Category of Work

All Activities shall be identified in the project schedule according to the category of work which best describes the activity. Category of work refers, but is not limited, to the procurement chain of activities including such items as submittals, approvals, procurement, fabrication, delivery, installation, start-up, and testing. The category of work for each activity shall be identified by the Category of Work Code.

3.3.2.11 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. The feature of work for each activity shall be identified by the Feature of Work Code.

3.3.3 Scheduled Project Completion

The schedule interval shall extend from NTP to the contract completion date.

3.3.3.1 Project Start Date

The schedule shall start no earlier than the date on which the NTP was acknowledged. The Contractor shall include as the first activity in the project schedule an activity called "Start Project". The "Start Project" activity shall have an "ES" constraint date equal to the date that the NTP was acknowledged, and a zero day duration.

3.3.3.2 Constraint of Last Activity

Completion of the last activity in the schedule shall be constrained by the contract completion date. Calculation on project updates shall be such that if the early finish of the last activity falls after the contract completion date, then the float calculation shall reflect a negative float on the critical path. The Contractor shall include as the last activity in the project schedule an activity called "End Project". The "End Project" activity shall have an "LF" constraint date equal to the completion date for the project, and a zero day duration.

3.3.3.3 Early Project Completion

In the event the project schedule shows completion of the project prior to the contract completion date, the Contractor shall identify those activities that have been accelerated and/or those activities that are scheduled in parallel to support the Contractor's "early" completion. Contractor shall specifically address each of the activities noted in

the narrative report at every project schedule update period to assist the Contracting Officer in evaluating the Contractor's ability to actually complete prior to the contract period.

3.3.4 Interim Completion Dates

Contractually specified interim completion dates shall also be constrained to show negative float if the early finish date of the last activity in that phase falls after the interim completion date.

3.3.4.1 Start Phase

The Contractor shall include as the first activity for a project phase an activity called "Start Phase X" where "X" refers to the phase of work. The "Start Phase X" activity shall have an "ES" constraint date equal to the date on which the NTP was acknowledged, and a zero day duration.

3.3.4.2 End Phase

The Contractor shall include as the last activity in a project phase an activity called "End Phase X" where "X" refers to the phase of work. The "End Phase X" activity shall have an "LF" constraint date equal to the completion date for the project, and a zero day duration.

3.3.4.3 Phase X

The Contractor shall include a hammock type activity for each project phase called "Phase X" where "X" refers to the phase of work. The "Phase X" activity shall be logically tied to the earliest and latest activities in the phase.

3.3.5 Default Progress Data Disallowed

Actual Start and Finish dates shall not be automatically updated by default mechanisms that may be included in CPM scheduling software systems. Actual Start and Finish dates on the CPM schedule shall match those dates provided from Contractor Quality Control Reports. Failure of the Contractor to document the Actual Start and Finish dates on the Daily Quality Control report for every in-progress or completed activity, and failure to ensure that the data contained on the Daily Quality Control reports is the sole basis for schedule updating, shall result in the disapproval of the Contractor's schedule and the inability of the Contracting Officer to evaluate Contractor progress for payment purposes. Updating of the percent complete and the remaining duration of any activity shall be independent functions. Program features which calculate one of these parameters from the other shall be disabled.

3.3.6 Out-of-Sequence Progress

Activities that have posted progress without all preceding logic being satisfied (Out-of-Sequence Progress) will be allowed only on a case-by-case approval of the Contracting Officer. The Contractor shall propose logic corrections to eliminate all out of sequence progress or justify not changing the sequencing for approval prior to submitting an updated project schedule.

3.3.7 Negative Lags

Lag durations contained in the project schedule shall not have a negative value.

3.4 PROJECT SCHEDULE SUBMISSIONS

The Contractor shall provide the submissions as described below. The data disk, reports, and network diagrams required for each submission are contained in paragraph SUBMISSION REQUIREMENTS.

3.4.1 Preliminary Project Schedule Submission

The Preliminary Project Schedule, defining the Contractor's planned operations for the first 60 calendar days, shall be submitted for approval within 20 calendar days after the NTP is acknowledged. The approved preliminary schedule shall be used for payment purposes not to exceed 60 calendar days after NTP.

3.4.2 Initial Project Schedule Submission

The Initial Project Schedule shall be submitted for approval within 40 calendar days after NTP. The schedule shall provide a reasonable sequence of activities which represent work through the entire project and shall be at a reasonable level of detail.

3.4.3 Periodic Schedule Updates

Based on the result of progress meetings, specified in "Periodic Progress Meetings," the Contractor shall submit periodic schedule updates. These submissions shall enable the Contracting Officer to assess Contractor's progress. If the Contractor fails or refuses to furnish the information and project schedule data, which in the judgement of the Contracting Officer or authorized representative is necessary for verifying the Contractor's progress, the Contractor shall be deemed not to have provided an estimate upon which progress payment may be made.

3.4.4 Standard Activity Coding Dictionary

The Contractor shall use the activity coding structure defined in the Standard Data Exchange Format (SDEF) in ER 1-1-11, Appendix A. This exact structure is mandatory, even if some fields are not used.

3.5 SUBMISSION REQUIREMENTS

The following items shall be submitted by the Contractor for the preliminary submission, initial submission, and every periodic project schedule update throughout the life of the project:

3.5.1 Data Disks

Two data disks containing the project schedule shall be provided. Data on the disks shall adhere to the SDEF format specified in ER 1-1-11, Appendix A.

3.5.1.1 File Medium

Required data shall be submitted on 3.5-in. disks, formatted to hold 1.44 MB of data, under the MS-DOS Version 5. or 6.x, unless otherwise approved by the Contracting Officer.

3.5.1.2 Disk Label

A permanent exterior label shall be affixed to each disk submitted. The label shall indicate the type of schedule (Preliminary, Initial, Update, or Change), full contract number, project name, project location, data date, name and telephone number of person responsible for the schedule, and the MS-DOS version used to format the disk.

3.5.1.3 File Name

Each file submitted shall have a name related to either the schedule data date, project name, or contract number. The Contractor shall develop a naming convention that will ensure that the names of the files submitted are unique. The Contractor shall submit the file naming convention to the Contracting Officer for approval.

3.5.2 Narrative Report

A Narrative Report shall be provided with the preliminary, initial, and each update of the project schedule. This report shall be provided as the basis of the Contractor's progress payment request. The Narrative Report shall include: a description of activities along the 2 most critical paths, a description of current and anticipated problem areas or delaying factors and their impact, and an explanation of corrective actions taken or required to be taken. The narrative report is expected to relay to the Government, the Contractor's thorough analysis of the schedule output and its plans to compensate for any problems, either current or potential, which are revealed through that analysis.

3.5.3 Approved Changes Verification

Only project schedule changes that have been previously approved by the Contracting Officer shall be included in the schedule submission. The Narrative Report shall specifically reference, on an activity by activity basis, all changes made since the previous period and relate each change to documented, approved schedule changes.

3.5.4 Schedule Reports

The format for each activity for the schedule reports listed below shall contain: Activity Numbers, Activity Description, Original Duration, Remaining Duration, Early Start Date, Early Finish Date, Late Start Date, Late Finish Date, Total Float. Actual Start and Actual Finish Dates shall be printed for those activities in progress or completed.

3.5.4.1 Activity Report

A list of all activities sorted according to activity number.

3.5.4.2 Logic Report

A list of Preceding and Succeeding activities for every activity in ascending order by activity number. Preceeding and succeeding activities shall include all information listed above in paragraph Schedule Reports.
A blank line shall be left between each activity grouping.

3.5.4.3 Total Float Report

A list of all incomplete activities sorted in ascending order of total float. Activities which have the same amount of total float shall be listed in ascending order of Early Start Dates. Completed activities shall not be shown on this report.

3.5.4.4 Earnings Report

A compilation of the Contractor's Total Earnings on the project from the NTP until the most recent Monthly Progress Meeting. This report shall reflect the Earnings of specific activities based on the agreements made in the field and approved between the Contractor and Contracting Officer at the most recent Monthly Progress Meeting. Provided that the Contractor has provided a complete schedule update, this report shall serve as the basis of determining Contractor Payment. Activities shall be grouped by offer item and sorted by activity numbers. This report shall: sum all activities in an offer item and provide an offer item percent; and complete and sum all offer items to provide a total project percent complete. The printed report shall contain, for each activity: the Activity Number, Activity Description, Original Budgeted Amount, Total Quantity, Quantity to Date, Percent Complete (based on cost), and Earnings to Date.

3.5.5 Network Diagram

The network diagram shall be required on the initial schedule submission and on monthly schedule update submissions. The network diagram shall depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The Contracting Officer will use, but is not limited to, the following conditions to review compliance with this paragraph:

3.5.5.1 Continuous Flow

Diagrams shall show a continuous flow from left to right with no arrows from right to left. The activity number, description, duration, and estimated earned value shall be shown on the diagram.

3.5.5.2 Project Milestone Dates

Dates shall be shown on the diagram for start of project, any contract required interim completion dates, and contract completion date(s).

3.5.5.3 Critical Path

The critical path shall be clearly shown.

3.5.5.4 Banding

Activities shall be grouped to assist in the understanding of the activity sequence. Typically, this flow will group activities by category of work, work area and/or responsibility.

3.5.5.5 S-Curves

Earnings curves showing projected early and late earnings and earnings to date.

3.6 PERIODIC PROGRESS MEETINGS

Progress meetings to discuss payment shall include a monthly onsite meeting or other regular intervals mutually agreed to at the preconstruction conference. During this meeting the Contractor shall 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 need to approve activity progress, proposed revisions, and adjustments as appropriate.

3.6.1 Meeting Attendance

The Contractor's Project Manager and Scheduler shall attend the regular progress meeting.

3.6.2 Update Submission Following Progress Meeting

A complete update of the project schedule containing all approved progress, revisions, and adjustments, based on the regular progress meeting, shall be submitted not later than 4 working days after the monthly progress meeting.

3.6.3 Progress Meeting Contents

Update information, including Actual Start Dates, Actual Finish Dates, Remaining Durations, and Cost-to-Date shall be subject to the approval of the Contracting Officer. As a minimum, the Contractor shall address the following items on an activity by activity basis during each progress meeting.

3.6.3.1 Start and Finish Dates

The Actual Start and Actual Finish dates for each activity currently in-progress or completed.

3.6.3.2 Time Completion

The estimated Remaining Duration for each activity in-progress. Time-based progress calculations shall be based on Remaining Duration for each activity.

3.6.3.3 Cost Completion

The earnings for each activity started. Payment will be based on earnings for each in-progress or completed activity. Payment for individual activities will not be made for work that contains quality defects. A portion of the overall project amount may be retained based on delays of activities.

3.6.3.4 Logic Changes

All logic changes pertaining to NTP on change orders, change orders to be incorporated into the schedule, Contractor proposed changes in work sequence, corrections to schedule logic for out-of-sequence progress, lag durations, and other changes that have been made pursuant to contract provisions shall be specifically identified and discussed.

3.6.3.5 Other Changes

Other changes required due to delays in completion of any activity or

group of activities include: 1) delays beyond the Contractor's control, such as strikes and unusual weather; 2) delays encountered due to submittals, Government Activities, deliveries or work stoppages which make re-planning the work necessary, 3) changes required to correct a schedule which does not represent the actual or planned prosecution and progress of the work.

3.7 REQUESTS FOR TIME EXTENSIONS

In the event the Contractor requests an extension of the contract completion date, or any interim milestone date, the Contractor shall furnish the following for a determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract: justification, project schedule data, and supporting evidence as the Contracting Officer may deem necessary. Submission of proof of delay, based on revised activity logic, duration, and costs (updated to the specific date that the delay occurred) is obligatory to any approvals.

3.7.1 Justification of Delay

The project schedule shall clearly display that the Contractor has used, in full, all the float time available for the work involved with this request. The Contracting Officer's determination as to the number of allowable days of contract extension shall be based upon the project schedule updates in effect for the time period in question, and other factual information. Actual delays that are found to be caused by the Contractor's own actions, which result in the extension of the schedule, will not be a cause for a time extension to the contract completion date.

3.7.2 Submission Requirements

The Contractor shall submit a justification for each request for a change in the contract completion date of under 2 weeks based upon the most recent schedule update at the time of the NTP or constructive direction issued for the change. Such a request shall be in accordance with the requirements of other appropriate Contract Clauses and shall include, as a minimum:

a. A list of affected activities, with their associated project schedule activity number.

b. A brief explanation of the causes of the change.

c. An analysis of the overall impact of the changes proposed.

d. A sub-network of the affected area.

Activities impacted in each justification for change shall be identified by a unique activity code contained in the required data file.

3.7.3 Additional Submission Requirements

For any requested time extension of over 2 weeks, the Contracting Officer may request an interim update with revised activities for a specific change request. The Contractor shall provide this disk within 4 days of the Contracting Officer's request.

3.8 DIRECTED CHANGES

If the NTP is issued for changes prior to settlement of price and/or time, the Contractor shall submit proposed schedule revisions to the Contracting Officer within 2 weeks of the NTP being issued. The proposed revisions to the schedule will need to be approved by the Contracting Officer prior to inclusion of those changes within the project schedule. If the Contractor fails to submit the proposed revisions, the Contracting Officer may furnish the Contractor with suggested revisions to the project schedule. The Contractor shall include these revisions in the project schedule until revisions are submitted, and final changes and impacts have been negotiated. If the Contractor has any objections to the revisions furnished by the Contracting Officer, the Contractor shall advise the Contracting Officer within 2 weeks of receipt of the revisions. Regardless of the objections, the Contractor shall continue to update the schedule with the Contracting Officer's revisions until a mutual agreement in the revisions is reached. If the Contractor fails to submit alternative revisions within 2 weeks of receipt of the Contracting Officer's proposed revisions, the Contractor will be deemed to have concurred with the Contracting Officer's proposed revisions. The proposed revisions will then be the basis for an equitable adjustment for performance of the work.

3.9 OWNERSHIP OF FLOAT

Float available in the schedule, at any time, shall not be considered for the exclusive use of either the Government or the Contractor.

3.10 ATTACHMENT

Standard Data Exchange Format Specification (Appendix A)

STANDARD DATA EXCHANGE FORMAT SPECIFICATION

PART 1- GENERAL

1. Application of This Provision: The Standard Data Exchange Format (SDEF) provides a non-proprietary protocol to exchange project planning and progress data between scheduling systems.

2. File Type and Format: The data file shall consist of a 132 character, freed format, "ASCII" file. Text shall be left-justified and numbers shall be right-justified in each field. Data records must conform, exactly, to the sequence, column position, maximum length, mandatory values, and field definitions described below to comply with the SDEF. Unless specifically stated, all numbers shall be whole numbers. Fields containing numbers shall not be zero filled. All data columns shall be separated by a single blank column. The file shall not contain blank lines.

3. Usage Notes: Where appropriate, notes regarding proper usage of systems to support the SDEF have been included in brackets ([ ]). These notes are included to assist users in creating SDEF-compatible files, given the variety of software systems that support the SDEF.

4. Recommended Systems: Several systems have been tested to determine the accuracy of importing and exporting SDEF files. For information on the current list of recommended systems, please contact Mr. Stan Green at HQUSACE, (202) 761-0206. Although the currently listed system have been tested other systems may also be acceptable provided those systems correctly import and export SDEF files.

5. SDEF Checker Program: A program that checks whether a file meets the SDEF is available free of charge. A copy of this program may be obtained by written request to: U.S. Army Corps of Engineers, ATTN: Mr. Bill East (CECER-FFA), P.O. Box 9005, Champaign, IL 61826-90005. A description of the SDEF Checker is also available on the Internet and CivilNet.

PART 2- SDEF SPECIFICATION

6. SDEF Organization: The SDEF shall consist of the following records provided in the exact sequence shown below:

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Paragraph Reference	Record Description	Remarks
6.a	Volume Record	Mandatory First Line of File
6.b	Project Record	Mandatory Second Line of File
6.c	Calendar Record(s)	Mandatory One Record Minimum
6.d	Holiday Record(s)	Mandatory if Holidays Used
6.e	Activity Record(s)	Mandatory Records
6.f	Precedence Record(s)	Mandatory for Precedence
6.g	Unit Cost Record(s)	Mandatory for Unit Costs
6.h	Progress Record(s)	Mandatory Records
6.i	File End Record	Mandatory Last Line of Disk/File

6.a. Volume Record: The Volume Record shall be used to control the transfer of data that may not fit on a single disk. The first line in every file used to store SDEF data shall be the Volume Record. The Volume Record shall sequentially identify the number of the data transfer disk(s). The Volume Record shall have the following format:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1 - 4	4	VOLM	Fixed	Filled
DISK NUMBER	6 - 7	2	√	Number	Right Justified

6.a.(l) The RECORD IDENTIFIER is the first four characters of this record. The required value for this field shall be "VOLM". The VOLM record must appear on the first line of the SDEF data file.

6.a.(2) The DISK NUMBER field shall identify the number of the data disk used to store the data exchange information. If all data may be contained on a single disk, this field shall contain the value of "l". If more disks are required, then the second disk shall contain the value "2", the third disk shall be designated with a "3", and so on. Identifcation of the last data disk is accomplished in the Reject End Record.

6.b. Project Record: The Project Identifier Record shall contain general project information. Because more than one SDEF file may be required for data transfer between large projects, the PROJ record shall be the second line of the first SDEF file transferred. The PROJ record shall contain information in the following format:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1- 4	4	PROJ	Fixed	Filled
DATA DATE	6- 12	7	√	ddmmmyy	Filled
PROJECT IDENTIFIER	14-17	4	√	Alpha.	Left Justified
PROJECT NAME	19-66	48	√	Alpha.	Left Justified
CONTRACTOR NAME	68-103	36	√	Alpha.	Left Justified
ARROW OR PRECEDENCE	105-105	1	A,P	Fixed	Filled
CONTRACT NUMBER	107-112	6	√	Alpha.	Left Justified
PROJECT START	114-120	7	√	ddmmmyy	Filled
PROJECT END	122-128	7	√	ddmmmyy	Filled

6.b.(1) The RECORD IDENTIFIER is the first four characters of this record. The required value for this field shall be "PROJ". This record shall contain the general project information and indicates which scheduling method shall be used.

6.b.(2) The DATA DATE is the date of the schedule calculation. The abbreviation "ddmmmyy" refers to a date format that shall translate a date into two numbers for the day, three letters for the month, and two numbers for the year. For example, March 1, 1999 shall be translated into OlMar99. This same convention for date formats shall be used throughout the entire data format. To ensure that dates are translated consistently, the following abbreviations shall be used for the three character month code:

Abbreviation	Month
JAN	January
FEB	February
MAR	March
APR	April
MAY	May
JUN	June
JUL	July
AUG	August
SEP	September
OCT	October
NOV	November
DEC	December

6.b.(3) The PROJECT IDENTIFIER is a maximum four character abbreviation for the schedule. These four characters shall be used to uniquely identify the project and specific update as agreed upon by Contractor and Contracting Officer. When utilizing scheduling software these four characters shall be used to select the project. Software manufacturers shall provide information to users to ensure that data importing programs do not automatically overwrite other schedules with the same PROJECT IDENTIFIER.

6.b.(4) The PROJECT NAME field shall contain the name and location of the project edited to fit the space provided. The data appearing here shall appear on scheduling software reports. The abbreviation "Alpha." refers to an "Alphanumeric" field value and shall be used throughout the remainder of this specification.

6.b.(5) The CONTRACTOR NAME field shall contain the Construction Contractor's name, edited to fit the space provided.

6.b.(6) The ARROW OR PRECEDENCE field shall indicate which method shall be used for calculation of the schedule. The value "A" shall signify the Arrow Diagramming Method. The value "P" shall signify the Precedence Diagramming Method. The ACTIVITY ID field of the Activity Record shall be interpreted differently depending on the value of this field. The Precedence Record shall be required if the value of this field is "P". [Usage note: software systems may not support both arrow and precedence diagramming. It is recommended that the selection of the type of network be based on the capabilities of the software used by project partners.]

6.b.(7) The CONTRACT NUMBER field shall contain the contract number for the project. For example, the construction contract number DACA85-89-C-0001 shall be entered into this field as "890001".

6.b.(8) The PROJECT START field shall contain the date that the Contractor acknowledges the Notice to Proceed (NTP). [Usage note: Software systems may use a project start date to constrain the first activity of a network. To ensure consistent scheduling calculations across products, it is recommended that the first activity in the schedule contain an EARLY START constraint and a software system's PROJECT START date only be used to report on the project's start date.]

6.b.(9) The PROJECT END field shall contain the date that the Contractor plans to complete the work as approved by the Contracting Officer. [Usage note: software systems may use a project end date to constrain the last activity of a network. To ensure consistent scheduling calculations across products, it is recommended that the last activity in the schedule contain an EARLY START constraint and a software system's PROJECT END date only be used to report on the project's end date.]

6.c. Calendar Record: The Calendar Record(s) shall follow the Project Identifier Record in the first disk of data transferred. A minimum of one Calendar Record shall be required for all data exchange activity files. The format for the Calendar Record shall be as follows:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1 - 4	4	CLDR	FixedFilled	
CALENDAR CODE	6 - 6	1	√	Alpha.	Filled
WORKDAYS	8 - 14		SMTWTFS	Fixed	Filled
CALENDAR DESCRIPTION	16-45	30	√	Alpha.	Left Justified

6.c.(1) The RECORD IDENTIFIER shall always begin with "CLDR" to identify it as a Calendar Record. Each Calendar Record used shall have this identification in the first four columns. [Usage note: Systems contain a variety of calendar options. It is recommended that the least common denominator of calendar features between the systems be used as the basis for creating the SDEF file for a given project.]

6.c.(2) The CALENDAR CODE shall be used in the activity records to signify that this calendar is associated with the activity. [Usage note: Some systems do not allow for alphanumeric CALENDAR CODES, but only allow positive integers from 1 to 9. It is recommended that only positive integers be used for the CALENDAR CODE field to support the widest variety of scheduling systems.]

6.c.(3) The WORKDAYS field shall contain the work-week pattern selected with "Y", for Yes, and "N", for No. The first character shall be Sunday and the last character Saturday. An example of a typical five (5) day work-week would be NYYYYYN. A seven (7) day work-week would be YYYYYYY.

6.c.(4) The CALENDAR DESCRIPTION shall be used to briefly describe the calendar used.

6.d. Holiday Record: The Holiday Record(s) shall follow the Calendar Record(s) in the first disk of data transferred. There may be calendars without any holidays designated or several Holiday Records for each Calendar Record(s). The format for the Holiday Record shall be as follows:

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Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1-4	4	HOLI	Fixed	Filled
CALENDAR CODE	6-6	1	√	Alpha.	Filled
HOLIDAY DATE	8-14	7	√	ddmmmyy	Filled
HOLIDAY DATE	16-22		-	ddmmmyy	May be Filled
HOLIDAY DATE	24-30		-	ddmmmyy	May be Filled
HOLIDAY DATE	32-38		-	ddmmmyy	May be Filled
HOLIDAY DATE	40-46		-	ddmmmyy	May be Filled
HOLIDAY DATE	48-54		-	ddmmmyy	May be Filled
HOLIDAY DATE	56-62		-	ddmmmyy	May be Filled
HOLIDAY DATE	64-70		-	ddmmmyy	May be Filled
HOLIDAY DATE	72-78		-	ddmmmyy	May be Filled
HOLIDAY DATE	80-86		-	ddmmmyy	May be Filled
HOLIDAY DATE	88-94		-	ddmmmyy	May be Filled
HOLIDAY DATE	96-102		-	ddmmmyy	May be Filled
HOLIDAY DATE	104-110		-	ddmmmyy	May be Filled
HOLIDAY DATE	112-118		-	ddmmmyy	May be Filled
HOLIDAY DATE	120-126		-	ddmmmyy	May be Filled

6.d.(1) The RECORD IDENTIFIER shall always begin with "HOLI". Each Holiday Record used shall have this identification in the first four columns.

6.d.(2) The CALENDAR CODE indicates which work-week calendar the holidays shall be applied to. More than one HOLI record may be used for a given CALENDAR CODE.

6.d.(3) The HOLIDAY DATE shall contain the date of each individual non-work day.

6.e. Activity Records: Activity Records shall follow any Holiday Record(s). If there are no Holiday Record(s), then the Activity Records shall follow the Calendar Record(s). There shall be one Activity Record for every activity in the network. Each activity shall have one record in the following format:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1-4	4	ACTV	Fixed	Filled
ACTIVITY ID	6-15	10	√	Integer	See Comment Below
ACTIVITY DESCR.	17-46	30	√	Alpha.	Left Justified
ACTIVITY DURATION	48-50	3	√	Integer	Right Justified
CONSTRAINT DATE	52-58	7		ddmmmyy	May be Filled
CONSTRAINT TYPE	60-61	2		ES or LF	May be Filled
CALENDAR CODE	63-63	1		Alpha.	Filled
HAMMOCK CODE	65-65	1	Y, blank	Fixed	May be Filled
WORKERS PER DAY	67-69	3		Integer	Right Justified
RESPONSIBILITY CODE	71-74	4		Alpha.	Left Justified
WORK AREA CODE	76-79	4		Alpha.	Left Justified
MOD OR CLAIM NO.	81-86	6		Alpha.	Left Justified
BID ITEM	88-93	6		Alpha.	Left Justified
PHASE OF WORK	95-96	2		Alpha.	Left Justified
CATEGORY OF WORK	98-98	1		Alpha.	May be Filled
FEATURE OF WORK	100-128	30		Alpha.	Left Justified

6.e.(1) The RECORD IDENTIFIER for each activity description record must begin with the four character "ACTV" code. This field shall be used for both the Arrow Diagram Method (ADM) and Precedence Diagram Method (PDM),

6.e.(2) The ACTIVITY ID consists of coding that shall differ, depending on whether the ADM or PDM method was selected in the Project Record. If the ADM method was selected then the field shall be interpreted as two right-justified fields of five (5) integers each. If the PDM method was selected the field shall be interpreted as one (1) right-justified field of ten (10) integers each. The maximum activity number allowed under this arrangement is 99999 for ADM and 9999999999 for the PDM method. [Usage note: Many systems allow alphanumeric ACTIVITY IDs. While the SDEF does not strictly, allow the use of alphanumeric values, users may agree to use the ACTIVITY ID field to exchange alphanumeric data. It is recommended that the ACTIVITY ID be restricted to integers when one or more of the systems being used for scheduling allows only integer ACTIVITY ID values.]

6.e.(3) The ACTIVITY DESCRIPTION shall be a maximum of 30 characters. Descriptions must be limited to the space provided.

6.e.(4) The ACTIVITY DURATION contains the estimated original duration for the activity on the schedule. The duration shall be based upon the work-week designated by the activity's related calendar.

6.e.(5) The CONSTRAINT DATE field shall be used to identify a date that the scheduling system may use to modify float calculations. If there is a date in this field, then there must be a valid entry in the CONSTRAINT TYPE field.

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6.e.(6) The CONSTRAINT TYPE field shall be used to identify the way that the scheduling system shall use the CONSTRAINT DATE to modify schedule float calculations. If there is a value in this field, then there must be a valid entry in the CONSTRAINT DATE field. The valid values for the CONSTRAINT TYPE are as follows:

	Definition
	The CONSTRAINT DATE shall replace an activity's early start date, if the early start date is prior to the CONSTRAINT DATE.
	The CONSTRAINT DATE shall replace an activity's late finish date, if the late finish date is after the CONSTRAINT DATE.

[Usage note: Systems provide a wide variety of constraint types that may not be supported by other systems. It is recommended that constraint types be restricted to the values above regardless of the capabilities of the various systems being used for scheduling.]

6.e.(7) The CALENDAR CODE relates this activity to an appropriate work-week calendar. The ACTIVITY DURATION must be based on the valid work-week referenced by this CALENDAR CODE field.

6.e.(8) The HAMMOCK CODE indicates that a particular activity does not have its own independent duration, but takes its start dates from the start date of the preceding activity (or node) and takes its finish dates from the finish dates of its succeeding activity (or node). If the value of the HAMMOCK CODE field is "Y", then the activity is a hammmock activity.

6.e.(9) The WORKERS PER DAY shall contain the average number of workers expected to work on the activity each day the activity is in progress. If this code is required by project scheduling specifications, values for this data will be right justified. Activities without workers per day shall have a value of "0".

6.e.(10) The RESPONSIBILITY CODE shall identify the subcontractors or major trade involved with completing the work for the activity. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(11) The WORK AREA CODE shall identify the location of the activity within the project. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(12) The MOD OR CLAIM NUMBER shall uniquely identify activities that are added or changed on a construction contract modification, or activities that justify any claimed time extensions. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(13) The BID ITEM shall identify the bid item number associated with each activity. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(14) The PHASE OF WORK shall identify the timing of a specific activity within the entire project. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(15) The CATEGORY OF WORK shall identify the general type of work performed by every activity. If this code is required by project scheduling specifications, value for this data will be placed in the field.

6.e.(16) The FEATURE OF WORK shall identify a very broad designation of the general type of work that is being accomplished by the activity. If this code is required by project scheduling specifications, value for this data will be left justified. [Usage note: Many systems require that FEATURE OF WORK values be placed in several activity code fields. It is recommended that users review SDEF documentation to determine the correct way to use a given software system to produce the FEATURE OF WORK code.]

6.f. Precedence Record: The Precedence Record(s) shall follow the Activity Records if a Precedence Diagram Method schedule (PDM) is identified in the ARROW OR PRECEDENCE field of the Project Record. The Precedence Record has the following format:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1 - 4	4	PRED	Fixed	Filled
ACTIVITY ID	6-15	10	√	Integer	See Comment Below
PRECEDING ACTIVITY	17 -26	10	√	Integer	See Comment Below
PREDECESSOR TYPE	28-28		√	S, F, C	Filled
LAG DURATION	30-33	4	√	Integer	Right Justified

6.f.(1) The RECORD IDENTIFIER shall begin with the four characters "PRED" in the first four columns of the record.

6.f.(2) The ACTIVITY ID identifies the activity whose predecessor shall be specified in this record.

6.f.(3) The PRECEDING ACTIVITY number is the number of an activity that precedes the activity noted in the ACTIVITY ID field.

6.f.(4) The PREDECESSOR TYPE field indicates the type of relation that exists between the chosen pair of activities. Valid PREDECESSOR TYPE fields areas follows:

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Code	Definition
S	Start-to-Start relation
F	Finish-to-Finish relation
C	Finish-to-Start relation

[Usage note: Some systems provide additional predecessor types that may not be supported by all other systems. It is recommended that predecessor types be restricted to the values above regardless of the capabilities of the various systems being used for scheduling.]

6.f.(5) The LAG DURATION field contains the number of days delay between the preceding and current activity. [Usage note: Some systems allow negative values for the LAG DURATION. Because these values are not supported by all other systems, it is recommended that values be restricted to zero and positive integers.]

6.g. Unit Cost Record: The Unit Cost Record shall follow all Precedence Records. If the schedule utilizes the Arrow Diagram Method, then the Unit Cost Record shall follow any Activity records. There shall be one Unit Cost Record for every activity that is not a lump sum activity. [Usage note: (1) It is recommended that users who wish to exchange unit cost data contact SDEF vendor representatives to determine the ability of the software system to import/export unit cost information. (2) If the software being used by each member of the project team supports unit cost data then users may wish to conduct a trial run of the SDEF data exchange with a two or three-activity network to ensure that unit cost data transfers as expected. If problems are found please consult vendor representatives for resolution prior to exchange of full project schedules. (3) Unit cost record data does not, in most systems, result in the correct values being placed in the ACTIVITY COST and COST TO DATE fields of the Progress (PROG) Record. Users must, at this time, manually transfer the data from the Unit Cost Record to the Progress Record.

The fields for this record shall take the following format:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1 - 4	4	UNIT	Fixed	Filled
ACTIVITY ID	6-15	10	√	Integer	See Comment Below
TOTAL QTY	17-29	13	√	Format 8.4	Right Justified
COST PER UNIT	31-43	13	√	Format 8.4	Right Justified
QTY TO DATE	45-57	13	√	Format 8.4	Right Justified
UNIT OF MEASURE	59-61	3	√	Alpha.	Left Justified

6.g.(1) The RECORD IDENTIFIER shall be identified with the four characters 'UNIT" placed in the first four columns of the record.

6.g.(2) The ACTIVITY ID for each activity shall match the format described in the activity record. Each activity may have only one Unit Cost Record.

6.g.(3) The TOTAL QTY is the total amount of material to be used in this activity. This number consists of eight digits, one decimal point and four more digits. An example of a number in this format is "11111111.1111". If decimal places are not needed this field shall still contain a ".0000" in columns 25-29. [Usage note: Many systems support a different format for this value that does not include as many decimal places. It is recommended that users determine their requirements for significant digits based on the lowest common denominator of the software systems being used for a given project.]

6.g.(4) The COST PER UNIT is the cost, in dollars and cents, for each unit to be used in this activity. This number consists of eight digits, one decimal point, and four more digits. An example of a number in this format is "11111111.1111". If decimal places are not needed this field shall still contain a ".0000" in columns 39-43. [Usage note: Many systems support a different format for this value that does not include as many decimal places. It is recommended that users determine their requirements for significant digits based on the lowest common denominator of the software systems being used for a given project.]

6.g.(5) The QTY TO DATE is the quantity of material installed in this activity up to the data date. This number consists of eight digits, one decimal point, and four more digits. An example of a number in this format is "11111111.1111". If decimal places are not needed this field shall still contain a ".0000" in columns 53-57. [Usage note: Many systems support a different format for this value that does not include as many decimal places. It is recommended that users determine their requirements for significant digits based on the lowest common denominator of the software systems being used for a given project.]

6.g.(6) The UNIT OF MEASURE is an abbreviation that may be used to describe the units being measured for this activity. Valid values for this field are any meaningful English or metric unit, except "LS" for Lump Sum. Lump Sum activities are not to have Unit Cost Records.

6.h. Progress Record: Progress Record(s) shall follow all Unit Cost Record(s). If there are no Unit Cost Record(s), then the Progress Record(s) shall follow all Precedence Records. If the schedule utilizes the Arrow Diagram Method, then the Progress Record shall follow any Activity Records. One Progress Record is required for every activity in the Activity Record. The fields for this Record shall be provided in the following format:

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Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1-4	4	PROG	Fixed	Filled
ACTIVITY ID	6-5	10	√	Integer	See Comment Below
ACTUAL START DATE	17-23	7	√	ddmmmyy	Filled if Started
ACTUAL FINISH DATE	25-31	7	√	ddmmmyy	Filled if Finished
REMAINING DURATION	33-35	3	√	Integer	Right Justified
ACTIVITY COST	37-48	12	√	Format 9.2	Right Justified
COST TO DATE	50-61	12	√	Format 9.2	Right Justitied
STORED MATERIAL	63-74	12	√	Format 9.2	Right Justified
EARLY START DATE	76-82	7	√	ddmmmyy	Filled if Not Started
EARLY FINISH DATE	84-90	7	√	ddmmmyy	Filled if Not Finished
LATE START DATE	92-98	7	√	ddmmmyy	Filled if Not Started
LATE FINISH DATE	100-1067		√	ddmmmyy	Filled if Not Finished
FLOAT SIGN	108-1081		+,-	Fixed	Filled if Not Finished
TOTAL FLOAT	110-1123		√	Integer	R. Just. if Not Finished

6.h.(1) The RECORD IDENTIFIER shall begin with the four characters "PROG" in the first four columns of the record.

6.h.(2) The ACTIVITY ID for each activity for which progress has been posted shall match the format described in the Activity Record.

6.h.(3) An ACTUAL START DATE is required for all in-progress activities. The ACTUAL START DATE shall be the same as, or later than, the PROJECT START date contained in the Project Record. The ACTUAL START DATE shall also be the same as, or prior to, the DATA DATE contained in the Project Record. If there is an ACTUAL START DATE for an activity that there must also be a REMAINING DURATION, and the values for the EARLY START DATE and LATE START DATE are blank. [Usage note: Some systems allow default values for ACTUAL START DATE if the date is not entered by the user. Because the failure to include a start date for activities may result in different schedule calculations, it is recommended that the ACTUAL START DATE be required for all activities in progress.]

6.h.(4) An ACTUAL FINISH DATE is required for all completed activities. If the REMAINING DURATION of an activity is zero, then there must be an ACTUAL FINISH DATE. If there is an ACTUAL FINISH DATE, then values for the EARLY START DATE, LATE START DATE, EARLY FINISH DATE, LATE FINISH DATE, FLOAT SIGN, and TOTAL FLOAT shall be blank. [Usage note: Some systems allow default values for ACTUAL FINISH DATE if the date is not entered by the user. Because the failure to include a finish date for activities may result in different schedule calculations, it is recommended that the ACTUAL FINISH DATE be required for all activities in progress.]

6.h.(5)AREMAININ G DURATION is required for all activities. Activities that have not started shall have a remaining duration equal to their original duration. Activities completed based on time, shall have a zero (0) REMAINING DURATION. [Usage note: Systems have a variety of "short-cut" methods to determine the REMAINING DURATION value. It is recommended that users actually consider the time required to complete the remaining work on a given task, rather than allow a system to calculate the remaining duration based on the amount of work that has already been accomplished.]

6.h.(6) The ACTIVITY COST contains the estimated earned value of the work to be accomplished in the activity. An example of a number in this format is "1111111 11.11". If decimal places are not needed this field shall still contain a ".00" in the last three columns of this field. [Usage note: Users should inquire of software vendors if the user needs to add a zero in the data field to produce the default value "0.00".]

6.h.(7) The COST TO DATE contains the earned value for the activity. If there is an ACTUAL START DATE, then there must also be some value for COST TO DATE. An example of a number in this format is "111111111.11". If decimal places are not needed, this field shall still contain a ".00" in the last three columns of this field. The COST TO DATE is not tied to REMAINING DURATION. For example, if the REMAINING DURATION is "0", the COST TO DATE may only be 95% of the ACTIVITY COST. This difference may be used to reflect 5% retainage for punch list items. [Usage note: Systems implement cost information in different ways. It is recommended that users carefully review SDEF documentation and test results to determine how to ensure that SDEF data is exported correctly.]

6.h.(8) The STORED MATERIAL field contains the value of the material that the Contractor has paid for and is on site or in secure storage areas that is a portion of the COST TO DATE. An example of a number in this format is "111111111.11". If decimal places are not needed, this field shall still contain a ".00" in the last three columns of this field. [Usage note: Systems implement the stored materials field in a variety of ways. Many systems do not enforce STORED MATERIAL + COST TO DATE < ACTIVITY COST. To avoid potential confusion between systems, it is recommended that new activities be added to a schedule to reflect the cost of large equipment procurement rather than use the STORED MATERIALS field.]

6.h.(9) The EARLY START DATE indicates the earliest date possible that an activity can start as calculated by a CPM scheduling system or other Contracting Officer approved planning method. If the progress record for an activity contains an ACTUAL START DATE, then this field shall be blank.

6.h.(10) The EARLY FINISH DATE indicates the earliest date possible that an activity can finish as calculated by a CPM scheduling system or other Contracting Officer approved planning method. If the progress record for an activity contains an ACTUAL FINISH DATE, then this field shall be blank.

6.h.(11) The LATE START DATE indicates the latest date that an activity can begin as calculated by a CPM scheduling system or other Contracting Officer approved planning method. If the progress record for an activity contains an ACTUAL START DATE, then this field shall be blank.

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6.h.(12) The LATE FINISH DATE indicates the latest date that an activity can finish as calculated by a CPM scheduling system or other Contracting Officer approved planning method. If the progress record for an activity contains an ACTUAL FINISH DATE, then this field shall be blank.

6.h.(13) The FLOAT SIGN indicates whether the float time calculated using a CPM scheduling system or other Contracting Officer approved planning method, is positive or negative in nature. If the progress record for an activity contains an ACTUAL FINISH DATE, then this field shall be blank. In the case of zero float this field shall be blank.

6.h.(14) The TOTAL FLOAT indicates the total float time. In the Precedence Diagram Method (PDM), the total float is the difference between the early and late start or finish dates. In the Arrow Diagram Method (ADM), the total float is equal to the late event time at the end of the activity, minus the sum of the early event time at the start of the activity plus the duration of the activity.

6.i. Project End Record: The Project End Record shall be used to identify that the data file is completed. If the ASCII End of File character is encountered, then data import programs shall use that character to infer that the data continues on the next disk. The user shall then be prompted for the next disk number, based on the VOLM record data. The Project End Record shall be the last record of the entire data file, and shall have the following format:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1-3	3	END	Fixed	Filled

6.i.(1) The RECORD IDENTIFIER for the Project End Record shall be "END". Data contained in the data exchange file that occurs after this record shall not be used.

--END OF SECTION--

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01330

SUBMITTAL PROCEDURES

-- End of Section Table of Contents --

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUBMITTAL IDENTIFICATION (SD)

Submittals required are identified by SD numbers and titles as follows:

SD-02 Shop Drawings

SD-03 Product Data

SD-07 Certificates

SD-11 Closeout Submittals

1.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.2.1 Designer of Record Approval

Designer of Record approval is required for extensions of design, critical materials, any deviations from the solicitation, the accepted proposal, or the completed design, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction", they are considered to be "shop drawings". The Contractor shall provide the Government the number of copies designated hereinafter for all Designer of Record approved submittals. The Government may review any or all Designer of Record approved submittals for conformance to the Solicitation and Accepted Proposal. The Government will review all submittals designated as deviating from the Solicitation or Accepted Proposal, as described below. Design submittals shall be in accordance with SECTION 01012 DESIGN AFTER AWARD. Generally, design submittals should be identified as SD-05 DESIGN DATA submittals.

1.2.2 Government Approved

Government approval is required for any deviations from the solicitation or Accepted Proposal and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

1.2.3 Government Reviewed Design or Extension of Design

The Government will review all 65% and 95% design submittals for conformance with the technical requirements of the solicitation. Section 01012 DESIGN AFTER AWARD covers the design submittal and review process in detail. Government review is required for extension of

design construction submittals, used to define contract conformity, and for deviation from the completed design. Review will be only for conformance with the contract requirements. Included are only those construction submittals for which the Designer of Record design documents do not include enough detail to ascertain contract compliance. The Government may, but is not required, to review extensions of design such as structural steel or reinforcement shop drawings.

1.2.4 Information Only

All submittals not requiring Designer of Record or Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.3 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the design, general method of construction, materials, detailing and other information appear to meet the Solictation and Accepted Proposal. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for design, dimensions, all design extensions such as the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer, obtain the Designer of Record's approval when applicable, and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. Any "information only" submittal found to contain errors or unapproved deviations from the Solicitation or Accepted Proposal shall be resubmitted as one requiring "approval" action, requiring both Designer of Record and Government approval. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the Contracting Officer.

1.5 WITHHOLDING OF PAYMENT

No payment for materials incorporated in the work will be made if all required, Designer of Record or Government approvals have not been obtained. No payment will be made for any materials incorporated into the work for any conformances review submittals or information only submittals found to contain errors or deviations from the Solicitation or accepted Proposal.

1.6 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all

submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) System Manager and Designer of Record. Each item shall be stamped, signed, and dated by the CQC System Manager and the Designer of Record indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. 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; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

1.7 SUBMITTAL REGISTER

At the end of this section is a submittal register showing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. The Contractor shall maintain a submittal register for the project in accordance with Section 01312 QUALITY CONTROL SYSTEM (QCS).

1.8 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals. An additional 15 calendar days shall be allowed and shown on the register for review and approval of submittals for HVAC control systems.

1.9 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms are included in the QCS software that the Contractor is required to use. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. 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.

1.10 SUBMITTAL PROCEDURES

Submittals shall be made as follows:

1.10.1 Procedures

a. Government Approved and Information Only submittals shall be

listed on separate ENG Form 4025's.

b. Samples for testing shall be delivered in accordance with SECTION 01451 CONTRACTOR QUALITY CONTROL. All other submittals shall be delivered to the Contracting Officer.

1.10.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

1.11 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."

1.12 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. Four copies of the submittal will be retained by the Contracting Officer and one copy of the submittal will be returned to the Contractor. If the Government performs a conformance review of other Designer of Record approved submittals, the submittals will be identified and returned as described above

1.13 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. 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; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

1.14 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR
(Firm Name)
_____ Approved
_____ Approved with corrections as noted on submittal data and/or attached sheets(s).
SIGNATURE: _____
TITLE: _____
DATE: _____

1.15 ATTACHMENTS

Submittal Register

ENG Form 4025

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
REPAIR UTILIDORS PHASE IV

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAG # RAPH	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01356A	SD-07 Certificates															
			Mill Certificate or Affidavit	2.1.3														
		01780	SD-02 Shop Drawings															
			As-Built Drawings	1.3.1	G													
			SD-03 Product Data															
			Warranty Management Plan	1.4.1														
			Warranty Tags	1.4.5														
			Final Cleaning	1.7	G													
			SD-11 Closeout Submittals															
			As-Built Record of Equipment and Materials	1.3.2														

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 TRANSMITTAL _____
SPECIFICATION SEC. NO. *(Cover only one section with each transmittal)*	PROJECT TITLE AND LOCATION		CHECK ONE: THIS TRANSMITTAL IS FOR GOV'T. APPROVAL ☐ FIO

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		FOR CONTRACTOR USE CODE *g.*	VARIATION *(See instruction No. 6)* *h.*	FOR CE USE CODE *i.*
				SPEC. PARA. NO. *e.*	DRAWING SHEET NO. *f.*			

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 other wise stated.

_____

NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED *(List by Item No.)*	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE

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)

--END OF SECTION--

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01356A

STORM WATER POLLUTION PREVENTION MEASURES

-- End of Section Table of Contents --

SECTION 01356A

STORM WATER POLLUTION PREVENTION MEASURES

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.

ASTM INTERNATIONAL (ASTM)

ASTM D 4439	(1997) Standard Terminology for Geosynthetics
ASTM D 4491	(1999a) Water Permeability of Geotextiles by Permittivity
ASTM D 4533	(1991; R 1996) Trapezoid Tearing Strength of Geotextiles
ASTM D 4632	(1991; R 1996) Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	(1999a) Determining Apparent Opening Size of a Geotextile
ASTM D 4873	(2002) Identification, Storage, and Handling of Geosynthetic Rolls and Samples

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-01 Preconstruction Submittals

Storm Water Pollution Prevention Plan; G

Contractor shall submit a Storm Water Pollution Prevention Plan SWPP prior to commencing site work.

1.3 EROSION AND SEDIMENT CONTROLS

The controls and measures required by the Contractor are described below.

1.3.1 Stabilization Practices

The stabilization practices to be implemented shall include temporary seeding, mulching, geotextiles, vegetative buffer strips, erosion control matts, protection of trees, etc. On his daily CQC Report, the Contractor shall record the dates when the major grading activities occur, (e.g., clearing and grubbing, excavation, and grading); when construction activities temporarily or permanently cease on a portion of the site; and when stabilization practices are initiated. Except as provided in paragraphs UNSUITABLE CONDITIONS and NO ACTIVITY FOR LESS THAN 21 DAYS, stabilization practices shall be initiated as soon as practicable, but no more than 14 days, in any portion of the site where construction activities have temporarily or permanently ceased.

1.3.1.1 Unsuitable Conditions

Where the initiation of stabilization measures by the fourteenth day after construction activity temporarily or permanently ceases is precluded by unsuitable conditions caused by the weather, stabilization practices shall be initiated as soon as practicable after conditions become suitable.

1.3.1.2 No Activity for Less Than 21 Days

Where construction activity will resume on a portion of the site within 21 days from when activities ceased (e.g., the total time period that construction activity is temporarily ceased is less than 21 days), then stabilization practices do not have to be initiated on that portion of the site by the fourteenth day after construction activity temporarily ceased.

1.3.2 Structural Practices

Structural practices shall be implemented to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Structural practices shall be implemented in a timely manner during the construction process to minimize erosion and sediment runoff. Structural practices shall include the following devices.

1.3.2.1 Silt Fences

The Contractor shall provide silt fences as a temporary structural practice to minimize erosion and sediment runoff. Silt fences shall be properly installed to effectively retain sediment immediately after completing each phase of work where erosion would occur in the form of sheet and rill erosion (e.g. clearing and grubbing, excavation, embankment, and grading). Silt fences shall be installed in the locations indicated on the drawings. Final removal of silt fence barriers shall be upon approval by the Contracting Officer.

1.3.2.2 Straw Bales

The Contractor shall provide bales of straw as a temporary structural practice to minimize erosion and sediment runoff. Bales shall be properly placed to effectively retain sediment immediately after completing each

phase of work (e.g., clearing and grubbing, excavation, embankment, and grading) in each independent runoff area (e.g., after clearing and grubbing in a area between a ridge and drain, bales shall be placed as work progresses, bales shall be removed/replaced/relocated as needed for work to progress in the drainage area). Areas where straw bales are to be used are shown on the drawings. Final removal of straw bale barriers shall be upon approval by the Contracting Officer. Rows of bales of straw shall be provided as follows:

a. Along the downhill perimeter edge of all areas disturbed.

b. Along the top of the slope or top bank of drainage ditches, channels, swales, etc. that traverse disturbed areas.

c. Along the toe of all cut slopes and fill slopes of the construction areas.

d. Perpendicular to the flow in the bottom of existing drainage ditches, channels, swales, etc. that traverse disturbed areas or carry runoff from disturbed areas. Rows shall be spaced a maximum of 230 feet apart.

e. Perpendicular to the flow in the bottom of new drainage ditches, channels, and swales. Rows shall be spaced a maximum of 230 feet apart.

f. At the entrance to culverts that receive runoff from disturbed areas.

1.3.2.3 Diversion Dikes

Diversion dikes shall have a maximum channel slope of 2 percent and shall be adequately compacted to prevent failure. The minimum height measured from the top of the dike to the bottom of the channel shall be 18 inches. The minimum base width shall be 6 feet and the minimum top width shall be 2 feet. The Contractor shall ensure that the diversion dikes are not damaged by construction operations or traffic.

PART 2 PRODUCTS

2.1 COMPONENTS FOR SILT FENCES

2.1.1 Filter Fabric

The geotextile shall comply with the requirements of ASTM D 4439, and shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. The filament shall consist of a long-chain synthetic polymer composed of at least 85 percent by weight of ester, propylene, or amide, and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistance to deterioration due to ultraviolet and heat exposure. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0 to 120 degrees F. The filter fabric shall meet the following requirements:

FILTER FABRIC FOR SILT SCREEN FENCE

PHYSICAL PROPERTY	TEST PROCEDURE	STRENGTH REQUIREMENT
Grab Tensile	ASTM D 4632	100 lbs. min.
Elongation (%)		30 % max.
Trapezoid Tear	ASTM D 4533	55 lbs. min.
Permittivity	ASTM D 4491	0.2 sec-1
AOS (U.S. Std Sieve)	ASTM D 4751	20-100

2.1.2 Silt Fence Stakes and Posts

The Contractor may use either wooden stakes or steel posts for fence construction. Wooden stakes utilized for silt fence construction, shall have a minimum cross section of 2 inches by 2 inches when oak is used and 4 inches by 4 inches when pine is used, and shall have a minimum length of 5 feet. Steel posts (standard "U" or "T" section) utilized for silt fence construction, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 5 feet.

2.1.3 Identification Storage and Handling

Filter fabric shall be identified, stored and handled in accordance with ASTM D 4873.

2.2 COMPONENTS FOR STRAW BALES

The straw in the bales shall be stalks from oats, wheat, rye, barley, rice, or from grasses such as byhalia, bermuda, etc., furnished in air dry condition. The bales shall have a standard cross section of 14 inches by 18 inches. All bales shall be either wire-bound or string-tied. The Contractor may use either wooden stakes or steel posts to secure the straw bales to the ground. Wooden stakes utilized for this purpose, shall have a minimum dimensions of 2 inches x 2 inches in cross section and shall have a minimum length of 3 feet. Steel posts (standard "U" or "T" section) utilized for securing straw bales, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 3 feet.

PART 3 EXECUTION

3.1 Storm Water Pollution Prevention Plan

Contractor shall submit a Storm Water Pollution Prevention Plan SWPP prior to commencing site work. The SWPP shall be prepared by a professionally registered engineer registered in the State of Alaska

This plan shall also include obtaining a National Pollutant Discharge Elimination System (NPDES) permit under the Clean Water Act Section 402.

3.2 INSTALLATION OF SILT FENCES

Silt fences shall extend a minimum of 16 inches above the ground surface and shall not exceed 34 inches above the ground surface. Filter fabric shall be from a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are unavoidable, filter fabric shall be spliced together at a support post, with a minimum 6 inch overlap, and securely sealed. A trench shall be excavated approximately 4 inches wide and 4 inches deep on the upslope side of the location of the silt fence. The 4-inch by 4-inch trench shall be backfilled and the soil compacted over the filter fabric. Silt fences shall be removed upon approval by the Contracting Officer.

3.3 INSTALLATION OF STRAW BALES

Straw bales shall be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another. Straw bales shall be installed so that bindings are oriented around the sides rather than along the tops and bottoms of the bales in order to prevent deterioration of the bindings. The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. After the bales are staked and chinked (gaps filled by wedging with straw), the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill side and shall be built up to 4 inches against the uphill side of the barrier. Loose straw shall be scattered over the area immediately uphill from a straw bale barrier to increase barrier efficiency. Each bale shall be securely anchored by at least two stakes driven through the bale. The first stake or steel post in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or steel pickets shall be driven a minimum 18 inches deep into the ground to securely anchor the bales.

3.4 MAINTENANCE

The Contractor shall maintain the temporary and permanent vegetation, erosion and sediment control measures, and other protective measures in good and effective operating condition by performing routine inspections to determine condition and effectiveness, by restoration of destroyed vegetative cover, and by repair of erosion and sediment control measures and other protective measures. The following procedures shall be followed to maintain the protective measures.

3.4.1 Silt Fence Maintenance

Silt fences shall be inspected in accordance with paragraph INSPECTIONS. Any required repairs shall be made promptly. Close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting. Should the fabric on a silt fence decompose or become ineffective, and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits shall be removed when deposits reach one-third of the height of the barrier. When a silt fence is no longer required, it shall be removed. The immediate area occupied by the fence and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall be seeded.

3.4.2 Straw Bale Maintenance

Straw bale barriers shall be inspected in accordance with paragraph INSPECTIONS. Close attention shall be paid to the repair of damaged bales, end runs and undercutting beneath bales. Necessary repairs to barriers or replacement of bales shall be accomplished promptly. Sediment deposits shall be removed when deposits reach one-half of the height of the barrier. Bale rows used to retain sediment shall be turned uphill at each end of each row. When a straw bale barrier is no longer required, it shall be removed. The immediate area occupied by the bales and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall be seeded.

3.4.3 Diversion Dike Maintenance

Diversion dikes shall be inspected in accordance with paragraph INSPECTIONS. Close attention shall be paid to the repair of damaged diversion dikes and necessary repairs shall be accomplished promptly. When diversion dikes are no longer required, they shall be shaped to an acceptable grade. The areas disturbed by this shaping shall be seeded.

3.5 INSPECTIONS

3.5.1 General

The Contractor shall inspect disturbed areas of the construction site, areas used for storage of materials that are exposed to precipitation that have not been finally stabilized, stabilization practices, structural practices, other controls, and area where vehicles exit the site at least once every seven (7) calendar days and within 24 hours of the end of any storm that produces 0.5 inches or more rainfall at the site. Where sites have been finally stabilized, such inspection shall be conducted at least once every month.

3.5.2 Inspections Details

Disturbed areas and areas used for material storage that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the Storm Water Pollution Prevention Plan shall be observed to ensure that they are operating correctly. Discharge locations or points shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles exit the site shall be inspected for evidence of offsite sediment tracking.

3.5.3 Inspection Reports

For each inspection conducted, the Contractor shall prepare a report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the Storm Water Pollution Prevention Plan, maintenance performed, and actions taken. The report

shall be furnished to the Contracting Officer within 24 hours of the inspection as a part of the Contractor's daily CQC REPORT. A copy of the inspection report shall be maintained on the job site.

-- End of Section --

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SECTION 01411

ENVIRONMENTAL PROTECTION

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SECTION 01411

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 SCOPE

This section covers protection of environmental resources and environmental compliance of the installation exposed to potential effects from construction activities.

The Contractor shall perform the work minimizing environmental pollution and damage as the result of construction operations. For the Purposes of this section, environmental pollution and damage is 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 recreational purposes.

The control of environmental pollution and damage requires consideration of land, water, and air, and includes management of visual aesthetics, noise, solid waste, as well as other pollutants. The environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of this contract.

1.2 APPLICABLE REGULATIONS

In order to provide for compliance with environmental regulations as well as abatement and control of, environmental pollution arising from the construction activities of the Contractor or its subcontractors in performance of the work, they shall comply with applicable Federal, State, and local laws and regulations concerning environmental compliance, pollution control and abatement, as well as applicable provisions of the Safety and Health Requirements Manual referenced in paragraph Accident Prevention of the contract clauses.

1.3 LAND RESOURCES

1.3.1 General

Land resources within the project boundaries and outside the limits of the work shall be preserved in a their undisturbed condition or be restored to a condition after completion of construction that will appear natural and not detract from the appearance of the area. Insofar as possible, the Contractor shall confine its construction activities to areas defined by the plans or specifications. The following requirements are in addition to those specified in paragraph Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements; Operations and Storage Areas; and Cleaning Up, of the Contract Clauses.

1.3.2 Protection of Landscape

The Contractor shall not deface, injure, or destroy trees, shrubs, or other landscaping, or remove or cut same without permission from the Contracting Officer. The Contractor shall minimize impacts to the existing landscape in selecting sites for field offices and storage areas.

1.3.3 Uprotected Erodible Soils

Earthwork brought to final grade shall be finished as indicated. Side slopes and back slopes shall be protected as soon as practicable upon completion of rough grading. All earthwork shall be planned and conducted to minimize the duration of exposure of unprotected soils. Except in cases where the constructed feature obscures borrow areas, and waste material areas, these areas shall not initially be totally cleared. Clearing of such areas shall progress in reasonably sized increments as needed to use the developed areas as approved by the Contracting Officer.

1.3.4 Disturbed Areas

The Contractor shall effectively prevent erosion and control sedimentation through approved methods including, but not limited to, the following:

1. Retardation and control of runoff. Runoff from the construction site or from storms shall be controlled, retarded, and diverted to protected drainage courses by means of diversion ditches, benches, berms, and by any measures required by area wide plans under the Clean Water Act.

2. Erosion and sedimentation control devices. The Contractor shall construct or install temporary and permanent erosion and sedimentation control features as indicated on the drawings. Berms, dikes, drains, sedimentation basins, grassing, and mulching shall be maintained until permanent drainage and erosion control facilities are completed and operative.

3. Sediment basins. Sediment from construction areas shall be trapped in temporary or permanent sediment basins. The basins shall accommodate the runoff of a local 5-year storm. After each storm, the basins shall be pumped dry and accumulated sediment shall be removed to maintain basin effectiveness. Overflow shall be controlled by paved weirs or by vertical overflow pipes. The collected topsoil sediment shall be reused for fill on the construction site, and/or stockpiled for use at another site. The Contractor shall institute effluent quality monitoring programs as required by State and local environmental agencies.

1.3.5 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. Temporary movement or relocation of Contractor facilities shall be made only when approved. Borrow areas shall be managed to minimize erosion and to prevent sediment from entering nearby waters. Spoil areas shall be managed and controlled to limit spoil intrusion into areas designated on the drawings and to prevent erosion of soil or sediment from entering nearby

waters. Spoil areas shall be developed in accordance with the grading plan indicated on the drawings. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas from despoilment.

1.4 WATER RESOURCES

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 to soil or vegetation when such application may cause contamination of the fresh water reserve. Monitoring of water areas affected by construction shall be the Contractor's responsibility.

1.4.1 Construction Waste Water

Waste waters directly derived from construction activities shall not be directly discharged to the sanitary sewer system, storm water system, or a natural watercourse or pond. Waste waters shall be collected and detained to allow suspended material to settle out or the water evaporates to separate pollutants from the water. Analysis shall be performed and results reviewed and approved before water in retention ponds is discharged.

1.4.2 Fish and Wildlife

The Contractor shall minimize interference with, disturbance to, and damage of fish and wildlife. Species that require specific attention along with measures for their protection shall be listed by the Contractor prior to beginning of construction operations.

1.5 AIR POLLUTION CONTROL

The Contractor shall maintain excavations, embankments, stockpiles, haul roads, permanent and temporary access roads, and all other work areas within or outside the project boundaries free from dust which would cause a hazard or nuisance. Sprinkling or similar methods shall be employed to control dust. If sprinkling is used, the Contractor shall retain sufficient, suitable equipment at the site and repeat applications at such intervals as to keep all parts of the disturbed area damp at all times. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs. No separate or direct payment will be made for dust control and the cost thereof shall be considered incidental to and included in the contract price.

Contractor shall at no time bring to the site emission sources that cause a violation of any State, Federal or local laws or regulations. This includes operating permit requirements and/or thresholds as well as construction permit requirements and/or thresholds in accordance with 18 AAC 50.

1.6 SPILL PREVENTION AND REPORTING

The Contractor must fully comply with all the requirements of 40 CFR 112 and 18 AAC 75 for spill response and hazardous pollutant control. Any on-site storage of petroleum, oils, and lubricants (POL) or hazardous substances must comply with these regulations.

Spills of any hazardous substance, waste, or materials or non-regulated

materials such as oil, antifreeze, grease, latex paint, hydraulic fluid, etc. shall be immediately reported to the 354 CES/CEV (Environmental Flight) at 907-377-SPIL; concurrent notification shall be made to the Contracting Officer. The Environmental Flight will be responsible for proper reporting to local, state, and federal agencies. If a spill occurs after duty hours or during a weekend, the Eielson AFB Fire Department shall be contacted.

1.7 SOLID WASTES

Solid wastes (excluding clearing debris) shall be placed in containers, which are emptied on a regular schedule. Handling and disposal shall be conducted to prevent contamination. Segregation measures shall be employed so that no hazardous or toxic waste will become co-mingled with solid waste. The Contractor shall transport solid waste off Government property and dispose of it in compliance with Federal, State, and local requirements for solid waste disposal. The Contractor shall comply with Federal, State, and local laws and regulations pertaining to the use of landfill areas.

1.8 HAZARDOUS MATERIALS USE ON-SITE

All Department of Defense (DOD) Contractors, in order to facilitate DOD compliance with all information collection and reporting provisions of Executive Order (E.O.) 12856, are required to collect and report information on Hazardous Materials usage. This includes, but is not limited to, the Emergency Preparedness and Community Right-To-Know Act (EPCRA) and the Pollution Prevention Act (PPA) requirements of the E.O.

Each Contractor working on site shall submit projected use quantities and MSDSs for all project materials containing SARA Title III chemicals to the Contracting Officer 30 days prior to on-site construction start. Contractor shall use the Contractor's Hazardous Materials Usage Report as formatted below or a Contractor-generated report that contains the same information. This information will be consolidated by the project/contract number and delivered to the Hazmart by the Contracting Officer. Information will be entered into AF-EMIS under the contract information.

The Contractor shall provide to the Contracting Officer a completed Contractor's Hazardous Material Usage Report (or equivalent) within 60 days of on-site construction completion.

If new hazardous materials (containing SARA Title III Chemicals) are introduced during the contract period, the Contractor shall submit the projected use quantities and the new MSDSs not later than seven days after the purchase date (copy of MSDS and invoice is acceptable).

If there is a 25 percent increase in projected use quantity of an already identified hazardous material (containing a SARA Title III chemical) over the initial revised estimate, then the Contractor must submit a revised projected use quantity estimate (no MSDS is required).

Contractor Hazardous Material Usage Report

Part Number	Product Name	Manufacturer	Initial Estimated Quantity	Quantity Used	Unit of Issue(gal, lb, qt,etc)

1.
2.
3.
4.
5.
6.
7.
Air Force Contract Monitor:_____
Phone Number:_____
Contractor Point of
Contact:_____
Phone Number:_____

1.9 HAZARDOUS WASTE GENERATED ON-SITE

The Contractor shall take any necessary steps minimize the generation of hazardous waste during construction. All hazardous wastes as defined in 40 CFR Part 261 shall be collected and disposed of in accordance with 40 CFR Parts 260-268 and the Eielson AFB Hazardous Materials and Waste Management Plan at Appendix D.

All hazardous waste generated is the responsibility of the Contractor until it is properly turned over to the Government at the Eielson AFB Hazardous Waste Facility. The Contractor is responsible for the proper handling, labeling, storage, removal and disposal of all hazardous waste generated on-site in accordance with applicable laws and regulations.

The Contractor shall be responsible for disposal of their hazardous waste and hazardous material containers in accordance with applicable laws and regulations.

All Hazardous Waste generated by the Contractor and/or subcontractors on this project shall be disposed of at the Eielson AFB Hazardous Waste Facility. The Contractor is responsible for coordinating all hazardous waste turn-ins with the Environmental Flight's hazardous waste section at least 5 working days in advance of waste turn-in. The Contractor is responsible for lawfully transporting hazardous waste generated by construction activities to the Hazardous Waste Facility on Eielson AFB.

The Contractor shall, within 30 days of construction start, submit to the Contracting Officer an "Estimated Quantity and Cost Report for Hazardous Wastes". This report shall detail the quantity for hazardous waste that they anticipate will be generated during this project. The Government will cover the cost of Hazardous Waste Disposal at the Eielson AFB Hazardous Waste Facility.

No separate or direct payment will be made for hazardous waste disposal and the cost thereof shall be considered incidental to and included in the contract price.

At no time shall the Contractor identify the waste as Eielson AFB generated waste.

1.10 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Existing historical, archaeological, and cultural resources within the Contractor's work area will be so designated by the Contracting Officer if any has been identified. The Contractor shall take precautions to preserve all such resources as they existed at the time they were first

pointed out. The Contractor shall provide and install protection for these resources and be responsible for their preservation during the life of the contract. If during excavation or other construction activities any previously unidentified or unanticipated resources are discovered or found, all activities that may damage or alter such resources shall be temporarily suspended. Resources covered by this paragraph include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rocks alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, the Contractor shall immediately notify the Contracting Officer. While waiting for instructions the Contractor shall report, record, and preserve the finds.

1.11 ENVIRONMENTAL PROTECTION PLAN

The Contractor shall submit an environmental protection plan within 15 days after receipt of the notice to proceed. Approval of the Contractor's plan will not relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protection measures. The environmental protection plan shall include, but shall not be limited to, the following:

1. A list of Federal, State, and local laws, regulations, and permits concerning environmental protection, pollution control and abatement that are applicable to the Contractor's proposed operations and the requirements imposed by those laws, regulations, and permits.

2. Methods for protection of features to be preserved within authorized work areas like trees, shrubs, vines, grasses and ground cover, landscape features, air and water quality, fish and wildlife, soil, historical, archaeological, and cultural resources.

3. Procedures to be implemented to provide the required environmental protection, to comply with the applicable laws and regulations, and to correct pollution due to accident, natural causes, or failure to follow the procedures of the environmental protection plan.

4. Location of the solid waste disposal area.

5. Drawings showing locations of any proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials.

6. Environmental monitoring plans for the job site, including land, water, air, and noise monitoring.

7. Traffic control plan including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather, and the amount of mud transported onto paved public roads by vehicles or runoff.

8. Methods of protecting surface and ground water during construction activities.

9. Plan showing the proposed activity in each portion of the work

area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas.

10. rawing of borrow area location. Protection measures required at the work site shall apply to the borrow areas including final restoration for subsequent beneficial use of the land.

11. A recycling and waste prevention plan with a list of measures to reduce consumption of energy and natural resources; for example: the possibility to shred fallen trees and use them as mulch shall be considered as an alternative to burning or burial.

12. A Storm Water Pollution Protection Plan (SWPP) which addresses erosion and sediment controls and storm water management during construction. Elements of the SWPP shall include erosion prevention and control measures and sediment control practices. See Section 01356.

13. Training for Contractor's personnel during the construction period.

14. Procedures for fueling construction equipment. Fuel spills prevention and clean up plans and equipment.

1.12 PERMITS

The Contractor shall obtain all needed permits or licenses. The Government will not obtain any permits for this project. The Contractor shall be responsible for implementing the terms and requirements of the appropriate permits as needed and for payment of all fees to include fees for ADEC to review permit applications.

The Alaska Department of Environmental Conservation, through the National Pollutant Discharge Elimination System (NPDES), requires general permits, a notice of intent, and a notice of discontinuation.

1.13 PRECONSTRUCTION SURVEY

Prior to starting any onsite construction activities, the Contractor and the Contracting Officer shall make a joint condition survey after which the Contractor shall prepare a brief report indicating on a layout plan the condition of trees, shrubs and grassed areas immediately adjacent to work sites and adjacent to the assigned storage area and access routes as applicable. Both the Contracting Officer and the Contractor upon mutual agreement as to its accuracy and completeness will sign this report.

Replacement trees, shrubs, and grassed areas shall appear on the Contractor's landscaping design required in SECTION 01012, DESIGN AFTER AWARD.

1.14 NOTIFICATIONS

The Contracting Officer will notify the Contractor in writing of any noncompliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or its

authorized representative at the site of the work, shall be deemed sufficient for the purpose. 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 any such stop order shall be made the subject of a claim of extension of time or for excess costs or damages by the Contractor.

1.15 SUBCONTRACTORS

Compliance with the provisions of this section by subcontractors will be the responsibility of the prime Contractor.

1.16 IMPLEMENTATION

Prior to commencement of work, the Contractor shall:

a. Submit in writing its proposals for implementing this section for environmental compliance and pollution control and prevention.

b. Meet with representatives of the Contracting Officer to develop mutual understandings relative to compliance with this provision and administration of the environmental compliance and pollution control and prevention program.

1.17 MAINTENANCE OF POLLUTION CONTROL FACILITIES

The Contractor shall maintain facilities constructed for pollution control as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created. During construction, the Contractor shall conduce frequent training for its personnel, covering methods of detecting pollution, familiarity with pollution standards, and installation and care of vegetation covers, plants, containment structures and other facilities to prevent and correct pollution.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

-- End of Section --

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01420

SOURCES FOR REFERENCE PUBLICATIONS

SECTION 01420

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization (e.g. ASTM B 564 Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the standards producing organization should be ordered from the source by title rather than by number. The designations "AOK" and "LOK" are for administrative purposes and should not be used when ordering publications.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Ph: 610-832-9585
Fax: 610-832-9555
Internet: www.astm.org
AOK 5/01
LOK 3/01

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
1 Batterymarch Park
P.O. Box 9101
Quincy, MA 02269-9101
Ph: 617-770-3000
Fax: 617-770-0700
Internet: www.nfpa.org
AOK 5/01
LOK 8/00

U.S. AIR FORCE (USAF)
website: afcesa.af.mil

U.S. ARMY CORPS OF ENGINEERS (USACE)

Order CRD-C DOCUMENTS from:

U.S. Army Engineer Waterways Experiment Station
ATTN: Technical Report Distribution Section, Services Branch, TIC
3909 Halls Ferry Rd.
Vicksburg, MS 39180-6199
Ph: 601-634-2664
Fax: 601-634-2388
Internet: www.wes.army.mil/SL/MTC/handbook/handbook.htm

Order Other Documents from:
USACE Publications Depot
Attn: CEIM-SP-D
2803 52nd Avenue
Hyattsville, MD 20781-1102
Ph: 301-394-0081
Fax: 301-394-0084
Internet: www.usace.army.mil/publications
or www.hnd.usace.army.mil/techinfo/index.htm
AOK 5/01
LOK 6/00

U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
500 C Street, SW
Washington, D.C. 20472
Phone: 202-646-4600
website: fema.gov
AOK 8/01
LOK 0/00

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)
Office of Highway Safety (HHS-31)
400 Seventh St., SW
Washington, DC 20590-0001
Ph: 202-366-0411
Fax: 202-366-2249
Internet: www.fhwa.dot.gov
Order from:

Superintendant of Documents
U. S. Government Printing Office
732 North Capitol Street, NW
Mailstop: SDE
Washington, DC 20401
Ph: 202-512-1530
Fax: 202-512-1262
Internet: www.gpo.gov
AOK 5/01
LOK 6/00

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

Order from:
General Services Administration
Federal Supply Service Bureau
470 E L'Enfant Plaza, S.W., Suite 8100
Washington, DC 20407
Ph: 202-619-8925
Fx: 202-619-8978
Internet: fss.gsa.gov/pub/fed-specs.cfm

AOK 5/01
LOK 6/00

U.S. NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)
website: nasa.gov

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)
700 Pennsylvania Avenue, N.W.
Washington, D.C. 20408
Phone: 800-234-8861
website: nara.gov

Order documents from:
Superintendent of Documents
U.S.Government Printing Office
732 North Capitol Street, NW
Washington, DC 20401
Mailstop: SDE
Ph: 202-512-1530
Fax: 202-512-1262
Internet: www.gpo.gov
E-mail: gpoaccess@gpo.gov
AOK 5/01

U.S. NAVAL FACILITIES ENGINEERING COMMAND (NAVFAC)
1510 Gilbert St.
Norfolk, VA 23511-2699
Ph: 757-322-4200
Fax: 757-322-4416
Internet: www.efdlant.navfac.navy.mil/LANTOPS_15
AOK 5/01
LOK 6/00

U.S. NAVAL FACILITIES ENGINEERING SERVICE CENTER (NFESC)
1100 23rd Avenue
Port Hueneme, CA 93043-4370
Ph: 805-982-4980
Internet: www.nfesc.navy.mil
AOK 5/01
LOK 6/00

WATER ENVIRONMENT FEDERATION (WEF)
601 Wythe St.
Alexandria, VA 22314-1994
Ph: 703-684-2452
Fax: 703-684-2492
Internet: www.wef.org
AOK 5/01
LOK 6/00

WATER QUALITY ASSOCIATION (WQA)
4151 Naperville Rd.
Lisle, IL 60532
Ph: 630-505-0160
Fax: 630-505-9637
Internet: www.wqa.org
e-mail: info@mail.wqa.org
AOK 5/01
LOK 6/00

WEST COAST LUMBER INSPECTION BUREAU (WCLIB)
P.O. Box 23145
Portland, OR 97281
Ph: 503-639-0651
Fax: 503-684-8928
internet: www.wclib.org
e-mail: info@wclib.org
AOK 5/01
LOK 6/00

WESTERN WOOD PRESERVERS INSTITUTE (WWPI)
7017 N.E. Highway 99 # 108
Vancover, WA 98665
Ph: 360-693-9958
Fax: 360-693-9967
Internet: www.wwpinstitute.org
e-mail: wwpi@teleport.com
AOK 5/01
LOK 6/00

WESTERN WOOD PRODUCTS ASSOCIATION (WWPA)
Yeon Bldg.
522 SW 5th Ave.
Suite 500
Portland, OR 97204-2122
Ph: 503-224-3930
Fax: 503-224-3934
Internet: www.wwpa.org
e-mail: info@wwpa.org
AOK 5/01
LOK 6/00

WINDOW AND DOOR MANUFACTURERS ASSOCIATION (WDMA)
1400 East Touhy Ave., Suite 470
Des Plaines, IL 60018
Ph: 847-299-5200 or 800-223-2301
Fax: 708-299-1286
Internet: www.wdma.com
e-mail: admin@wdma.com
AOK 5/01
LOK 6/00

WOOD MOULDING AND MILLWORK PRODUCERS ASSOCIATION (WMMPA)
507 First Street
Woodland, CA 95695
Ph: 916-661-9591
Fax: 916-661-9586
Internet: www.wmmpa.com
AOK 5/01
LOK 6/00

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01451

CONTRACTOR QUALITY CONTROL

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SECTION 01451

CONTRACTOR QUALITY CONTROL

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 D 3740	(2001) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E 329	(2000b) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

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 Proposal Schedule.

PART 2 PRODUCTS - NOT USED

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 design and construction operations, both onsite and offsite, and shall be keyed to the proposed design and 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 the quality requirements specified in the contract. The site project superintendent in this context shall be the highest level manager responsible for the 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

The Contractor shall furnish for review by the Government, not later than 30 days after receipt of notice to proceed, 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, tests, records, and forms to be used. The Government will consider an interim plan for the first 30 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.

3.2.1 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all design and construction operations, both onsite and offsite, 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 superintendent.

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. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities approved by the Contracting Officer shall be used.)

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

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 is frequently more than one definable feature under a particular section. This list will be agreed upon during the coordination meeting.

3.2.2 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. 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.

3.2.3 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 the Preconstruction Conference, before start of construction, 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 30 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 the 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's CQC staff shall maintain a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance. The CQC staff 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, show drawing 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 construction person with a minimum of 5 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 no other duties. 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 for the following area: mechanical. This individual shall be directly employed by the prime Contractor and may not be employed by a supplier or sub-contractor on this project; 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 stipulations listed herein. This individual shall have no other duties than quality control.

Experience Requirement

	Area	Qualifications
a.	Mechanical	Graduate Mechanical Engineer with 2 yrs experience or person with 5 yrs related experience

3.4.4 Additional Requirement

In addition to the above experience and/or education requirements the CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors". This course is periodically offered at the Associated General Contractors of Alaska offices in Anchorage and Fairbanks.

3.4.5 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. 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 and deliverables 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

3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Each test shall give the test name, specification section and paragraph reference requiring the test, frequency, the personnel and/or laboratories responsible for each type of test, with an estimated number of tests required. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. The Contractor shall perform the following activities and record and provide the following data:

a. Verify that testing procedures comply with contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

e. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

3.7.2 Testing Laboratories

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils,

concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed actual costs to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests, and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials shall be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to a laboratory to be designated by the Contracting Officer.

Coordination for each specific test, exact delivery location, and dates will be made through the Area Office.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in the Special Contract Requirement, "Commencement, Prosecution, and Completion of Work", or by the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies 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 the pre-final 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 of the work 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 the final acceptance inspection. Additional Government personnel including, but not limited to, those from Base Civil 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 and/or tests 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 shall be identified (Preparatory, Initial, Follow-up). List of 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 and deliverables reviewed, with contract reference, by whom, and action taken.

g. Offsite 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 enclosed at the end of this 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.

3.12 ATTACHMENTS

CQC Report

CONTRACTOR'S QUALITY CONTROL REPORT (CQC) (ER 1180-1-6)	DATE	REPORT NO.
CONTRACT NO. AND NAME OF CONTRACTOR:	DESCRIPTION AND LOCATION OF THE WORK:	

WEATHER CLASSIFICATION:

CLASS A No interruption of any kind from weather conditions occurring on this or previous shifts.
CLASS B Weather occurred during this shift that caused a complete stoppage of all work.
CLASS C Weather occurred during this shift that caused a partial stoppage of work.
CLASS D Weather overhead excellent or suitable during shift. Work completely stopped due to results of previous adverse weather.
CLASS E Weather overhead excellent or suitable during shift but work partially stopped due to previous adverse manner.
OTHER Explain.

CLASSIFICATION:
CLASS _____

TEMPERATURE:
MAX ____ MIN ____

PRECIPITATION:
INCHES _____

CONTRACTOR/SUBCONTRACTORS AND AREA OF RESPONSIBILITY FOR WORK PERFORMED TODAY: (Attach list of items of equipment either idle or working as appropriate.)

a. _____
b. _____
c. _____
d. _____
e. _____
f. _____

1. WORK PERFORMED TODAY: (Indicate location and description of work performed. Refer to work performed by prime and/or subcontractors by letter in Table above.)

2. TYPE AND RESULTS OF INSPECTION: (Indicate whether P-Prepatory, I-Initial, or F-Followup and include satisfactory work completed or deficiencies with action to be taken.)

3. TESTS REQUIRED BY PLANS AND/OR SPECIFICATIONS PERFORMED AND RESULTS OF TESTS:

4. VERBAL INSTRUCTIONS RECEIVED: (List any instructions given by Government personnel on construction deficiencies, retesting required, etc., with action to be taken.)

5. REMARKS: (Cover any conflicts in plans, specifications or instructions: acceptability of incoming materials; offsite surveillance activities; progress of work, delays, causes and extent thereof; days of no work with reasons for same.)

6. SAFETY: (Include any infractions of approved safety plan, safety manual, or instructions from Government personnel. Specify correctve action taken).

CONTRACTOR: _____

CONTRACTOR'S CERTIFICATION: I certify that the above report is complete and correct and that all material and equipment used, work performed and tests conducted during this reporting period were in strict compliance with the contract plans and specifications except as noted above.

_____
CONTRACTOR'S APPROVED AUTHORIZED REPRESENTATIVE

--END OF SECTION--

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01500

TEMPORARY CONSTRUCTION FACILITIES

-- End of Section Table of Contents --

SECTION 01500

TEMPORARY CONSTRUCTION FACILITIES

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

1.1.1 Site Plan

The Contractor shall prepare a site plan indicating the proposed location and dimensions of any area to be fenced and used by the Contractor, the number of trailers to be used, avenues of ingress/egress to the fenced area and details of the fence installation. Any areas which may have to be graveled to prevent the tracking of mud shall also be identified. The Contractor shall also indicate if the use of a supplemental or other staging area is desired.

1.1.2 Identification of Employees

The Contractor shall be responsible for furnishing to each employee, and for requiring each employee engaged on the work to display, identification as approved and directed by the Contracting Officer. Prescribed identification shall immediately be delivered to the Contracting Officer for cancellation upon release of any employee. When required, the Contractor shall obtain and provide fingerprints of persons employed on the project. Contractor and subcontractor personnel shall wear identifying markings on hard hats clearly identifying the company for whom the employee works.

1.1.3 Employee Parking

Contractor employees shall park privately owned vehicles in an area designated by the Contracting Officer. This area will be within reasonable walking distance of the construction site. Contractor employee parking shall not interfere with existing and established parking requirements of the military installation.

1.2 AVAILABILITY AND USE OF UTILITY SERVICES

1.2.1 Payment for Utility Services

The Government will make all reasonably required 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.

Utility	Maximum Amount	Cost
Electric	Reasonable	$0.144/KWH
Water	Reasonable	$6.653/Kgal
Sewer	Reasonable	$8.1305/KgaL
Steam	Reasonable	$10.214/MBTu

1.2.2 Meters and Temporary Connections

The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall provide and maintain necessary temporary connections, distribution lines, and meters required to measure the amount of each utility used for the purpose of determining charges. The Contractor shall notify the Contracting Officer, in writing, 5 working days before final electrical connection is desired so that a utilities contract can be established.

1.2.3 Final Meter Reading

Before completion of the work and final acceptance of the work by the Government, the Contractor shall notify the Contracting Officer, in writing, 5 working days before termination is desired. The Government will take a final meter reading. The Contractor shall then remove all the temporary distribution lines, meter(s), and associated paraphernalia. The Contractor shall pay all outstanding utility bills before final acceptance of the work by the Government.

1.2.4 Sanitation

The Contractor shall provide and maintain within the construction area minimum field-type sanitary facilities approved by the Contracting Officer. Government toilet facilities will not be available to Contractor's personnel.

1.2.5 Telephone

The Contractor shall make arrangements and pay all costs for telephone facilities desired.

1.3 BULLETIN BOARD

Immediately upon beginning of work, the Contractor shall provide a weatherproof glass-covered bulletin board not less than 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer. The bulletin board shall be located at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer. Legible copies of the aforementioned data shall be displayed until work is completed. Upon completion of work the bulletin board shall be removed by and remain the property of the Contractor.

1.4 PROTECTION AND MAINTENANCE OF TRAFFIC

During construction the Contractor shall provide access and temporary relocated roads as necessary to maintain traffic. The Contractor shall maintain and protect traffic on all affected roads during the

construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment and the work, and the erection and maintenance of adequate warning, danger, and direction signs, shall be as required by the State and local authorities having jurisdiction. The traveling public shall be protected from damage to person and property. The Contractor's traffic on roads selected for hauling material to and from the site shall interfere as little as possible with public traffic. The Contractor shall investigate the adequacy of existing roads and the allowable load limit on these roads. The Contractor shall be responsible for the repair of any damage to roads caused by construction operations.

1.4.1 Haul Roads

The Contractor shall, at its own expense, construct access and haul roads necessary for proper prosecution of the work under this contract. Haul roads shall be constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided. The Contractor shall provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. The method of dust control, although optional, shall be adequate to ensure safe operation at all times. Location, grade, width, and alignment of construction and hauling roads shall be subject to approval by the Contracting Officer. Lighting shall be adequate to assure full and clear visibility for full width of haul road and work areas during any night work operations. Upon completion of the work, haul roads designated by the Contracting Officer shall be removed.

1.4.2 Barricades

The Contractor shall erect and maintain temporary barricades to limit public access to hazardous areas. Such barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed, and clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

1.5 CONTRACTOR'S TEMPORARY FACILITIES

1.5.1 Administrative Field Offices

The Contractor shall provide and maintain administrative field office facilities within the construction area at the designated site. Government office and warehouse facilities will not be available to the Contractor's personnel.

1.5.2 Storage Area

The Contractor shall construct a temporary 6 foot high chain link fence around trailers and materials. The fence shall include plastic strip inserts, colored brown, so that visibility through the fence is obstructed. Fence posts may be driven, in lieu of concrete bases, where soil conditions permit. Trailers, materials, or equipment shall not be placed or stored outside the fenced area unless such trailers, materials, or equipment are assigned a separate and distinct storage

area by the Contracting Officer away from the vicinity of the construction site but within the military boundaries. Trailers, equipment, or materials shall not be open to public view with the exception of those items which are in support of ongoing work on any given day. Materials shall not be stockpiled outside the fence in preparation for the next day's work. Mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, and like equipment, shall be parked within the fenced area at the end of each work day.

1.5.3 Supplemental Storage Area

Upon Contractor's request, the Contracting Officer will designate another or supplemental area for the Contractor's use and storage of trailers, equipment, and materials. This area may not be in close proximity of the construction site but shall be within the military boundaries. Fencing of materials or equipment will not be required at this site; however, the Contractor shall be responsible for cleanliness and orderliness of the area used and for the security of any material or equipment stored in this area. Utilities will not be provided to this area by the Government.

1.5.4 Appearance of Trailers

Trailers utilized by the Contractor for administrative or material storage purposes shall present a clean and neat exterior appearance and shall be in a state of good repair. Trailers which, in the opinion of the Contracting Officer, require exterior painting or maintenance will not be allowed on the military property.

1.5.5 Maintenance of Storage Area

Fencing shall be kept in a state of good repair and proper alignment. Should the Contractor elect to traverse, with construction equipment or other vehicles, grassed or unpaved areas which are not established roadways, such areas shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways; gravel gradation shall be at the Contractor's discretion. Grass located within the boundaries of the construction site shall be mowed for the duration of the project. Grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers shall be edged or trimmed neatly.

1.5.6 New Building

In the event a new building is constructed for the temporary project field office, it shall be a minimum 12 feet in width, 16 feet in length and have a minimum of 7 feet headroom. It shall be equipped with approved electrical wiring, at least one double convenience outlet and the required switches and fuses to provide 110-120 volt power. It shall be provided with a work table with stool, desk with chair, two additional chairs, and one legal size file cabinet that can be locked. The building shall be waterproof, shall be supplied with heater, shall have a minimum of two doors, electric lights, a telephone, a battery operated smoke detector alarm, a sufficient number of adjustable windows for adequate light and ventilation, and a supply of approved drinking water. Approved sanitary facilities shall be furnished. The windows and doors shall be screened and the doors provided with dead bolt type locking devices or a padlock and heavy duty hasp bolted to the door. Door hinge pins shall be non-removable. The windows shall be arranged

to open and to be securely fastened from the inside. Glass panels in windows shall be protected by bars or heavy mesh screens to prevent easy access to the building through these panels. In warm weather, air conditioning capable of maintaining the office at 50 percent relative humidity and a room temperature 20 degrees F below the outside temperature when the outside temperature is 95 degrees F, shall be furnished. Any new building erected for a temporary field office shall be maintained by the Contractor during the life of the contract and upon completion and acceptance of the work shall become the property of the Contractor and shall be removed from the site.
All charges for telephone service for the temporary field office shall be borne by the Contractor, including long distance charges.

1.5.7 Security Provisions

Adequate outside security lighting shall be provided at the Contractor's temporary facilities. The Contractor shall be responsible for the security of its own equipment; in addition, the Contractor shall notify the appropriate law enforcement agency requesting periodic security checks of the temporary project field office.

1.6 GOVERNMENT FIELD OFFICE

1.6.1 Resident Engineer's Office

The Contractor shall provide the Government Resident Engineer with an office, approximately 200 square feet in floor area, located where directed and providing space heat, electric light and power, and toilet facilities consisting of one lavatory and one water closet complete with connections to water and sewer mains. A mail slot in the door or a lockable mail box mounted on the surface of the door shall be provided. At completion of the project, the office shall remain the property of the Contractor and shall be removed from the site. Utilities shall be connected and disconnected in accordance with local codes and to the satisfaction of the Contracting Officer.

1.6.2 Trailer-Type Mobile Office

The Contractor may, at its option, furnish and maintain a trailer-type mobile office acceptable to the Contracting Officer and providing as a minimum the facilities specified above. The trailer shall be securely anchored to the ground at all four corners to guard against movement during high winds.

1.7 PLANT COMMUNICATION

Whenever the Contractor has the individual elements of its plant so located that operation by normal voice between these elements is not satisfactory, the Contractor shall install a satisfactory means of communication, such as telephone or other suitable devices. The devices shall be made available for use by Government personnel.

1.8 TEMPORARY PROJECT SAFETY FENCING

As soon as practicable, but not later than 15 days after the date established for commencement of work, the Contractor shall furnish and erect temporary project safety fencing at the work site. The safety fencing shall be a high visibility orange colored, high density polyethylene grid or approved equal, a minimum of 42 inches high,

supported and tightly secured to steel posts located on maximum 10 foot centers, constructed at the approved location. The safety fencing shall be maintained by the Contractor during the life of the contract and, upon completion and acceptance of the work, shall become the property of the Contractor and shall be removed from the work site.

1.9 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away. Materials resulting from demolition activities which are salvageable shall be stored within the fenced area described above or at the supplemental storage area. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored.

1.10 RESTORATION OF STORAGE AREA

Upon completion of the project and after removal of trailers, materials, and equipment from within the fenced area, the fence shall be removed and will become the property of the Contractor. Areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition. Gravel used to traverse grassed areas shall be removed and the area restored to its original condition, including top soil and seeding as necessary.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

-- End of Section --

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01582

AIR FORCE PROJECT SIGN

-- End of Section Table of Contents --

SECTION 01582

AIR FORCE PROJECT SIGN

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. GENERAL SERVICES ADMINISTRATION (GSA)

FED-STD-595 (1989 Rev B, Notice 1) Color

1.2 PROJECT SIGN

Immediately upon beginning work at project site, the Contractor shall furnish and erect a project sign in a location determined by the Contracting Officer. Details of construction shall be as shown on the attached drawings. The sign shall be constructed of 1/2-inch thick, Grade A-C, exterior-type plywood. The sign shall receive one coat of primer paint, FED-STD-595 color number 20109, semi-gloss, exterior-type enamel. The Air Force Engineering and services emblem decal will be furnished to the Contractor by the Government, for applying where indicated. Upon completion of work on the project, the sign shall be removed from the job site and shall remain the property of the Contractor.

1.3 PAYMENT

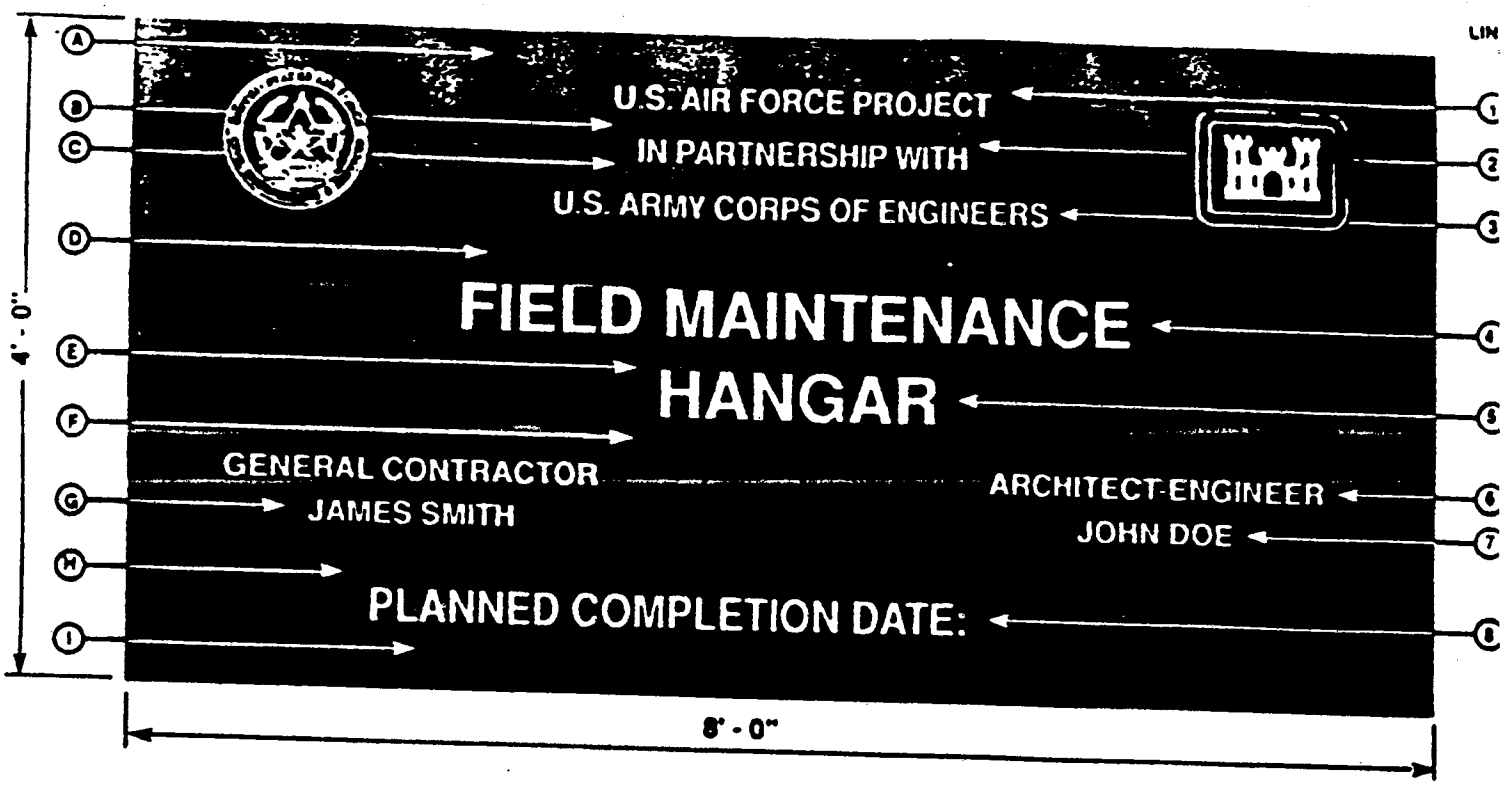
No separate payment will be made for the project sign. Costs shall be considered incidental to and included in the contract price.

1.4 ATTACHMENT

Sample Construction Sign for MILCON Projects

PART 2 PRODUCTS - NOT USED

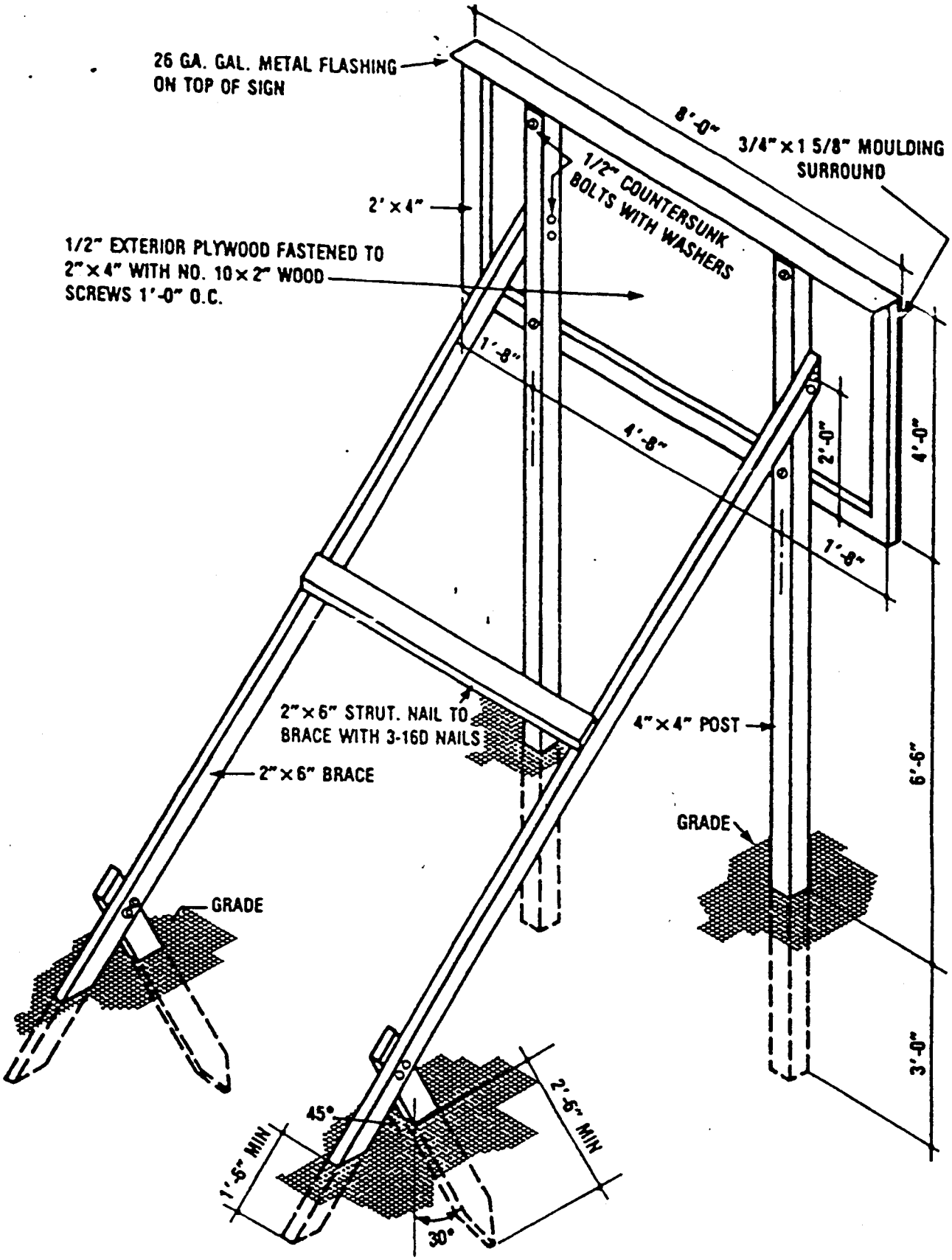
PART 3 EXECUTION - NOT USED



SAMPLE CONSTRUCTION SIGN FOR MILCON PROJECTS

SCHEDULE

SPACE	HEIGHT	LINE	DESCRIPTION	LETTER HEIGHT	STROKE
A	3"	1	U.S. AIR FORCE PROJECT	1.5"	3/16"
B	1"	2	IN PARTNERSHIP WITH	1.5"	3/16"
C	1"	3	U.S. ARMY CORPS OF ENGINEERS	1.5"	3/16"
D	5"	4	PROJECT NAME	4"	1/2"
E	3"	5	PROJECT NAME CONT'D (IF REQUIRED)	4"	1/2"
F	5"	6	GENERAL CONTRACTOR/A-E	1.5"	3/16"
G	1"	7	GENERAL CONTRACTOR /A-E	1.5"	3/16"
H	4"	8	PLANNED COMPLETION DATE	2.5"	1/4"
I	3"				



CONSTRUCTION SIGN ISOMETRIC
ERECTION DETAILS

--END OF SECTION--

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01780

CLOSEOUT SUBMITTALS

-- End of Section Table of Contents --

SECTION 01780

CLOSEOUT SUBMITTALS

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.

STATE OF ALASKA ADMINISTRATIVE CODE (AAC)

18 AAC 72 Wastewater Treatment and Disposal

18 AAC 80 Drinking Water

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

As-Built Drawings; G.

Drawings showing final as-built conditions of the project. The final CADD as-built drawings shall consist of one set of electronic CADD drawing files in the specified format, one set of mylar drawings, 2 sets of blue-line prints of the mylars, and one set of the approved working as-built drawings.

SD-03 Product Data

Warranty Management Plan

One set 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, and telephone number of each of the guarantor's representatives nearest to the project location.

Warranty Tags

Two record copies of the warranty tags showing the layout and design.

Final Cleaning; G.

Two copies of the listing of completed final clean-up items.

SD-11 Closeout Submittals

As-Built Record of Equipment and Materials

1.3 PROJECT RECORD DOCUMENTS

1.3.1 As-Built Drawings

This paragraph covers as-built drawings complete, as a requirement of the contract. The terms "drawings," "contract drawings," "drawing files," "working as-built drawings" and "final as-built drawings" refer to contract drawings which are revised to be used for final as-built drawings.

1.3.1.1 Government Furnished Materials

One set of electronic CADD files in the specified software and format revised to reflect all bid amendments will be provided by the Government at the preconstruction conference for projects requiring CADD file as-built drawings.

1.3.1.2 Working As-Built and Final As-Built Drawings

The Contractor shall revise 2 sets of paper drawings by red-line process to show the as-built conditions during the prosecution of the project. These working as-built marked drawings shall be kept current on a weekly basis and at least one set shall be available on the jobsite at all times. Changes from the contract plans which are made in the work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes. Final as-built drawings shall be prepared after the completion of each definable feature of work as listed in the Contractor Quality Control Plan (Foundations, Utilities, Structural Steel, etc., as appropriate for the project). The working as-built marked prints and final as-built drawings will be jointly reviewed for accuracy and completeness by the Contracting Officer and the Contractor prior to submission of each monthly pay estimate. If the Contractor fails to maintain the working and final as-built drawings as specified herein, the Contracting Officer will deduct from the monthly progress payment an amount representing the estimated cost of maintaining the as-built drawings. This monthly deduction will continue until an agreement can be reached between the Contracting Officer and the Contractor regarding the accuracy and completeness of updated drawings. The working and final as-built drawings shall show, but shall not be limited to, the following information:

a. The actual location, kinds and sizes of all sub-surface utility lines. In order that the location of these lines and appurtenances may be determined in the event the surface openings or indicators become covered over or obscured, the as-built drawings shall show, by offset dimensions to two permanently fixed surface features, the end of each run including each change in direction. Valves, splice boxes and similar appurtenances shall be located by dimensioning along the utility run from a reference point. The average depth below the surface of each run shall also be recorded.

b. The location and dimensions of any changes within the structure.

c. Correct grade, elevations, cross section, or alignment of roads, earthwork, structures or utilities if any changes were made from contract plans.

d. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor; including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.

e. The topography, invert elevations and grades of drainage installed or affected as part of the project construction.

f. Changes or modifications which result from the final inspection.

g. Where contract drawings or specifications present options, only the option selected for construction shall be shown on the final as-built prints.

h. If borrow material for this project is from sources on Government property, or if Government property is used as a spoil area, the Contractor shall furnish a contour map of the final borrow pit/spoil area elevations.

i. Systems designed or enhanced by the Contractor, such as HVAC controls, fire alarm, and fire sprinkler systems.

j. Modifications (change order price shall include the Contractor's cost to change working and final as-built drawings to reflect modifications) and compliance with the following procedures.

1. Directions in the modification for posting descriptive changes shall be followed.

2. A Modification cloud shall be placed at the location of each deletion.

3. For new details or sections which are added to a drawing, a Modification triangle shall be placed by the detail or section title.

4. For minor changes, a Modification triangle shall be placed by the area changed on the drawing (each location).

5. For major changes to a drawing, a Modification triangle shall be placed by the title of the affected plan, section, or detail at each location.

6. For changes to schedules or drawings, a Modification triangle shall be placed either by the schedule heading or by the change in the schedule.

7. The Modification triangle size shall be 1/2 inch on a side unless the area where the triangle is to be placed is crowded. Smaller size triangles shall be used for crowded areas.

1.3.1.3 Drawing Preparation

The as-built drawings shall be modified as may be necessary to correctly

show the features of the project as it has been constructed by bringing the contract set into agreement with approved working as-built prints, and adding such drawings as may be necessary. These working as-built marked prints shall be neat, legible and accurate. These drawings are part of the permanent records of this project and shall be returned to the Contracting Officer after approval by the Government. Any drawings damaged or lost by the Contractor shall be satisfactorily replaced by the Contractor at no expense to the Government.

1.3.1.4 Computer Aided Design and Drafting (CADD) Drawings

Only personnel proficient in the preparation of CADD drawings shall be employed to modify the contract drawings or prepare additional new drawings. Additions and corrections to the contract drawings shall be equal in quality and detail to that of the originals. Line colors, line weights, lettering, layering conventions, and symbols shall be the same as the original line colors, line weights, lettering, layering conventions, and symbols. If additional drawings are required, they shall be prepared using the specified electronic file format applying the same graphic standards specified for original drawings. The title block and drawing border to be used for any new final as-built drawings shall be identical to that used on the contract drawings. Additions and corrections to the contract drawings shall be accomplished using CADD files. Final as-built drawings shall be provided in AutoCad Release 14 or 2000. The electronic files shall be supplied on compact disc, read-only memory (CD-ROM). The Contractor shall be responsible for providing all program files and hardware necessary to prepare final as-built drawings. The Contracting Officer will review final as-built drawings for accuracy and the Contractor shall make required corrections, changes, additions, and deletions.

a. CADD colors shall be the "base" colors of red, green, and blue. Color code for changes shall be as follows:

1. Deletions (red) - Deleted graphic items (lines) shall be colored red with red lettering in notes and leaders.

2. Additions (Green) - Added items shall be drawn in green with green lettering in notes and leaders.

3. Special (Blue) - Items requiring special information, coordination, or special detailing or detailing notes shall be in blue.

b. The Contract Drawing files shall be renamed in a manner related to the contract number (i.e. 03-C-00__.DWG) as instructed in the Pre-Construction conference. Marked-up changes shall be made only to those renamed files. All changes shall be made on the layer/level as the original item. There shall be no deletions of existing lines; existing lines shall be over struck in red. Additions shall be in green with line weights the same as the drawing. Special notes shall be in blue on layer #63.

c. When final revisions have been completed, the cover sheet drawing shall show the wording "RECORD DRAWING AS-BUILT" followed by the name of the Contractor in letters at least 3/16 inch high. All other contract drawings shall be marked either "AS-Built" drawing denoting no revisions on the sheet or "Revised As-Built" denoting one or more revisions. Original contract drawings shall be dated in

the revision block.

d. Within 10 days after Government approval of all of the working as-built drawings for a phase of work, the Contractor shall prepare the final CADD as-built drawings for that phase of work and submit two sets of blue-lined prints of these drawings for Government review and approval. The Government will promptly return one set of prints annotated with any necessary corrections. Within 10 days the Contractor shall revise the CADD files accordingly at no additional cost and submit one set of final prints for the completed phase of work to the Government. Within 20 days of substantial completion of all phases of work, the Contractor shall submit the final as-built drawing package for the entire project. The submittal shall consist of one set of electronic files on compact disc, read-only memory (CD-ROM), one set of mylars, two sets of blue-line prints and one set of the approved working as-built drawings. They shall be complete in all details and identical in form and function to the contract drawing files supplied by the Government. Any transactions or adjustments necessary to accomplish this is the responsibility of the Contractor. The Government reserves the right to reject any drawing files it deems incompatible with the customer's CADD system. Paper prints, drawing files and storage media submitted will become the property of the Government upon final approval. Failure to submit final as-built drawing files and marked prints as specified shall be cause for withholding any payment due the Contractor under this contract. Approval and acceptance of final as-built drawings shall be accomplished before final payment is made to the Contractor.

1.3.1.5 Payment

No separate payment will be made for as-built drawings required under this contract, and all costs accrued in connection with such drawings shall be considered a subsidiary obligation of the Contractor.

1.3.2 As-Built Record of Equipment and Materials

The Contractor shall furnish one copy of preliminary record of equipment and materials used on the project 15 days prior to final inspection. This preliminary submittal will be reviewed and returned 2 days after final inspection with Government comments. Two sets of final record of equipment and materials shall be submitted 10 days after final inspection. The designations shall be keyed to the related area depicted on the contract drawings. The record shall list the following data:

RECORD OF DESIGNATED EQUIPMENT AND MATERIALS DATA

Description	Specification Section	Manufacturer and Catalog,	Composition and Size	Where Used	Model, and Serial Number

1.3.3 Final Approved Shop Drawings

The Contractor shall furnish final approved project shop drawings 30 days after transfer of the completed facility.

1.3.4 Construction Contract Specifications

The Contractor shall furnish final as-built construction contract

specifications, including modifications thereto, 30 days after transfer of the completed facility.

1.4 WARRANTY MANAGEMENT

1.4.1 Warranty Management Plan

See SECTION 01015 also. The Contractor shall develop a warranty management plan which shall contain information relevant to the clause Warranty of Construction in technical specification SECTION 01015 SPECIAL ITEMS. 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 plan shall be in narrative form and contain sufficient detail to render it suitable for use by future maintenance and repair personnel, whether tradesmen, or of engineering background, not necessarily familiar with this contract. The term "status" as indicated below shall include due date and whether item has been submitted or was accomplished. Warranty information made available during the construction phase shall be submitted to the Contracting Officer for approval prior to each monthly pay estimate. Approved information shall be assembled in a binder and shall be turned over to the Government upon acceptance of the work. The construction warranty period shall begin on the date of project acceptance and shall continue for the full product warranty period. A joint 4 month and 9 month warranty inspection shall be conducted, measured from time of acceptance, by the Contractor, Contracting Officer and the Customer Representative. Information contained in the warranty management plan shall include, but not be limited to, the following:

a. Roles and responsibilities of all personnel associated with the warranty process, including points of contact and telephone numbers within the organizations of the Contractors, subcontractors, manufacturers or suppliers involved.

b. Listing and status of delivery of all Certificates of Warranty for extended warranty items, to include roofs, HVAC balancing, pumps, motors, transformers, and for all commissioned systems such as fire protection and alarm systems, sprinkler systems, lightning protection systems, etc.

c. A list for each warranted equipment, item, feature of construction or system indicating:

1. Name of item.

2. Model and serial numbers.

3. Location where installed.

4. Name and phone numbers of manufacturers or suppliers.

5. Names, addresses and telephone numbers of sources of spare parts.

6. Warranties and terms of warranty. This shall include one-year overall warranty of construction. Items which have extended warranties shall be indicated with separate warranty

expiration dates.

7. Cross-reference to warranty certificates as applicable.

8. Starting point and duration of warranty period.

9. Summary of maintenance procedures required to continue the warranty in force.

10. Cross-reference to specific pertinent Operation and Maintenance manuals.

11. Organization, names and phone numbers of persons to call for warranty service.

12. Typical response time and repair time expected for various warranted equipment.

d. The Contractor's plans for attendance at the 4 and 9 month post-construction warranty inspections conducted by the Government.

e. Procedure and status of tagging of all equipment covered by extended warranties.

f. Copies of instructions to be posted near selected pieces of equipment where operation is critical for warranty and/or safety reasons.

1.4.2 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 remaining construction warranty funds for 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 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.

1.4.3 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 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 will 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 provision.

1.4.4 Contractor's Response to Construction Warranty Service Requirements

Following oral or written notification by the Contracting Officer, 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. The report shall include the cause of the problem, date reported, corrective action taken, and when the repair was completed. If the Contractor does not perform the construction warranty within the time frames specified, the Government will perform the work and backcharge the construction warranty payment item established.

a. First Priority Code 1. 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. 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:

Code 1-Doors
(1) Overhead doors not operational, causing a security, fire, or safety problem.
(2) Interior, exterior personnel doors or hardware, not functioning properly, causing a security, fire, or safety problem.

Code 3-Doors
(1) Overhead doors not operational.
(2) Interior/exterior personnel doors or hardware not functioning properly.

Code 1-Electrical
(1) Power failure (entire area or any building operational after 1600 hours).
(2) Security lights
(3) Smoke detectors

Code 2-Electrical
(1) Power failure (no power to a room or part of building).

(2) Receptacle and lights (in a room or part of building).

Code 3-Electrical
(1) Street lights.

Code 1-Heat
(1). Area power failure affecting heat.
(2). Heater in unit not working.

Code 1-Plumbing
(1) Hot water heater failure.
(2) Leaking water supply pipes.

Code 3 -Plumbing
(1) Leaky faucets.

Code 3-Interior
(1) Floors damaged.
(2) Paint chipping or peeling.
(3) Casework.

Code 1-Roof Leaks
(1) Temporary repairs will be made where major damage to property is occurring.

Code 2-Roof Leaks
(1) Where major damage to property is not occurring, check for location of leak during rain and complete repairs on a Code 2 basis.

Code 2-Water (Exterior)
(1) No water to facility.

Code 2-Water (Hot)
(1) No hot water in portion of building listed.

Code 3-All other work not listed above.

1.4.5 Warranty Tags

At the time of installation, each warranted item shall be tagged with a durable, oil and water resistant tag approved by the Contracting Officer. Each tag shall be attached with a copper wire and shall be sprayed with a silicone waterproof coating. The date of acceptance and the QC signature shall remain blank until project is accepted for beneficial occupancy. The tag shall show the following information.

a. Type of product/material_____.

b. Model number_____.

c. Serial number_____.

d. Contract number_____.

e. Warranty period_____from_____to_____.

f. Inspector's signature_____.

g. Construction Contractor_____.

Address_____.

Telephone number_____.

h. Warranty contact_____.

Address_____.

Telephone number_____.

i. Warranty response time priority code_____.

j. WARNING - PROJECT PERSONNEL TO PERFORM ONLY OPERATIONAL MAINTENANCE DURING THE WARRANTY PERIOD.

1.5 MECHANICAL TESTING, ADJUSTING, BALANCING, AND COMMISSIONING

Prior to final inspection and transfer of the completed facility, all reports, statements, certificates, and completed checklists for testing, adjusting, balancing, and commissioning of mechanical systems shall be submitted to and approved by the Contracting Officer as specified in applicable technical specification sections.

1.6 OPERATION AND MAINTENANCE MANUALS

Operation manuals and maintenance manuals shall be submitted as specified. Operation manuals and maintenance manuals provided in a common volume shall be clearly differentiated and shall be separately indexed.

1.7 FINAL CLEANING

The premises shall be left broom clean. Stains, foreign substances, and temporary labels shall be removed from surfaces. Equipment and fixtures shall be cleaned to a sanitary condition. Filters of operating equipment shall be cleaned. Debris shall be removed from roofs, drainage systems, and gutters. Paved areas shall be swept and landscaped areas shall be raked clean. The site shall have waste, surplus materials, and rubbish removed. The project area shall have temporary structures, barricades, project signs, and construction facilities removed. A list of completed clean-up items shall be submitted on the day of final inspection.

1.8 WATER AND SEWER SYSTEMS

The Contractor shall have As-Built engineering plans for water and sewer systems approved and signed by a professional engineer registered in the State of Alaska, in accordance with current 18 AAC 80 and 18 AAC 72, respectively, such that the Alaska Department of Environmental Conservation will issue the required "Certificate to Operate".

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

-- End of Section --