

**STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES**

Division of Forestry



Project Manual

REPAIR PALMER HANGAR ROOF

PROJECT NO. 35038-1

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(State Funded Buildings)

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STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES

INVITATION FOR BIDS
for Construction Contract

Date: April 17, 2015

Repair Palmer Hangar Roof, Project No. 35038-1

Project Name and Number

Location of Project: **Div. of Forestry Hangar, Palmer Airport, Palmer Alaska, 99645**

Contracting Officer: **Marlys Hagen, C.P.M., CPPB, CPPO, Procurement Officer**

Issuing Office: **Department of Natural Resources, Division of Forestry**

State Funded ☒

Federal Aid ☐

Description of Work:

Reroof of the existing Forestry Hangar in Palmer with asphalt shingle roofing. Project includes roofing, replacement of gutters, addition of an exterior stair canopy and two drywells.

The Engineer's Estimate is: ☐ Less than \$100,000 ☐ Between \$1,000,000 and \$2,500,000
☐ Between \$100,000 and \$250,000 ☐ Between \$2,500,000 and \$5,000,000
☒ Between \$250,000 and \$500,000 ☐ Greater than \$5,000,000
☐ Between \$500,000 and \$1,000,000

All work shall be completed in N/A Calendar Days, or by August 15, 2015.
Interim Completion dates, if applicable, will be shown in the Special Provisions.

Bidders are invited to submit sealed bids, in single copy, for furnishing all labor, equipment, and materials and for performing all work for the project described above. Bids will be opened publicly at 2:00 PM local time, at 550 W. 7th Ave., Suite 1340; Anchorage, AK 99501 on the May 12, 2015.

SUBMISSION OF BIDS

ALL BIDS INCLUDING ANY AMENDMENTS OR WITHDRAWALS MUST BE RECEIVED PRIOR TO BID OPENING. BIDS SHALL BE SUBMITTED ON THE FORMS FURNISHED AND MUST BE IN A SEALED ENVELOPE MARKED AS FOLLOWS:

Bid for Project:

Repair Palmer Hangar Roof, Project No. 35038-1

ATTN:

Procurement Officer

Dept. of Natural Resources

550 West 7th Avenue, Suite 1230

Anchorage, AK 99501-3564

Phone (907) 269-8666

Fax (907) 269-8909

Bids, amendments or withdrawals transmitted by mail must be received at the above specified address no later than 30 minutes prior to the scheduled time of bid opening. Hand-delivered bids, amendments or withdrawals must be received at the above specified address prior to the scheduled time of bid opening. Faxed bid amendments must be addressed to the above specified address. Fax number: (907) 269-8917.

A bid guaranty is required with each bid in the amount of 5% of the amount bid. (Alternate bid items as well as supplemental bid items appearing on the bid schedule shall be included as part of the total amount bid when determining the amount of bid guaranty required for the project.)

The Department hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this Invitation, Disadvantaged Business Enterprises (DBEs) will be afforded full opportunity to submit bids and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award.

NOTICE TO BIDDERS

Bidders are hereby notified that data to assist in preparing bids is available as follows:

SEE SPECIAL NOTICE TO BIDDERS

Plans and Specifications may be downloaded from: <http://aws.state.ak.us/OnlinePublicNotices/>
For additional information contact:

Procurement Officer
Dept. of Natural Resources
550 West 7th Avenue, Suite 1230
Anchorage, AK 99501-3564
Phone (907) 269-8666
Fax (907) 269-8909

The site will be available for viewing on April 30, 2015 between 1-2 PM. Contractors should register with the Project Manager by email or phone for the site visit. Access to the roof will be the contractor's responsibility. All questions relating to design features, constructability, quantities, or other technical aspects of the project should be directed to the following. Bidders requesting assistance in viewing the project must make arrangements at least 48 hours in advance with:

Edward Soto
Project Manager
Phone: (907) 761-6264 Email: edward.soto@alaska.gov

All questions concerning bidding procedures should be directed to:

Marlys Hagen, C.P.M., CPPB, CPPO Procurement Officer
Dept. of Natural Resources
550 West 7th Avenue, Suite 1230
Anchorage, AK 99501-3564
Phone (907) 269-8666
Fax (907) 269-8909

Other Information:

Alaska Department of Natural Resources

Contractor Self Certification for Subcontractors and Lower Tier Subcontractors (Form 25D-042)

Project Name:
Repair Palmer Hangar Roof

Project Number:
35038-1

Federal-Aid Number:

Submission Number:

Subcontractor or Lower Tier Subcontractor Name:

Contractor Certification

Agreement as included herein refers to the legally binding written contract between the Contractor and Subcontractor or between the Subcontractor and Lower Tier Subcontractor and identified in items 1 or 2 below.

1. ☐ A written agreement has been executed between Contractor and the above listed subcontractor.
2. ☐ A written Agreement has been executed between (Subcontractor) and the above listed Lower Tier Subcontractor

- All Subcontractors are qualified to perform the work.
- All Subcontractors have adequate insurance as required by the Contract, or the Contractor has adequate insurance for the Subcontractor(s) as required by the contract.
- All subcontractors are included on the Bidder's Registration List.
- The "Prompt Payment" clauses (AS 36.90.210) are included in the Agreement language.
- All requirements and pertinent provisions of the Contract , including but not limited to; Form 25D-55, Required Contract Provisions for Federal Aid Construction Contracts, DBE provisions, and minimum wage rates, are included in the agreement.
- All agreements with Subcontractors and with Lower Tier Subcontractors will be in continued compliance with all provisions of the Contract.
- The Contractor remains responsible for all quality control and proper performance of all requirements of the Contract.
- The Contractor will continue to perform at least thirty percent (30%) of the Contract work with his own organization.
- This Contractor Self Certification does not relieve the Contractor and his surety, or either the Contractor or surety from any liability or responsibility under the Contract.
- The Contractor certifies firms or individuals debarred or suspended by the Department, FAA, or FHWA are not employed or subcontracted under this construction project.

Total Agreement Amount:

Total Agreement Amount is % of the Total Contract Award Amount.

Total cumulative subcontracts (including this Agreement) are % of the Total Contract Award Amount.

Subcontractor or Lower Tier Subcontractor

Federal I.D. No. (if no Federal I.D. No., use owner SSN):
Business License Number:
Contractor's License Number:
Electrical/Mechanical Administrator's License Number (if applicable):
Surveyor's License Number (if applicable):
Phone Number:
Address:
City: State:
Estimated Starting Date:

Department's Request for Information – If the Department at any time makes written request for the Agreement, licenses, proof of insurance, or any other information relating to the certifications contained herein, the Contractor will deliver an executed copy of the Agreement and /or other requested information to the Department within five calendar days. If the Contractor fails to provide the requested information within five calendar days, or if the Contractor fails to include required language and conditions in the Agreement, the Department may suspend all work relating to the Agreement. The Contractor shall not be due any additional compensation or contract time if the Department suspends work due to the Contractor's failure to provide requested information or failure to include required language and conditions in the Agreement.

False Statement or Omission – If a false statement or omission is made in connection with this Contractor Self Certification the Contractor will be excluded from participating in the self-certification process for the remainder of this Contract and for the following construction season. Contractors excluded from the self-certification process will be required to submit all necessary information for the Department's approval of proposed Subcontractors or Lower Tier Subcontractors.

Any false statement or omission made in connection with this Contractor Self Certification may be cause for suspension, a determination of non-responsibility on future bids, and may be cause for revocation of award, default, or debarment. The person or entity making the false statement or omission is subject to any and all civil and criminal penalties available pursuant to applicable state and federal law.

I certify the above information and statements are true, correct, and complete.

Contractor:

By: _____ **Date:**

Title:

**STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
INFORMATION TO BIDDERS**

The Department is concerned over the manner in which bids are submitted. Bidders are requested to study and follow the bid assembly instructions as to the method and form for submitting bids so there will be no reason to reject a bid.

EXAMINATION OF CONTRACT REQUIREMENTS

Bidders are expected to examine carefully the plans, specifications and all other documents incorporated in the contract to determine the requirements thereof before preparing bids.

Any explanation desired by bidders regarding the meaning or interpretation of drawings and specifications must be requested in writing and with sufficient time allowed for a reply to reach them before the submission of their bids. Oral explanations or instructions given before the award of the contract will not be binding. Any interpretation made will be in the form of an addendum to the specifications or drawings and will be furnished to all bidders and its receipt by the bidder shall be acknowledged.

CONDITIONS AT SITE OF WORK

Bidders are expected to visit the site to ascertain pertinent local conditions such as the location, accessibility and character of the site, labor conditions, the character and extent of the existing work within or adjacent thereto, and any other work being performed thereon.

PREPARATION OF BIDS

- (a) Bids shall be submitted on the forms furnished, and must be manually signed in ink. The person signing the proposal must initial any erasures or changes made to the bid.
- (b) The bid schedule will provide for quotation of a price or prices for one or more pay items which may include unit price or lump sum items and alternative, optional or supplemental price schedules or a combination thereof which will result in a total bid amount for the proposed construction.

Where required on the bid form, bidders must quote on all items and **THEY ARE WARNED** that failure to do so will disqualify them. When quotations on all items are not required, bidders should insert the words "no bid" in the space provided for any item not requiring a quotation and for which no quotation is made.

- (c) The bidder shall specify the price or prices bid in figures. On unit price contracts the bidder shall also show the products of the respective unit prices and quantities written in figures in the column provided for the purpose and the total amount of the proposal obtained by adding the amounts of the several items. All the figures shall be in ink or typed.
- (d) Neither conditional nor alternative bids will be considered unless called for.
- (e) Unless specifically called for, telegraphic or telefacsimile bids will not be considered.
- (f) Bid Schedule form should be enclosed in a separate sealed envelope and enclosed with all other bidding forms required at the opening.

BID SECURITY

All bids shall be accompanied by a bid security in the form of an acceptable Bid Bond (Form 25D-14), or a certified check, cashier's check or money order made payable to the State of Alaska. The amount of the bid security is specified on the Invitation To Bid.

Bid Bonds must be accompanied by a legible Power of Attorney.

If the bidder fails to furnish an acceptable bid security with the bid, the bid shall be rejected as non-responsive. Telegraphic notification of execution of Bid Bond does not meet the requirements of bid security accompanying the bid. An individual surety will not be accepted as a bid security.

The Department will hold the bid securities of the two lowest bidders until the Contract has been executed, after which they will be returned. All other bid securities will be returned as soon as practicable.

BIDDERS QUALIFICATIONS

Before a bid is considered for award, the bidder may be requested by the Department to submit a statement of facts, in detail, as to his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the contemplated work.

SUBMISSION OF BIDS

Bids must be submitted as directed on the Invitation To Bid. Do not include in the envelope any bids for other work.

ADDENDA REQUIREMENTS

The bid documents provide for acknowledgement individually of all addenda to the drawings and/or specifications on the signature page of the Proposal. All addenda shall be acknowledged on the Proposal or by telegram prior to the scheduled time of bid opening. If the bidder received no addenda, the word "None" should be shown as specified.

Every effort will be made by the Department to insure that Contractors receive all addenda when issued. Addenda will be issued to the individual or company to whom bidding documents were issued. Addenda may be issued by any reasonable method such as hand delivery, mail, telefacsimile, telegraph, courier, and in special circumstances by phone. Addenda will be issued to the address, telefacsimile number or phone number as stated on the planholder's list unless picked up in person or included with the bid documents. It is the bidder's responsibility to insure that he has received all addenda affecting the Invitation To Bid. No claim or protest will be allowed based on the bidder's allegation that he did not receive all of the addenda for an Invitation To Bid.

WITHDRAWAL OR REVISION OF BIDS

A bidder may withdraw or revise a bid after it has been deposited with the Department, provided that the request for such withdrawal or revision is received by the designated office, in writing, by telegram, or by telefacsimile, before the time set for opening of bids.

Telegraphic or telefacsimile modifications shall include both the modification of the unit bid price and the total modification of each item modified, but shall not reveal the amount of the total original or revised bids. Form 25D-16 shall be used to submit such modifications.

RECEIPT AND OPENING OF BIDS

- (a) The Department must receive all bids, including any amendment or withdrawal prior to the scheduled time of bid opening. Any bid, amendment, or withdrawal that has not actually been received by the Department prior to the time of the scheduled bid opening will not be considered.
- (b) No responsibility will be attached to any officer or employee of the Department for the premature opening of, or failure to open, a bid improperly addressed or identified.
- (c) The Department reserves the right to waive any technicality in bids received when such waiver is in the interest of the State.

BIDDERS PRESENT

At the time fixed for bid opening, bids will be publicly opened and read for the information of bidders and others properly interested, who may be present either in person or by representative. The amount of the bid and the name of the bidder shall be compiled and distributed as soon as possible after bid opening. Bids are not open for public inspection until after the Notice of Intent to Award is issued.

BIDDERS INTERESTED IN MORE THAN ONE BID

If more than one bid is offered by any one party, by or in the name of his or their clerk or partner, all such bids will be rejected. A party who has quoted prices to a bidder is not thereby disqualified from quoting prices to other bidders or from submitting a bid directly for the work.

REJECTION OF BIDS

The Department reserves the right to reject any and all bids when such rejection is in the best interest of the State; to reject the bid of a bidder who has previously failed to perform properly, or complete on time, contracts of a similar nature; to reject the bid of a bidder who is not, in the opinion of the Contracting Officer, in a position to perform the contract; and to reject a bid as non-responsive where the bidder fails to furnish the required documents, fails to complete required documents in the manner directed, or makes unauthorized alterations to the bid documents.

AWARD OF CONTRACT

- (a) The letter of award, if the contract is to be awarded, will be issued to the lowest responsible and responsive bidder as soon as practical and usually within 40 calendar days after opening of proposals.
- (b) The successful bidder will be notified of the Department's intent to award the contract and requested to execute certain documents, including the contract form and bonds.
- (c) The contract will be awarded to the successful bidder following receipt by the Department of all required documents, properly executed, within the time specified in the intent to award. Failure to enter into a contract within the specified time shall be grounds for forfeiture of the bid security and consideration of the second low bidder for award.

**STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES**

SUPPLEMENTARY INFORMATION TO BIDDERS

This document modifies or adds to the provisions of Department of Natural Resources form 25D-3, INFORMATION TO BIDDERS.

Following subparagraph (c) under subject area "PREPARATION OF BIDS", add the following subparagraph:

"(C-1) When provided within the supplements to the bid schedule the Bidder shall specify those Alaska bidder and product preferences applicable to their bid. All entries made by the Bidder and designating applicable preferences must conform to the requirements of AS 36.30 and the instructions on the forms to warrant consideration."

Following subject area "REJECTION OF BIDS", add the following subject area:

"CONSIDERATION OF PROPOSALS

After the Proposals are opened and read, they will be compared on the basis identified on the bid schedule and the apparent low Bidder announced. The apparent low Bidder shall, within 5 working days following identification as the apparent low Bidder, submit a list of all firms with which the prime CONTRACTOR intends to execute subcontracts for the performance of the Contract. The list shall include the name, business address, Alaska business license number and contractor's registration number of each proposed Subcontractor.

Upon confirmation of the contents of the proposal the low Bidder will be identified by the DEPARTMENT by telephone and in writing. If the low Bidder differs from the apparent low Bidder then the requirements for Subcontractor listing, as noted above, shall become effective upon the low Bidder at the time of identification.

If a Bidder fails to list a Subcontractor or lists more than one Subcontractor for the same portion of Work and the value of that Work is in excess of one-half of one percent of the total bid, the Bidder agrees that it shall be considered to have agreed to perform that portion of Work without the use of a Subcontractor and to have represented that the Bidder is qualified to perform the Work.

A Bidder who attempts to circumvent the requirements of this section by listing as a Subcontractor another contractor who, in turn, sublets the majority of the Work required under the Contract, violates this section.

If a Contract is awarded to a Bidder who violates this section, the Bidder agrees that the Contracting Officer may:

- (1) cancel the Contract without any damages accruing to the State; or
- (2) after notice and a hearing, assess a penalty on the Bidder in an amount that does not exceed 10 percent of the value of the Subcontract at issue.

A Bidder may replace a listed Subcontractor who:

- (1) fails to comply with AS 08.18;
- (2) files for bankruptcy or becomes insolvent;
- (3) fails to execute a contract with the Bidder involving performance of the Work for which the Subcontractor was listed and the Bidder acted in good faith;
- (4) fails to obtain bonding;
- (5) fails to obtain insurance acceptable to the State;
- (6) fails to perform the Contract with the Bidder involving Work for which the Subcontractor was listed;
- (7) must be substituted in order for the prime CONTRACTOR to satisfy required State and Federal affirmative action requirements;
- (8) refuses to agree or abide with the bidder's labor agreement; or
- (9) is determined by the Contracting Officer to be nonresponsive."

Modify subject area "AWARD OF CONTRACT" as follows:

Subparagraph (a) substitute the word "generally" for the phrase "as soon as practical and"

Subparagraph (b) delete and substitute the following:

"All Bidders will be notified of the DEPARTMENT's intent to Award the Contract and the successful Bidder will be requested to execute certain documents, including the Contract form and bonds."

SECTION 00115

ITEM G-115 WORKER MEALS AND LODGING, OR PER DIEM

DESCRIPTION

115-1.1 This item consists of complying with the Alaska Department of Labor and Workforce Development (DOLWD) requirements for Worker Meals and Lodging, or Per Diem; as described in their September 1, 2009 memo WHPL #197(A3) and the State Laborer's and Mechanic's Minimum Rates of Pay (current issue).

Ensure subcontractors comply with the DOLWD requirements. The direct internet address is <http://www.labor.state.ak.us/lss/pamp600.htm>.

Ensure facilities meet the Alaska Administrative Code 8 AAC 61.1010 and 8 AAC 61.1040 *Occupational Safety and Health Standards*, 18 AAC 31 *Alaska Food Code*, and U. S. Code of Federal Regulations 29 CFR Section 1910.142 *Temporary Labor Camps*.

Do not consider the cost of Meals and Lodging or Per Diem in setting wages for the worker or in meeting wage requirements under AS 23.10.065 or AS 36.05.

METHOD OF MEASUREMENT

115-2.1 Progress payments for Worker Meals and Lodging, or Per Diem will be computed as equivalent to the percentage, rounded to the nearest whole percent, of the original contract amount earned.

BASIS OF PAYMENT

115-3.1 Payment will be made at the contract lump sum price for Worker Meals and Lodging, or Per Diem. This price and payment shall be full compensation for all costs associated with this item.

Payment will be made under:

Item G-115 Worker Meals and Lodging, or Per Diem - per lump sum



STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES

REQUIRED DOCUMENTS

State Funded Contracts

REQUIRED FOR BID. Bids will not be considered if the following documents are not completely filled out and submitted at the time of bidding:

1. **Bid Form (Form 25D-9DNR)**
 2. **Bid Schedule**
 3. **Bid Security (Form 25D-14DNR or Certified Check)**
 4. Any bid revisions must be submitted by the bidder prior to bid opening on the following form:
Bid Modification (Form 25D-16DNR)
-

REQUIRED AFTER NOTICE OF APPARENT LOW BIDDER. The apparent low bidder is required to complete and submit the following document within 5 working days after receipt of written notification:

1. **Subcontractor List (Form 25D-5DNR)**
-

REQUIRED FOR AWARD. In order to be awarded the contract, the successful bidder must completely fill out and submit the following documents within the time specified in the intent to award letter:

1. **Construction Contract (Form 25D-10ADNR)**
2. **Payment Bond (Form 25D-12DNR)**
3. **Performance Bond (Form 25D-13DNR)**
4. **Contractor's Questionnaire (Form 25D-8DNR)**
5. **Certificate of Insurance (from carrier)**



STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES

PROPOSAL

for

Repair Palmer Hangar Roof, Project No. 35038-1

Project Name and Number

by

Company Name

Company Address (Street or PO Box, City, State, Zip)

**TO THE CONTRACTING OFFICER,
DEPARTMENT OF NATURAL RESOURCES:**

In compliance with your Invitation for Bids dated April 17, 2015, the Undersigned proposes to furnish and deliver all the materials and do all the work and labor required in the construction of the above-referenced Project, located at or near **Palmer**, Alaska, according to the plans and specifications and for the amount and prices named herein as indicated on the Bid Schedule consisting of 1 sheet, which is made a part of this Bid.

The Undersigned declares that he has carefully examined the contract requirements and that he has made a personal examination of the site of the work; that he understands that the quantities, where such are specified in the Bid Schedule or on the plans for this project, are approximate only and subject to increase or decrease, and that he is willing to perform increased or decreased quantities of work at unit prices bid under the conditions set forth in the Contract Documents.

The Undersigned hereby agrees to execute the said contract and bonds within fifteen calendar days, or such further time as may be allowed in writing by the Contracting Officer, after receiving notification of the acceptance of this bid, and it is hereby mutually understood and agreed that in case the Undersigned does not, the accompanying bid guarantee shall be forfeited to the State of Alaska, Department of Natural Resources as liquidated damages, and the said Contracting officer may proceed to award the contract to others.

The Undersigned agrees to commence the work within 10 calendar days, and to complete the work within N/A calendar days, after the effective date of the Notice to Proceed, or by August 15, 2015, unless extended in writing by the Contracting Officer.

The Undersigned proposes to furnish Payment Bond in the amount of **50%** (of the contract) and Performance Bond in the amount of **50%** (of the contract), as surety conditioned for the full, complete and faithful performance of this contract.

The Undersigned acknowledges receipt of the following addenda to the drawings and/or specifications (give number and date of each).

Addenda Number	Date Issued	Addenda Number	Date Issued	Addenda Number	Date Issued

NON-COLLUSION DECLARATION

The Undersigned declares, under penalty of perjury under the laws of the United States, that neither he nor the firm, association, or corporation of which he is a member, has, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this bid.

The Undersigned has read the foregoing and hereby agrees to the conditions stated therein by affixing his signature below:

Signature of Authorized Company Representative

Typed Name and Title

()

Phone Number

()

Fax Number

Email Address

ALASKA PRODUCTS PREFERENCE WORKSHEET

(See Reverse Side for Instructions)

Bid Phase: _____ Contractor: _____

[illegible]

INSTRUCTIONS FOR ALASKA PRODUCTS PREFERENCE WORKSHEET

Special Note:

All procurements, except those funded from Federal sources, shall contain Contract provisions for the preference of Alaska products. The products listed by the Bidder or Proposer on this worksheet must have current certifications from the Alaska Products Preference program as of the date specified for bid opening or the proposal due date in order to be considered for the Alaska Products preference. A product with an expired Certification as of the date specified for bid opening or the proposal due date, will not be considered for the Alaska Products preference. In addition, and in accordance with the program, the products must be specified for use on the project. The listing of Certified Products is available from <http://www.commerce.state.ak.us/oed/prodpref/prodpref.htm>.

BIDDERS INSTRUCTIONS:

A. General. The Contracting Agency may request documentation to support entries made on this form. False presentations may be subject to AS 36.30.687. All Bidder's entries must conform to the requirements covering bid preparations in general. Discrepancies in price extensions shall be resolved by multiplying the declared total value times the preference percentage and adjusting any resulting computation accordingly.

B. Form Completion - BASIC BIDS.

(1) Enter project number and name, the words "Basic Bid" and the CONTRACTOR'S name in the heading of each page as provided.

(2) The Bidder shall compare those candidate products appearing on the preference listing (see Special Notice comments above) against the requirements of the technical specifications appearing in the contract documents. If the Bidder determines that a candidate product can suitably meet the contract requirements, then that product may be included in the worksheet as follows.

(3) For each suitable product submitted under the "Basic Bid" enter:

- the product name, generic description and its corresponding technical specification section number under the heading "PRODUCT",
- the company name of the Alaska producer under the heading "MANUFACTURER", and,
- the product class (I, II, or III) and preference percentage (3, 5, or 7%, respectively) under the "CLASS/%" heading.

(4) For each product appearing on the list and to be utilized by the CONTRACTOR enter:

- under the heading "TOTAL DECLARED VALUE" the manufacturer's quoted price of the product, (caution: this value is to be the manufacturer's quoted price at the place of origin and shall not include costs for freight, handling or miscellaneous charges of incorporating the product into the Work), and
- the resulting preference--ie.: the preference percentage times the total declared value amount -- under the heading "REDUCTION AMOUNT".

(5) Continue for all "suitable" basic bid products. If the listing exceeds one page enter the words "Page # ____ SUB" in front of the word "TOTAL" and on the first entry line of the following page enter "SUBTOTAL OF REDUCTION AMOUNT FROM PREVIOUS PAGE".

(6) On the final page of the listing enter "BASIC BID PREFERENCE GRAND" immediately before the word "TOTAL".

(7) Total the entries in the "REDUCTION AMOUNT" column for each page by commencing at the first entry for that page. If a continuation page exists, ensure that the subtotal from the previous page is computed into the running total. Number pages as appropriate.

(8) Compute a Grand Total for the Basic Bid Preference. Enter this amount on the final page of the worksheet and at line or column "C" on the Bid Schedule or Bid Schedule Summary Sheet as appropriate. Submit worksheet(s) with Bid Schedule Summary Sheet.

C. Forms Completion - ALTERNATE BIDS.

(1) Enter project number and name, the words "ALTERNATE BID # ____", and CONTRACTOR'S name in the heading of each page as provided.

(2) On the first entry line enter "ADDITIONAL ALASKA PRODUCTS FOR ALTERNATE BID # ____", and repeat procedures 2 through 5 under part B of these Bidder's instructions except that references to "Basic Bid" shall be replaced with the words "Alternate Bid # ____".

(3) Following the listing of all additional Alaska products enter the words "ADDITIONAL PRODUCTS PREFERENCE FOR ALTERNATE BID # ____--SUBTOTAL" and enter a subtotal amount for all additional products as listed. Subtotal amount to be determined by adding all additional product entries in the "REDUCTION AMOUNT" column.

(4) Skip three lines and enter "LESS THE FOLLOWING NON-APPLICABLE ALASKA PRODUCTS".

(5) Beginning on the next line enter the product name and manufacturer of each Alaska Product appearing on the "Basic Bid" listing which would be deleted or reduced from the Project should the "Alternate Bid" be selected. Details of entry need only be sufficient to clearly reference the subject product. (ie. "Prehung Doors by Alaska Door Co. in lieu of "Prehung Solid Core Wood Door, model "Super Door", Section 08210, by Alaska Door Co., Anchorage.) Products being reduced shall specify the amount of the reduction. Should no products require deletion enter "None". When a product is listed as a "NON-APPLICABLE ALASKA PRODUCT" for this alternate bid and if under the basic bid the Bidder received a preference on his basic bid as a result of that product, then the applicable entries under the headings "TOTAL DECLARED VALUE" and "REDUCTION AMOUNT" (for each product and from the basic bid listing) shall also be entered into the corresponding headings of this form. Where only a portion of the product has been deleted, the entry (which will differ from those on the basic bid listing) may be "pro-rated" or as otherwise substantiated.

(6) Following the listing of all non-applicable Alaska products enter the words "NON-APPLICABLE PRODUCTS PREFERENCE FORM BASIC BID --SUBTOTAL" and enter a subtotal amount for all non-applicable products as listed. Subtotal amount to be determined by adding all non-applicable entries in the "REDUCTION AMOUNT" column.

(7) At the bottom of the final page enter the words "ALTERNATE BID # ____ PREFERENCE GRAND" immediately before the word "TOTAL".

(8) Compute a Grand Total for the Alternate Bid Preference (for Alternate # ____) by subtracting the non-applicable product preference subtotal from the additional product preference subtotal. Enter on the final page as provided and at the corresponding line in column "C" on the Bid Schedule Summary Sheet. Submit worksheet(s) with the Bid Schedule Summary Sheet.

(9) A separate listing for each alternate bid is required.

SECTION 00312 - BID SCHEDULE

STATE OF ALASKA – DEPARTMENT OF NATURAL RESOURCES – DIVISION OF FORESTRY

Project Name: **Repair Palmer Hangar Roof**

Project Number: **35038-1**

Before preparing this bid schedule, read carefully, "Information to Bidders", Supplementary Information to Bidders", and the following:

The Bidder shall insert, as called for, a unit price or lump sum price in figures opposite each pay item for which an estimated quantity appears in the bid schedule. A unit price or lump sum price is not to be entered or tendered for any pay item not appearing in the bid schedule. The estimated quantity of work for payment on a lump sum basis will be "All Required" (All Req'd) and as further specified in the contract.

Whenever a Contingent Sum is shown for any item in this schedule, such amount shall govern and be included in the bid total.

Conditioned or qualified bids will be considered non-responsive.

The bidder shall insert a unit bid price for each pay item listed below. Type or print legibly.

Pay Item Number	Pay Item Description	Pay Unit	Quantity	Unit Bid Price	Amount Bid
-----------------	----------------------	----------	----------	----------------	------------

***** BASIC BID with ALTERNATES *****

1	Fire Facility	L.S.	All Req'd	(Lump Sum)	\$_____
a) TOTAL BASIC BID (same as L. S. above)					\$_____
d) ALASKA BIDDER PREFERENCE					-_____
e) ALASKA PRODUCTS PREFERENCE					-_____
f) AK VETERAN'S PREFERENCE					-_____
e) ADJUSTED BASIC BID AMOUNT					\$_____

No: _____ Expires _____
Alaska Business License

No: _____ Expires _____
Alaska Contractor's License

00312 - BID SCHEDULE
Repair Palmer Hangar Roof
Project No. 35038-1

Name of Bidding Firm _____



STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES

BID BOND

For

Repair Palmer Hangar Roof, Project No. 35038-1

Project Name and Number

DATE BOND EXECUTED: _____

PRINCIPAL (Legal name and business address):

TYPE OF ORGANIZATION:

	<input type="checkbox"/> Individual	<input type="checkbox"/> Partnership
	<input type="checkbox"/> Joint Venture	<input type="checkbox"/> Corporation
STATE OF INCORPORATION:		

SURETY(IES) (Name and business address):

A.	B.	C.
PENAL SUM OF BOND:		DATE OF BID:

We, the PRINCIPAL and SURETY above named, are held and firmly bound to the State (State of Alaska), in the penal sum of the amount stated above, for the payment of which sum will be made, we bind ourselves and our legal representatives and successors, jointly and severally, by this instrument.

THE CONDITION OF THE FOREGOING OBLIGATION is that the Principal has submitted the accompanying bid in writing, date as shown above, on the above-referenced Project in accordance with contract documents filed in the office of the Contracting Officer, and under the Invitation for Bids therefor, and is required to furnish a bond in the amount stated above.

If the Principal's bid is accepted and he is offered the proposed contract for award, and if the Principal fails to enter into the contract, then the obligation to the State created by this bond shall be in full force and effect.

If the Principal enters into the contract, then the foregoing obligation is null and void.

PRINCIPAL

Signature(s)	1.	2.	3.
Name(s) & Title(s) (Typed)	1.	2.	3.

Corporate
Seal

See Instructions on Reverse

CORPORATE SURETY(IES)

Surety A	Name of Corporation	State of Incorporation	Liability Limit \$
Signature(s)	1.	2.	Corporate Seal
Name(s) & Titles (Typed)	1.	2.	

Surety B	Name of Corporation	State of Incorporation	Liability Limit \$
Signature(s)	1.	2.	Corporate Seal
Name(s) & Titles (Typed)	1.	2.	

Surety C	Name of Corporation	State of Incorporation	Liability Limit \$
Signature(s)	1.	2.	Corporate Seal
Name(s) & Titles (Typed)	1.	2.	

INSTRUCTIONS

1. This form shall be used whenever a bid bond is submitted.
2. Insert the full legal name and business address of the Principal in the space designated. If the Principal is a partnership or joint venture, the names of all principal parties must be included (e.g., "Smith Construction, Inc. and Jones Contracting, Inc. DBA Smith/Jones Builders, a joint venture"). If the Principal is a corporation, the name of the state in which incorporated shall be inserted in the space provided.
3. Insert the full legal name and business address of the Surety in the space designated. The Surety on the bond may be any corporation or partnership authorized to do business in Alaska as an insurer under AS 21.09. Individual sureties will not be accepted.
4. The penal amount of the bond may be shown either as an amount (in words and figures) or as a percent of the contract bid price (a not-to-exceed amount may be included).
5. The scheduled bid opening date shall be entered in the space marked Date of Bid.
6. The bond shall be executed by authorized representatives of the Principal and Surety. Corporations executing the bond shall also affix their corporate seal.
7. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.
8. The states of incorporation and the limits of liability of each surety shall be indicated in the spaces provided.
9. The date that bond is executed must not be later than the bid opening date.



STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES

SUBCONTRACTOR LIST

Repair Palmer Hangar Roof, Project No. 35038-1

Project Name and Number

The apparent low bidder shall complete this form and submit it so as to be received by the Contracting Officer prior to the close of business day on the fifth working day after receipt of written or verbal notice from the Department.

Failure to submit this form with all required information by the due date will result in the bidder being declared nonresponsive and may result in the forfeiture of the Bid Security.

Scope of work must be clearly defined. If an item of work is to be performed by more than one firm, indicate the portion or percent of work to be done by each.

Check as applicable: ☐ All Work on the above-referenced project will be accomplished without subcontracts greater than ½ of 1% of the contract amount.

OR

☐ Subcontractor List is as follows:

LIST FIRST TIER SUBCONTRACTORS ONLY

FIRM NAME, ADDRESS, PHONE NUMBER	AK BUSINESS LICENSE NO., CONTRACTOR'S REGISTRATION NO.	SCOPE OF WORK TO BE PERFORMED

CONTINUE SUBCONTRACTOR INFORMATION ON REVERSE SIDE

I hereby certify that the listed licenses and registrations were valid at the time bids were received for this project. For contracts involving Federal-aid funding, Alaska Business License and Contractor Registration will be required prior to award of subcontract.

Signature of Authorized Company Representative

Title

Company Name

Company Address (Street or PO Box, City, State, Zip)

Date

()
Phone Number



STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES

CONSTRUCTION CONTRACT

Repair Palmer Hangar Roof, Project No. 35038-1

Project Name and Number

This CONTRACT, between the STATE OF ALASKA, DEPARTMENT OF NATURAL RESOURCES, herein called the Department, acting by and through its Contracting Officer, and

Company Name

Company Address (Street or PO Box, City, State, Zip)

a/an ☐ Individual ☐ Partnership ☐ Joint Venture ☐ Sole Proprietorship ☐ Corporation incorporated under the laws of the State of Alaska its successors and assigns, herein called the Contractor, is effective the date of the signature of the Contracting Officer on this document.

WITNESSETH: That the Contractor, for and in consideration of the payment or payments herein specified and agreed to by the Department, hereby covenants and agrees to furnish and deliver all the materials and to do and perform all the work and labor required in the construction of the above-referenced project at the prices bid by the Contractor for the respective estimated quantities aggregating approximately the sum of

Dollars

(\$ _____), and such other items as are mentioned in the original Bid, which Bid and prices named, together with the Contract Documents are made a part of this Contract and accepted as such.

It is distinctly understood and agreed that no claim for additional work or materials, done or furnished by the Contractor and not specifically herein provided for, will be allowed by the Department, nor shall the Contractor do any work or furnish any material not covered by this Contract, unless such work is ordered in writing by the Department. In no event shall the Department be liable for any materials furnished or used, or for any work or labor done, unless the materials, work, or labor are required by the Contract or on written order furnished by the Department. Any such work or materials which may be done or furnished by the Contractor without written order first being given shall be at the Contractor's own risk, cost, and expense and the Contractor hereby covenants and agrees to make no claim for compensation for work or materials done or furnished without such written order.

The Contractor further covenants and agrees that all materials shall be furnished and delivered and all labor shall be done and performed, in every respect, to the satisfaction of the Department, on or before: August 15, 2015. It is expressly understood and agreed that in case of the failure on the part of the Contractor, for any reason, except with the written consent of the Department, to complete the furnishing and delivery of materials and the doing and performance of the work before the aforesaid date, the Department shall have the right to deduct from any money due or which may become due the Contractor, or if no money shall be due, the Department shall have the right to recover Five Hundred and 00/100 dollars (\$ 500.00) per day for each calendar day elapsing between the time stipulated for the completion and the actual date of completion in accordance with the terms hereof; such deduction to be made, or sum to be recovered, not as a penalty but as liquidated damages.

The bonds given by the Contractor in the sum of \$_____ Payment Bond, and \$_____ Performance Bond, to secure the proper compliance with the terms and provisions of this Contract, are submitted herewith and made a part hereof.

IN WITNESS WHEREOF, the parties hereto have executed this Contract and hereby agree to its terms and conditions.

CONTRACTOR

Company Name

Signature of Authorized Company Representative

Typed Name and Title

Date

(Corporate Seal)

**STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES**

Forestry Duly Authorized Representative (Signature)

Date

Typed Name

Signature of Contracting Officer

Date

Typed Name



STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES

PERFORMANCE BOND

Bond No. _____

For

Repair Palmer Hangar Roof, Project No. 35038-1

Project Name and Number

KNOW ALL WHO SHALL SEE THESE PRESENTS:

That _____
of _____ as Principal,
and _____
of _____ as Surety,
firmly bound and held unto the State of Alaska in the penal sum of _____ Dollars

(\$ _____) good and lawful money of the United States of America for the payment whereof, well and truly to be paid to the State of Alaska, we bind ourselves, our heirs, successors, executors, administrators, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has entered into a written contract with said State of Alaska, on the _____ of _____ A.D., 20____, for construction of the above-named project, said work to be done according to the terms of said contract.

Now, THEREFORE, the conditions of the foregoing obligation are such that if the said Principal shall well and truly perform and complete all obligations and work under said contract and if the Principal shall reimburse upon demand of the Department of Transportation and Public Facilities any sums paid him which exceed the final payment determined to be due upon completion of the project, then these presents shall become null and void; otherwise they shall remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals at _____, this _____ day of _____ A.D., 20____.

Principal: _____

Address: _____

By: _____

Contact Name: _____

Phone: () _____

Surety: _____

Address: _____

By: _____

Contact Name: _____

Phone: () _____

The offered bond has been checked for adequacy under the applicable statutes and regulations:

Alaska Department of Natural Resources Authorized Representative

Date

See Instructions on Reverse

INSTRUCTIONS

1. This form shall be used whenever a performance bond is required. There shall be no deviation from this form without approval from the Contracting Officer.
2. The full legal name, business address, phone number, and point of contact of the Principal and Surety shall be typed on the face of the form. Where more than a single surety is involved, a separate form shall be executed for each surety.
3. The penal amount of the bond, or in the case of more than one surety the amount of obligation, shall be typed in words and in figures.
4. Where individual sureties are involved, a completed Affidavit of Individual Surety shall accompany the bond. Such forms are available upon request from the Contracting Officer.
5. The bond shall be signed by authorized persons. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of authority must be furnished.



STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES

PAYMENT BOND

Bond No. _____

For

Repair Palmer Hangar Roof, Project No. 35038-1

Project Name and Number

KNOW ALL WHO SHALL SEE THESE PRESENTS:

That _____
of _____ as Principal,
and _____
of _____ as Surety,
firmly bound and held unto the State of Alaska in the penal sum of _____ Dollars

(\$ _____) good and lawful money of the United States of America for the payment whereof,
well and truly to be paid to the State of Alaska, we bind ourselves, our heirs, successors, executors, administrators, and assigns,
jointly and severally, firmly by these presents.

WHEREAS, the said Principal has entered into a written contract with said State of Alaska, on the _____ of _____
A.D., 20____, for construction of the above-referenced project, said work to be done according to the terms of said contract.

Now, THEREFORE, the conditions of the foregoing obligation are such that if the said Principal shall comply with all requirements
of law and pay, as they become due, all just claims for labor performed and materials and supplies furnished upon or for the work
under said contract, whether said labor be performed and said materials and supplies be furnished under the original contract, any
subcontract, or any and all duly authorized modifications thereto, then these presents shall become null and void; otherwise they
shall remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals at _____,
_____ this _____ day of _____ A.D., 20____.

Principal: _____

Address: _____

By: _____

Contact Name: _____

Phone: () _____

Surety: _____

Address: _____

By: _____

Contact Name: _____

Phone: () _____

The offered bond has been checked for adequacy under the applicable statutes and regulations:

Alaska Department of Natural Resources Authorized Representative

Date

See Instructions on Reverse

INSTRUCTIONS

1. This form, for the protection of persons supplying labor and material, shall be used whenever a payment bond is required. There shall be no deviation from this form without approval from the Contracting Officer.
2. The full legal name, business address, phone number, and point of contact of the Principal and Surety shall be typed on the face of the form. Where more than a single surety is involved, a separate form shall be executed for each surety.
3. The penal amount of the bond, or in the case of more than one surety the amount of obligation, shall be typed in words and in figures.
4. Where individual sureties are involved, a completed Affidavit of Individual Surety shall accompany the bond. Such forms are available upon request from the Contracting Officer.
5. The bond shall be signed by authorized persons. Where such persons are signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of authority must be furnished.

2. What percent of the total value of this contract do you intend to subcontract? _____%

3. Do you propose to purchase any equipment for use on this project?

☐ NO ☐ YES If YES, describe type, quantity, and approximate cost:

4. Do you propose to rent any equipment for this work?

☐ NO ☐ YES If YES, describe type and quantity:

5. Is your bid based on firm offers for all material necessary for this project?

☐ NO ☐ YES If NO, explain:

C. EXPERIENCE

1. Have you had previous construction contracts or subcontracts with the State of Alaska?

☐ NO ☐ YES If YES, explain:

2. List, as an attachment to this questionnaire, other construction projects you have completed, the dates of completion, scope of work, and total contract amount for each project completed in the past 12 months.

I hereby certify that the above statements are true and complete.

Name of Contractor

Name & Title of Person Signing

Signature

Date

**STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
DOCUMENT 00700 - ISSUED DECEMBER 2011**

GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT FOR BUILDINGS

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- 2.2 Evaluations by Contracting Officer
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- 12.1 Warranty and Guaranty
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- 13.1 Schedule of Values
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- 13.12 Final Inspection
- 13.13 Final Completion and Application for Payment
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- 14.1 DEPARTMENT May Suspend Work
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- 15.3 Claim Validity, Additional Information & DEPARTMENT's Action
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ACKNOWLEDGMENT

"The State of Alaska, General Conditions of the Construction Contract for Buildings" is based on the "Standard General Conditions of the Construction Contract" as published by the National Society of Professional Engineers (document number 1910-8, 1983 edition) on behalf of the Engineers Joint Construction Documents Committee. Portions of the NSPE General Conditions are reprinted herein by the express permission of NSPE. Modifications to the NSPE text are made to provide for State laws, regulations, and established procedures.

The granting of permission by NSPE to allow the State of Alaska to preprint portions of the NSPE document 1910-8, 1983 edition does not constitute approval of the State of Alaska General Conditions of the Construction Contract for Buildings.

ARTICLE 1 - DEFINITIONS

Wherever used in the Contract Documents the following terms, or pronouns in place of them, are used, the intent and meaning, unless a different intent or meaning is clearly indicated, shall be interpreted as set forth below.

The titles and headings of the articles, sections, and subsections herein are intended for convenience of reference.

Terms not defined below shall have their ordinary accepted meanings within the context which they are used. Words which have a well-known technical or trade meaning when used to describe work, materials or equipment shall be interpreted in accordance with such meaning. Words defined in Article 1 are to be interpreted as defined.

Addenda - All clarifications, corrections, or changes issued graphically or in writing by the DEPARTMENT after the Advertisement but prior to the opening of Proposals.

Advertisement - The public announcement, as required by law, inviting bids for Work to be performed or materials to be furnished.

Application for Payment - The form provided by the DEPARTMENT which is to be used by the CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

Approved or Approval - 'Approved' or 'Approval' as used in this contract document shall mean that the Department has received a document, form or submittal from the contractor and that the Department has taken "No exceptions" to the item submitted. Unless the context clearly indicates otherwise, approved or approval shall not mean that the Department approves of the methods or means, or that the item or form submitted meets the requirements of the contract or constitutes acceptance of the Contractor's work. Where approved or approval means acceptance, then such approval must be set forth in writing and signed by the contracting officer or his designee.

Architect - Where used in the contract documents, "ARCHITECT" shall mean the DEPARTMENT'S ENGINEER.

Architect/Engineer - Where used in the contract documents, "ARCHITECT/ENGINEER" shall mean the DEPARTMENT'S ENGINEER.

A.S. - Initials which stand for Alaska Statute.

Award - The acceptance, by the DEPARTMENT, of the successful bid.

Bid Bond - A type of Proposal Guaranty.

Bidder - Any individual, firm, corporation or any acceptable combination thereof, or joint venture submitting a bid for the advertised Work.

Calendar Day - Every day shown on the calendar, beginning and ending at midnight.

Change Order - A written order by the DEPARTMENT directing changes to the Contract Documents, within their general scope.

Consultant - The person, firm, or corporation retained directly by the DEPARTMENT to prepare Contract Documents, perform construction administration services, or other Project related services.

Contingent Sum Work Item - When the bid schedule contains a Contingent Sum Work Item, the Work covered shall be performed only upon the written Directive of the Project Manager. Payment shall be made as provided in the Directive.

Contract - The written agreement between the DEPARTMENT and the CONTRACTOR setting forth the obligations of the parties and covering the Work to be performed, all as required by the Contract Documents.

Contract Documents - The Contract form, Addenda, the bidding requirements and CONTRACTOR's bid (including all appropriate bid tender forms), the bonds, the Conditions of the Contract and all other Contract requirements, the Specifications, and the Drawings furnished by the DEPARTMENT to the CONTRACTOR, together with all Change Orders and documents approved by the Contracting Officer, for inclusion, modifications and supplements issued on or after the Effective Date of the Contract.

Contracting Officer - The person authorized by the Commissioner to enter into and administer the Contract on behalf of the DEPARTMENT. He has authority to make findings, determinations and decisions with respect to the Contract and, when necessary, to modify or terminate the Contract. The Contracting Officer is identified on the construction Contract.

CONTRACTOR - The individual, firm, corporation or any acceptable combination thereof, contracting with the DEPARTMENT for performance of the Work.

Contract Price - The total moneys payable by the DEPARTMENT to the CONTRACTOR under the terms of the Contract Documents.

Contract Time - The number of Calendar Days following issuance of Notice-to-Proceed in which the project shall be rendered Substantially Complete, or if specified as a calendar date, the Substantial Completion date specified in the Contract Documents

Controlling Item - Any feature of the Work on the critical path of a network schedule.

Defective - Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents.

DEPARTMENT - The Alaska Department of Transportation and Public Facilities. References to "Owner", "State", "Contracting Agency", mean the DEPARTMENT.

Directive - A written communication to the CONTRACTOR from the Contracting Officer interpreting or enforcing a Contract requirement or ordering commencement of an item of Work.

Drawings - The Drawings which show the character and scope of the Work to be performed and which have been furnished by the DEPARTMENT or the DEPARTMENT's Consultant and are by reference made a part of the Contract Documents.

ENGINEER - The DEPARTMENT'S authorized representative of the Contracting Officer, as defined in the DEPARTMENT'S *delegation of authority letter* to be issued after notice-to-proceed, who is responsible for administration of the contract.

Equipment - All machinery together with the necessary supplies for upkeep and maintenance, and also tools and apparatus necessary for the proper construction and acceptable completion of the work.

Final Acceptance - The DEPARTMENT's written acceptance of the Work following Final Completion and the performance of all Contract requirements by the CONTRACTOR.

Final Completion - The Project (or specified part thereof) has progressed to the point that all required Work is complete as determined by the Contracting Officer.

Furnish - To procure, transport, and deliver to the project site materials, labor, or equipment, for installation or use on the project.

General Requirements - Sections of Division 1 of the Specifications which contain administrative and procedural requirements as well as requirements for temporary facilities which apply to Specification Divisions 2 through 16.

Holidays - In the State of Alaska, Legal Holidays occur on:

1. New Years Day - January 1
2. Martin Luther King's Birthday - Third Monday in January
3. President's Day - Third Monday in February
4. Seward's Day - Last Monday in March
5. Memorial Day - Last Monday in May
6. Independence Day - July 4
7. Labor Day - First Monday in September
8. Alaska Day - October 18
9. Veteran's Day - November 11
10. Thanksgiving Day - Fourth Thursday in November
11. Christmas Day - December 25
12. Every Sunday
13. Every day designated by public proclamation by the President of the United States or the Governor of the State as a legal Holiday.

If any Holiday listed above falls on a Saturday, Saturday and the preceding Friday are both legal Holidays. If the Holiday should fall on a Sunday, except (12) above, Sunday and the following Monday are both legal Holidays. See Title 44, Alaska Statutes.

Inspector - The Engineer's authorized representative assigned to make detailed observations relating to contract performance.

Install - Means to build into the Work, ready to be used in complete and operable condition and in compliance with Contract Documents.

Interim Work Authorization - A written order by the Engineer initiating changes to the Contract, within its general scope, until a subsequent Change Order is executed.

Invitation for Bids - A portion of the bidding documents soliciting bids for the Work to be performed.

Laboratory - The official testing laboratories of the DEPARTMENT or such other laboratories as may be designated by the Engineer or identified in the contract documents.

Materials - Any substances specified for use in the construction of the project.

Notice of Intent to Award - The written notice by the DEPARTMENT to all Bidders identifying the apparent successful Bidder and establishing the DEPARTMENT's intent to execute the Contract when all conditions required for execution of the Contract are met.

Notice to Proceed - A written notice to the CONTRACTOR to begin the Work and establishing the date on which the Contract Time begins.

Payment Bond - The security furnished by the CONTRACTOR and his Surety to guarantee payment of the debts covered by the bond.

Performance Bond - The security furnished by the CONTRACTOR and his Surety to guarantee performance and completion of the Work in accordance with the Contract.

Preconstruction Conference - A meeting between the CONTRACTOR and the Engineer, and other parties affected by the construction, to discuss the project before the CONTRACTOR begins work.

Project - The total construction, of which the Work performed under the Contract Documents is the whole or a part, where such total construction may be performed by more than one CONTRACTOR.

Project Manager - The authorized representative of the Contracting Officer who is responsible for administration of the Contract.

Proposal - The offer of a Bidder, on the prescribed forms, to perform the Work at the prices quoted.

Proposal Guaranty - The security furnished with a Proposal to guarantee that the bidder will enter into a Contract if his Proposal is accepted by the DEPARTMENT.

Quality Assurance (QA) - Where referred to in the technical specifications (Divisions 2 through 16), Quality Assurance refers to measures to be provided by the CONTRACTOR as specified.

Quality Control (QC) - Tests and inspections by the CONTRACTOR to insure the acceptability of materials incorporated into the work. QC test reports are used as a basis upon which to determine whether the Work conforms to the requirements of the Contract Documents and to determine its acceptability for payment.

Regulatory Requirements - Laws, rules, regulations, ordinances, codes and/or orders.

Schedule of Values - The DEPARTMENT's document, submitted by the CONTRACTOR and reviewed by the Contracting Officer, which shall serve as the basis for computing payment and for establishing the value of separate items of Work which comprise the Contract Price.

Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for the CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by the CONTRACTOR to illustrate material, equipment, fabrication, or erection for some portion of the Work. Where used in the Contract Documents, "Shop Drawings" shall also mean "Submittals".

Specifications - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative and procedural details applicable thereto.

Subcontractor - An individual, firm, or corporation to whom the CONTRACTOR or any other Subcontractor sublets part of the Contract.

Substantial Completion - Although not fully completed, the Work (or a specified part thereof) has progressed to the point where, in the opinion of the Contracting Officer, as evidence by the DEPARTMENT's written notice, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended. The terms "Substantially Complete" and "Substantially Completed" as applied to any Work refer to Substantial Completion thereof.

Supplemental Agreement - A written agreement between the CONTRACTOR and the DEPARTMENT covering work that is not within the general scope of the Contract.

Supplementary Conditions - The part of the Contract Documents which amends or supplements these General Conditions.

Supplier - A manufacturer, fabricator, distributor, materialman or vendor of materials or equipment.

Surety - The corporation, partnership, or individual, other than the CONTRACTOR, executing a bond furnished by the CONTRACTOR.

Traffic Control Plan (TCP) - A drawing of one or more specific plans that detail the routing of pedestrian, and/or vehicular traffic through or around a construction area.

Unit Price Work - Work to be paid for on the basis of unit prices.

Using Agency - The entity who will occupy or use the completed Project.

Utility - The privately, publicly or cooperatively owned lines, facilities and systems for producing, transmitting or distributing communications, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, storm water not connected with highway or street drainage, and other similar commodities, including publicly owned fire and police signal systems, street lighting systems, and railroads which directly or indirectly serve the public or any part thereof. The term "utility" shall also mean the utility company, inclusive of any wholly owned or controlled subsidiary."

Work - Work is the act of, and the result of, performing services, furnishing labor, furnishing and incorporating materials and equipment into the Project and performing other duties and obligations, all as required by the Contract Documents. Such Work, however incremental, will culminate in the entire completed Project, or the various separately identifiable parts thereof.

ARTICLE 2 - AUTHORIZATION AND LIMITATIONS

2.1 Authorities and Limitations

- 2.1.1 The Contracting Officer alone, shall have the power to bind the DEPARTMENT and to exercise the rights, responsibilities, authorities and functions vested in the Contracting Officer by the Contract Documents. The Contracting Officer shall have the right to designate in writing authorized representatives to act for him. Wherever any provision of the Contract Documents specifies an individual or organization, whether governmental or private, to perform any act on behalf of or in the interest of the DEPARTMENT that individual or organization shall be deemed to be the Contracting Officer's authorized representative under this Contract but only to the extent so specified.
- 2.1.2 The CONTRACTOR shall perform the Work in accordance with any written order (including but not limited to instruction, direction, interpretation or determination) issued by an authorized representative in accordance with the authorized representative's authority to act for the Contracting Officer. The CONTRACTOR assumes all the risk and consequences of performing the Work in accordance with any order (including but not limited to instruction, direction, interpretation or determination) of anyone not authorized to issue such order, and of any order not in writing.
- 2.1.3 Should the Contracting Officer or his authorized representative designate Consultant(s) to act for the DEPARTMENT as provided for in Paragraph 2.1.1, the performance or nonperformance of the Consultant under such authority to act, shall not give rise to any contractual obligation or duty of the Consultant to the CONTRACTOR, any Subcontractor, any Supplier, or any other organization performing any of the Work or any Surety representing them.

2.2 Evaluations by Contracting Officer:

- 2.2.1 The Contracting Officer will decide all questions which may arise as to:
- a. Quality and acceptability of materials furnished;
 - b. Quality and acceptability of Work performed;
 - c. Compliance with the schedule of progress;
 - d. Interpretation of Contract Documents;
 - e. Acceptable fulfillment of the Contract on the part of the CONTRACTOR.
- 2.2.2 In order to avoid cumbersome terms and confusing repetition of expressions in the Contract Documents the terms "as ordered", "as directed", "as required", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper" or "satisfactory" or adjectives of like effect or import are used it shall be understood as if the expression were followed by the words "the Contracting Officer".
- When such terms are used to describe a requirement, direction, review or judgment of the Contracting Officer as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise).
- 2.2.3 The use of any such term or adjective shall not be effective to assign to the DEPARTMENT any duty of authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 2.3 or 2.4.

2.3 Means & Methods:

The means, methods, techniques, sequences or procedures of construction, or safety precautions and the program incident thereto, and the failure to perform or furnish the Work in accordance with the Contract Documents are the sole responsibility of the CONTRACTOR.

2.4 Visits to Site/Place of Business:

The Contracting Officer will make visits to the site and approved remote storage sites at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. The Contracting Officer may, at reasonable times, inspect that part of the plant or place of business of the CONTRACTOR or Subcontractor that is related to the performance of the Contract. Such observations or the lack of such observations shall in no way relieve the CONTRACTOR from his duty to perform the Work in accordance with the Contract Documents.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.1 Incomplete Contract Documents:

The submission of a bid by the Bidder is considered a representation that the Bidder examined the Contract Documents to make certain that all sheets and pages were provided and that the Bidder is satisfied as to the conditions to be encountered in performing the Work. The DEPARTMENT expressly denies any responsibility or liability for a bid submitted on the basis of an incomplete set of Contract Documents.

3.2 Copies of Contract Documents:

The DEPARTMENT shall furnish to the CONTRACTOR up to ten copies of the Contract Documents. Additional copies will be furnished, upon request, at the cost of reproduction.

3.3 Scope of Work:

The Contract Documents comprise the entire Contract between the DEPARTMENT and the CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the Regulatory Requirements of the place of the Project.

It is specifically agreed between the parties executing this Contract that it is not intended by any of the provisions of the Contract to create in the public or any member thereof a third party benefit, or to authorize anyone not a party to this Contract to maintain a suit pursuant to the terms or provisions of the Contract.

3.4 Intent of Contract Documents:

- 3.4.1 It is the intent of the Contract Documents to describe a functionally complete Project to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied, without any adjustment in Contract Price or Contract Time, whether or not specifically called for.
- 3.4.2 Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Regulatory Requirements of any governmental authority, whether such reference be specific or by implication, shall mean the edition stated in the Contract Documents or if not stated the latest standard specification, manual, code or Regulatory Requirements in effect at the time of Advertisement for the Project (or, on the Effective Date of the Contract if there was no Advertisement). However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of the DEPARTMENT and the CONTRACTOR, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to the DEPARTMENT or any of the DEPARTMENT's Consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 2.3 or 2.4.

3.5 Discrepancy in Contract Documents:

- 3.5.1 Before undertaking the Work, the CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures, and dimensions shown thereon and all applicable field measurements. Work in the area by the CONTRACTOR shall imply verification of figures, dimensions and field measurements. If, during the above study or during the performance of the Work, the CONTRACTOR finds a conflict, error, discrepancy or omission in the Contract Documents, or a discrepancy between the Contract Documents and any standard specification, manual, code, or Regulatory Requirement which affects the Work, the CONTRACTOR shall promptly report such discrepancy in writing to the Contracting Officer. The CONTRACTOR shall obtain a written interpretation or clarification from the Contracting Officer before proceeding with any Work affected thereby. Any adjustment made by the CONTRACTOR without this

determination shall be at his own risk and expense. However, the CONTRACTOR shall not be liable to the DEPARTMENT for failure to report any conflict, error or discrepancy in the Contract Documents unless the CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

3.5.2 Discrepancy - Order of Precedence:

When conflicts errors, or discrepancies within the Contract Documents exist, the order of precedence from most governing to least governing will be as follows:

- Contents of Addenda
- Supplementary Conditions
- General Conditions
- General Requirements
- Technical Specifications
- Drawings
- Recorded dimensions will govern over scaled dimensions
- Large scale details over small scale details
- Schedules over plans
- Architectural drawings over structural drawings Structural drawings over mechanical and electrical drawings

3.6 Clarifications and Interpretations:

The Contracting Officer will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as the Contracting Officer may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

3.7 Reuse of Documents:

Neither the CONTRACTOR nor any Subcontractor, or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with the DEPARTMENT shall have or acquire any title to or ownership rights in any of the Contract Documents (or copies thereof) prepared by or for the DEPARTMENT and they shall not reuse any of the Contract Documents on extensions of the Project or any other project without written consent of the Contracting Officer.

Contract Documents prepared by the CONTRACTOR in connection with the Work shall become the property of the DEPARTMENT.

ARTICLE 4 - LANDS AND PHYSICAL CONDITIONS

4.1 Availability of Lands:

The DEPARTMENT shall furnish as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for use of the CONTRACTOR in connection with the Work. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the DEPARTMENT, unless otherwise provided in the Contract Documents. The CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment. The CONTRACTOR shall provide all waste and disposal areas, including disposal areas for hazardous or contaminated materials, at no additional cost to the DEPARTMENT.

4.2 Visit to Site:

The submission of a bid by the CONTRACTOR is considered a representation that the CONTRACTOR has visited and carefully examined the site and is satisfied as to the conditions to be encountered in performing the Work and as to the requirements of the Contract Documents.

4.3 Explorations and Reports:

Reference is made to the Supplementary Conditions for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by the DEPARTMENT in preparation of the Contract Documents. The CONTRACTOR may for his purposes rely upon the accuracy of the factual data contained in such reports, but not upon interpretations or opinions drawn from such factual data contained therein or for the completeness or sufficiency thereof. Except as indicated in the immediately preceding sentence and in paragraphs 4.4 and 9.9, CONTRACTOR shall have full responsibility with respect to surface and subsurface conditions at the site.

4.4 Utilities:

The horizontal and vertical locations of known underground utilities as shown or indicated by the Contract Documents are approximate and are based on information and data furnished to the DEPARTMENT by the owners of such underground utilities.

4.4.2 The CONTRACTOR shall have full responsibility for:

- a. Reviewing and checking all information and data concerning utilities.
- b. Locating all underground utilities shown or indicated in the Contract Documents which are affected by the Work.
- c. Coordination of the Work with the owners of all utilities during construction.
- d. Safety and protection of all utilities as provided in paragraph 6.17.
- e. Repair of any damage to utilities resulting from the Work in accordance with 4.4.4 and 4.5.

4.4.3 If Work is to be performed by any utility owner, the CONTRACTOR shall cooperate with such owners to facilitate the Work.

4.4.4 In the event of interruption to any utility service as a result of accidental breakage or as result of being exposed or unsupported, the CONTRACTOR shall promptly notify the utility owner and the Contracting Officer. If service is interrupted, repair work shall be continuous until the service is restored. No Work shall be undertaken around fire hydrants until provisions for continued service has been approved by the local fire

authority.

4.5 Damaged Utilities:

When utilities are damaged by the CONTRACTOR, the utility owner shall have the choice of repairing the utility or having the CONTRACTOR repair the utility. In the following circumstances, the CONTRACTOR shall reimburse the utility owner for repair costs or provide at no cost to the utility owner or the DEPARTMENT, all materials, equipment and labor necessary to complete repair of the damage:

- a. When the utility is shown or indicated in the Contract Documents.
- b. When the utility has been located by the utility owner.
- c. When no locate was requested by the CONTRACTOR for utilities shown or indicated in the Contract Documents.
- d. All visible utilities.
- e. When the CONTRACTOR could have, otherwise, reasonably been expected to be aware of such utility.

4.6 Utilities Not Shown or Indicated:

If, while directly performing the Work, an underground utility is uncovered or revealed at the site which was not shown or indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of, the CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work affected thereby (except in an emergency as permitted by paragraph 6.19) identify the owner of such underground utility and give written notice thereof to that owner and to the Contracting Officer. The Contracting Officer will promptly review the underground utility to determine the extent to which the Contract Documents and the Work should be modified to reflect the impacts of the discovered utility. The Contract Documents will be amended or supplemented in accordance with paragraph 9.2 and to the extent necessary through the issuance of a change document by the Contracting Officer. During such time, the CONTRACTOR shall be responsible for the safety and protection of such underground utility as provided in paragraph 6.17. The CONTRACTOR may be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are directly attributable to the existence of any underground utility that was not shown or indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of.

4.7 Survey Control:

The DEPARTMENT will identify sufficient horizontal and vertical control data to enable the CONTRACTOR to survey and layout the Work. All survey work shall be performed under the direct supervision of a registered land surveyor when required by paragraph 7.8. Copies of all survey notes shall be provided to the DEPARTMENT at an interval determined by the Project Manager. The Project Manager may request submission on a weekly or longer period at his discretion. Any variations between the Contract Documents and actual field conditions shall be identified in the survey notes.

ARTICLE 5 - BONDS, INSURANCE, AND INDEMNIFICATION

5.1 Delivery of Bonds:

When the CONTRACTOR delivers the executed Contract to the Contracting Officer, the CONTRACTOR shall also deliver to the Contracting Officer such bonds as the CONTRACTOR may be required to furnish in accordance with paragraph 5.2.

5.2 Bonds:

The CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount as shown on the Contract as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These bonds shall remain in effect for one year after the date of Final Acceptance and until all obligations under this Contract, except special guarantees as per 12.7, have been met. All bonds shall be furnished on forms provided by the DEPARTMENT (or copies thereof) and shall be executed by such Sureties as are authorized to do business in the State of Alaska. The Contracting Officer may at his option copy the Surety with notice of any potential default or liability.

5.3 Replacement of Bond and Surety:

If the Surety on any bond furnished in connection with this Contract is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.2, or otherwise becomes unacceptable to the DEPARTMENT, or if any such Surety fails to furnish reports as to his financial condition as requested by the DEPARTMENT, the CONTRACTOR shall within five days thereafter substitute another bond and Surety, both of which must be acceptable to DEPARTMENT.

An individual Surety may be replaced by a corporate Surety during the course of the Contract period. If the Surety desires to dispose of the collateral posted, the DEPARTMENT may, at its option, accept substitute collateral.

5.4 Insurance Requirements:

5.4.1 The CONTRACTOR shall provide evidence of insurance with a carrier or carriers satisfactory to the DEPARTMENT covering injury to persons and/or property suffered by the State of Alaska or a third party, as a result of operations which arise both out of and during the course of this Contract by the CONTRACTOR or by any Subcontractor. This coverage will also provide protection against injuries to all employees of the CONTRACTOR and the employees of any Subcontractor engaged in Work under this Contract. The delivery to the DEPARTMENT of a written 30 day notice is required before cancellation of any coverage or reduction in any limits of liability. Insurance carriers shall have an acceptable financial rating.

5.4.2 The CONTRACTOR shall maintain in force at all times during the performance of the work under this agreement the following policies and minimum limits of liability. Failure to maintain insurance may, at the option of the Contracting Officer, be deemed Defective Work and remedied in accordance with the Contract. Where specific limits and coverages are shown, it is understood that they shall be the minimum acceptable. The requirements of this paragraph shall not limit the CONTRACTOR's responsibility to indemnify under paragraph 5.5. Additional insurance requirements specific to this Contract are contained in the Supplementary Conditions, when applicable.

a. Workers' Compensation Insurance: The Contractor shall provide and maintain, for all employees of the Contractor engaged in work under this contract, Workers' Compensation Insurance as required by AS 23.30.045. The Contractor shall be responsible for Workers' Compensation Insurance for any subcontractor who provides services under this contract, to include:

1. Waiver of subrogation against the State and Employer's Liability Protection in the amount of \$500,000 each accident/\$500,000 each disease.

2. If the Contractor directly utilizes labor outside of the State of Alaska in the prosecution of the work, "Other States" endorsement shall be required as a condition of the contract.
 3. Whenever the work involves activity on or about navigable waters, the Workers' Compensation policy shall contain a United States Longshoreman's and Harbor Worker's Act endorsement, and when appropriate, a Maritime Employer's Liability (Jones Act) endorsement with a minimum limit of \$1,000,000.
- b. Comprehensive or Commercial General Liability Insurance: Such insurance shall cover all operations by or on behalf of the CONTRACTOR and provide insurance for bodily injury and property damage liability including coverage for:

premises and operations; products and completed operations; contractual liability insuring obligations assumed under paragraph 5.5, Indemnification; broad form property damage; and personal injury liability.

The minimum limits of liability shall be:

1. If the CONTRACTOR carries a *Comprehensive General Liability* policy, the limits of liability shall not be less than a Combined Single Limit for bodily injury, property damage and Personal Injury Liability of:
\$1,000,000 each occurrence
\$2,000,00 aggregate
2. If the CONTRACTOR carries a *Commercial General Liability* policy, the limits of liability shall not be less than:
\$1,000,000 each occurrence (Combined Single Limit for bodily injury and property damage)
\$1,000,000 for Personal Injury Liability

\$2,000,000 aggregate for Products-Completed Operations
\$2,000,000 general aggregate

The State of Alaska, DEPARTMENT of Transportation and Public Facilities shall be named as an "Additional Insured" under all liability coverages listed above.

- c. Automobile Liability Insurance:
Such insurance shall cover all owned, hired and non-owned vehicles and provide coverage not less than that of the Business Automobile Policy in limits not less than the following:

\$1,000,000 each occurrence
(Combined Single Limit for bodily injury and property damage.)

- d. Builder's Risk Insurance:
Coverage shall be on an "All Risk" completed value basis including "quake and flood" and protect the interests of the DEPARTMENT, the CONTRACTOR and his Subcontractors. Coverage shall include all materials, supplies and equipment that are intended for specific installation in the Project while such materials, supplies and equipment are located at the Project site, in transit from port of arrival to job site and while temporarily located away from the Project site.

In addition to providing the above coverages the CONTRACTOR shall ensure that Subcontractors provide insurance coverages as noted in clauses a., b., and c. of this subparagraph. Builders Risk Insurance will only be required of subcontractors if so stated in the Supplementary Conditions.

- e. Other Coverages:
As specified in the Supplementary Conditions.

- 5.4.3 In addition to providing the above coverages the Contractor shall, in any contract or agreement with subcontractors performing work, require that all indemnities and waivers of subrogation it obtains, and that any stipulation to be named as an additional insured it obtains, also be extended to waive rights of subrogation against the State of Alaska and to add the State of Alaska as additional named indemnitee and as additional insured.

Evidence of insurance shall be furnished to the Department prior to the award of the contract. Such evidence, executed by the carrier's representative and issued to the Department, shall consist of a certificate of insurance or the policy declaration page with required endorsements attached thereto which denote the type, amount, class of operations covered, effective (and retroactive) dates, and dates of expiration. Acceptance by the Department of deficient evidence does not constitute a waiver of contract requirements.

When a certificate of insurance is furnished, it shall contain the following statement:

"This is to certify that the policies described herein comply with all aspects of the insurance requirements of (Project Name and Number)"

5.5 Indemnification:

The CONTRACTOR shall indemnify, save harmless, and defend the DEPARTMENT, its agents and its employees from any and all claims, actions, or liabilities for injuries or damages sustained by any person or property arising directly or indirectly from the construction or the CONTRACTOR's performance of this Contract; however, this provision has no effect if, but only if, the sole proximate cause of the injury or damage is the DEPARTMENT's negligence.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.1 Supervision of Work:

The CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. All Work under this Contract shall be performed in a skillful and workmanlike manner. The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction.

6.2 Superintendence by CONTRACTOR:

The CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent. The Contracting Officer shall be advised in writing of the superintendent's name, local address, and telephone number. This written advice is to be kept current until Final Acceptance by the DEPARTMENT. The superintendent will be the CONTRACTOR's representative at the site and shall have full authority to act and sign documents on behalf of the CONTRACTOR.

All communications given to the superintendent shall be as binding as if given to the CONTRACTOR. The CONTRACTOR shall cooperate with the Contracting Officer in every way possible.

6.3 Character of Workers:

The CONTRACTOR shall provide a sufficient number of competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. The CONTRACTOR shall at all times maintain good discipline and order at the site. The Contracting Officer may, in writing, require the CONTRACTOR to remove from the Work any employee the Contracting Officer deems incompetent, careless, or otherwise detrimental to the progress of the Work, but the Contracting Officer shall have no duty to exercise this right.

6.4 CONTRACTOR to Furnish:

Unless otherwise specified in the General Requirements, the CONTRACTOR shall furnish and assume full responsibility for all materials, equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance testing, start-up and completion of the Work.

6.5 Materials and Equipment:

All materials and equipment shall be of specified quality and new, except as otherwise provided in the Contract Documents. If required by the Contracting Officer, the CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to the DEPARTMENT or any of the DEPARTMENT's Consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 2.3 or 2.4.

6.6 Anticipated Schedules:

- 6.6.1 Within fourteen (14) calendar days after the date of the Notice to Proceed, the CONTRACTOR shall submit to the Contracting Officer for review an anticipated progress schedule indicating the starting and completion dates of the various stages of the Work. No individual stage of work shall exceed fourteen (14) calendar days.

- 6.6.2 Within twenty one (21) days after the date of the Notice to Proceed, the CONTRACTOR shall submit to the Contracting Officer for review an anticipated schedule of Shop Drawing submissions
- 6.6.3 Prior to submitting the CONTRACTOR's first Application for Payment, the CONTRACTOR shall submit for review and approval:

Anticipated Schedule of Values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by the CONTRACTOR at the time of submission.

6.7 Finalizing Schedules:

Prior to processing the first Application for Payment the Contracting Officer and the CONTRACTOR will finalize schedules required by paragraph 6.6. The finalized progress schedule will be acceptable to the DEPARTMENT as providing information related to the orderly progression of the Work to completion within the Contract Time; but such acceptance will neither impose on the DEPARTMENT nor relieve the CONTRACTOR from full responsibility for the progress or scheduling of the Work. If accepted, the finalized schedule of Shop Drawing and other required submissions will be acknowledgment by the DEPARTMENT as providing a workable arrangement for processing the submissions. If accepted, the finalized Schedule of Values will be acknowledgment by the DEPARTMENT as an approximation of anticipated value of Work accomplished over the anticipated Contract Time. Receipt and acceptance of a schedule submitted by the CONTRACTOR shall not be construed to assign responsibility for performance or contingencies to the DEPARTMENT or relieve the CONTRACTOR of his responsibility to adjust his forces, equipment, and work schedules as may be necessary to insure completion of the Work within prescribed Contract Time. Should the prosecution of the Work be discontinued for any reason, the CONTRACTOR shall notify the Contracting Officer at least 24 hours in advance of resuming operations.

6.8 Adjusting Schedules:

Upon substantial changes to the schedule or upon request the CONTRACTOR shall submit to the Contracting Officer for acceptance (to the extent indicated in paragraph 6.7 and the General Requirements) adjustments in the schedules to reflect the actual present and anticipated progress of the Work.

6.9 Substitutes or "Or-Equal" Items:

- 6.9.1 Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that substitution is limited or not permitted, materials or equipment of other Suppliers may be accepted by the Contracting Officer only if sufficient information is submitted by the CONTRACTOR which clearly demonstrates to the Contracting Officer that the material or equipment proposed is equivalent or equal in all aspects to that named. The procedure for review by the Contracting Officer will include the following as supplemented in the General Requirements.
- 6.9.2 Requests for review of substitute items of material and equipment will not be accepted by the Contracting Officer from anyone other than the CONTRACTOR.

- 6.9.3 If the CONTRACTOR wishes to furnish or use a substitute item of material or equipment, the CONTRACTOR shall make written application to the Contracting Officer for Approval thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as the specified. The application will state that the evaluation and Approval of the proposed substitute will not delay the CONTRACTOR's timely achievement of Substantial or Final Completion, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with the DEPARTMENT for Work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty.
- 6.9.4 All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by the DEPARTMENT in evaluating the proposed substitute. The DEPARTMENT may require the CONTRACTOR to furnish at the CONTRACTOR's expense additional data about the proposed substitute. The Contracting Officer may reject any substitution request which the Contracting Officer determines is not in the best interest of the DEPARTMENT.
- 6.9.5 Substitutions shall be permitted during or after the bid period as allowed and in accordance with Document 00020 - Invitation for Bids, Document 00700 – General Conditions, and Document 01630 - Product Options and Substitutions.

6.10 Substitute Means and Methods:

If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, the CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to the Contracting Officer, if the CONTRACTOR submits sufficient information to allow the Contracting Officer to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by the Contracting Officer will be similar to that provided in paragraph 6.9 as applied by the Contracting Officer and as may be supplemented in the General Requirements.

6.11 Evaluation of Substitution:

The Contracting Officer will be allowed a reasonable time within which to evaluate each proposed substitute. The Contracting Officer will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without the Contracting Officer's prior written Approval which will be evidenced by either a Change Order or a Shop Drawing Approved in accordance with Sections 6.20 and 6.21. The Contracting Officer may require the CONTRACTOR to furnish at the CONTRACTOR's expense a special performance guarantee or other Surety with respect to any substitute.

6.12 Dividing the Work:

The divisions and sections of the Specifications and the identifications of any Drawings shall not control the CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

6.13 Subcontractors:

The CONTRACTOR may utilize the services of appropriately licensed Subcontractors on those parts of the Work which, under normal contracting practices, are performed by Subcontractors, in accordance with the following conditions:

- 6.13.1 The CONTRACTOR shall not award any Work to any Subcontractor without prior written Approval of the Contracting Officer. This Approval will not be given until the CONTRACTOR submits to the Contracting Officer a written statement concerning the proposed award to the Subcontractor which shall contain required Equal Employment Opportunity documents, evidence of insurance whose limits are acceptable to the CONTRACTOR, and an executed copy of the subcontract. All subcontracts shall contain provisions for prompt payment, release of retainage, and interest on late payment amounts and retainage as specified in A.S. 36.90.210. Contracts between subcontractors, regardless of tier, must also contain these provisions. No acceptance by the Contracting Officer of any such Subcontractor shall constitute a waiver of any right of the DEPARTMENT to reject Defective Work.
- 6.13.2 The CONTRACTOR shall be fully responsible to the DEPARTMENT for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions.
- 6.13.3 All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate written agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the DEPARTMENT and contains waiver provisions as required by paragraph 13.17 and termination provisions as required by Article 14.
- 6.13.4 Nothing in the Contract Documents shall create any contractual relationship between the DEPARTMENT and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of the DEPARTMENT to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Regulatory Requirements. The DEPARTMENT will not undertake to settle any differences between or among the CONTRACTOR, Subcontractors, or Suppliers.
- 6.13.5 The CONTRACTOR and Subcontractors shall coordinate their work and cooperate with other trades so to facilitate general progress of Work. Each trade shall afford other trades every reasonable opportunity for installation of their work and storage of materials. If cooperative work of one trade must be altered due to lack of proper supervision, or failure to make proper provisions in time by another trade, such conditions shall be remedied by the CONTRACTOR with no change in Contract Price or Contract Time.
- 6.13.6 The CONTRACTOR shall include on his own payrolls any person or persons working on this Contract who are not covered by written subcontract, and shall ensure that all Subcontractors include on their payrolls all persons performing Work under the direction of the Subcontractor.

6.14 Use of Premises:

The CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project limits and approved remote storage sites and lands and areas identified in and permitted by Regulatory Requirements, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. The CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against the DEPARTMENT by any such owner or occupant because of the performance of the Work, the CONTRACTOR shall hold the DEPARTMENT harmless.

6.15 Structural Loading:

The CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall the CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.16 Record Documents:

The CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Directives, Change Orders, Supplemental Agreements, and written interpretations and clarifications (issued pursuant to paragraph 3.6) in good order and annotated to show all changes made during construction. These record documents together with all Approved samples and a counterpart of all Approved Shop Drawings will be available to the Contracting Officer for reference and copying. Upon completion of the Work, the annotated record documents, samples and Shop Drawings will be delivered to the Contracting Officer. Record documents shall accurately record variations in the Work which vary from requirements shown or indicated in the Contract Documents.

6.17 Safety and Protection:

The CONTRACTOR alone shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

- 6.17.1 All employees on the Work and other persons and organizations who may be affected thereby;
- 6.17.2 All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
- 6.17.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation or replacement in the course of construction.

The CONTRACTOR shall comply with all applicable Regulatory Requirements of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The CONTRACTOR shall notify owners of adjacent property and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by the CONTRACTOR with no change in Contract Price or Contract Time except as stated in 4.6, except damage or loss attributable to unforeseeable causes beyond the control of and without the fault or negligence of the CONTRACTOR, including but not restricted to acts of God, of the public enemy or governmental authorities. The CONTRACTOR's duties and responsibilities for the safety and protection of the Work shall continue until Final Acceptance (except as otherwise expressly provided in connection with Substantial Completion).

6.18 Safety Representative:

The CONTRACTOR shall designate a responsible safety representative at the site. This person shall be the CONTRACTOR's superintendent unless otherwise designated in writing by the CONTRACTOR to the Contracting Officer.

6.19 Emergencies:

In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the DEPARTMENT, is obligated to act to prevent threatened damage, injury or loss. The CONTRACTOR shall give the Contracting Officer prompt written notice if the CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If the DEPARTMENT determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a change will be authorized by one of the methods indicated in Paragraph 9.2, as determined appropriate by the Contracting Officer.

6.20 Shop Drawings and Samples:

- 6.20.1 After checking and verifying all field measurements and after complying with applicable procedures specified in the General Requirements, the CONTRACTOR shall submit to the Contracting Officer for review and Approval in accordance with the accepted schedule of Shop Drawing submissions the required number of all Shop Drawings, which will bear a stamp or specific written indication that the CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission. All submissions will be identified as the Contracting Officer may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable the Contracting Officer to review the information as required.
- 6.20.2 The CONTRACTOR shall also submit to the Contracting Officer for review and Approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that the CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.
- 6.20.3 Before submission of each Shop Drawing or sample the CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.
- 6.20.4 At the time of each submission the CONTRACTOR shall give the Contracting Officer specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to the Contracting Officer for review and Approval of each such variation. All variations of the proposed Shop Drawing from that specified will be identified in the submission and available maintenance, repair and replacement service will be indicated. The submittal will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such variation, including costs of redesign and claims of other Contractors affected by the resulting change, all of which shall be considered by the DEPARTMENT in evaluating the proposed variation. If the variation may result in a change of Contract Time or Price, or Contract responsibility, and is not minor in nature; the CONTRACTOR must submit a written request for Change Order with the variation to notify the DEPARTMENT of his intent. The DEPARTMENT may require the CONTRACTOR to furnish at the CONTRACTOR's expense additional data about the proposed variation. The Contracting Officer may reject any variation request which the Contracting Officer determines is not in the best interest of the DEPARTMENT.

6.21 Shop Drawing and Sample Review:

- 6.21.1 The Contracting Officer will review with reasonable promptness Shop Drawings and samples, but the Contracting Officer's review will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review of a separate item as such will not indicate acceptance of the assembly in which the item functions. The CONTRACTOR shall make corrections required by the Contracting Officer and shall return the required number of corrected copies of Shop Drawings and submit as required new samples for review. The CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by the Contracting Officer on previous submittals.
- 6.21.2 The Contracting Officer's review of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless the CONTRACTOR has in writing advised the Contracting Officer of each such variation at the time of submission as required by paragraph 6.20.4. The Contracting Officer if he so determines, may give written Approval of each such variation by Change Order, except that, if the variation is minor and no Change Order has been requested a

specific written notation thereof incorporated in or accompanying the Shop Drawing or sample review comments shall suffice as a modification. Approval by the Contracting Officer will not relieve the CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 6.20.3.

- 6.21.3 The DEPARTMENT shall be responsible for all DEPARTMENT review costs resulting from the initial submission and the first resubmittal. The CONTRACTOR shall, at the discretion of the Contracting Agency, pay all review costs incurred by the DEPARTMENT as a result of any additional re-submittals.
- 6.21.4 Where a Shop Drawing or sample is required by the Specifications, any related Work performed prior to the Contracting Officer's review and Approval of the pertinent submission will be the sole expense and responsibility of the CONTRACTOR.

6.22 Maintenance During Construction:

The CONTRACTOR shall maintain the Work during construction and until Substantial Completion, at which time the responsibility for maintenance shall be established in accordance with paragraph 13.10.

6.23 Continuing the Work:

The CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with the DEPARTMENT. No Work shall be delayed or postponed pending resolution of any disputes, disagreements, or claims except as the CONTRACTOR and the Contracting Officer may otherwise agree in writing.

6.24 Consent to Assignment:

The CONTRACTOR shall obtain the prior written consent of the Contracting Officer to any proposed assignment of any interest in, or part of this Contract. The consent to any assignment or transfer shall not operate to relieve the CONTRACTOR or his Sureties of any of his or its obligations under this Contract or the Performance Bonds. Nothing herein contained shall be construed to hinder, prevent, or affect an assignment of monies due, or to become due hereunder, made for the benefit of the CONTRACTOR's creditors pursuant to law.

6.25 Use of Explosives:

- 6.25.1 When the use of explosives is necessary for the prosecution of the Work, the CONTRACTOR shall exercise the utmost care not to endanger life or property, including new Work and shall follow all Regulatory Requirements applicable to the use of explosives. The CONTRACTOR shall be responsible for all damage resulting from the use of explosives.
- 6.25.2 All explosives shall be stored in a secure manner in compliance with all Regulatory Requirements, and all such storage places shall be clearly marked. Where no Regulatory Requirements apply, safe storage shall be provided not closer than 1,000 feet from any building, camping area, or place of human occupancy.
- 6.25.3 The CONTRACTOR shall notify each public utility owner having structures in proximity to the site of his intention to use explosives. Such notice shall be given sufficiently in advance to enable utility owners to take such steps as they may deem necessary to protect their property from injury. However, the CONTRACTOR shall be responsible for all damage resulting from the use of the explosives, whether or not, utility owners act to protect their property.

6.26 CONTRACTOR's Records:

- 6.26.1 Records of the CONTRACTOR and Subcontractors relating to personnel, payrolls, invoices of materials, and any and all other data relevant to the performance of this Contract, must be kept on a generally recognized accounting system. Such records must be available during normal work hours to the Contracting Officer for purposes of investigation to ascertain compliance with Regulatory Requirements and provisions of the Contract

Documents.

- 6.26.2 Payroll records must contain the name and address of each employee, his correct classification, rate of pay, daily and weekly number of hours of work, deductions made, and actual wages paid. The CONTRACTOR and Subcontractors shall make employment records available for inspection by the Contracting Officer and representatives of the U.S. and/or State Department of Labor and will permit such representatives to interview employees during working hours on the Project.
- 6.26.3 Records of all communications between the DEPARTMENT and the CONTRACTOR and other parties, where such communications affected performance of this Contract, must be kept by the CONTRACTOR and maintained for a period of three years from Final Acceptance. The DEPARTMENT or its assigned representative may perform an audit of these records during normal work hours after written notice to the CONTRACTOR.
- 6.27 Load Restrictions

The CONTRACTOR shall comply with all load restrictions as set forth in the "Administrative Permit Manual", and Title 17, Chapter 25, of the Alaska Administrative Code in the hauling of materials on public roads, beyond the limits of the project, and on all public roads within the project limits that are scheduled to remain in use upon completion of the project.

Overload permits may, at the discretion of the State, be issued for travel beyond the project limits for purposes of mobilization and/or demobilization. Issuance of such a permit will not relieve the CONTRACTOR of liability for damage which may result from the moving of equipment.

The operation of equipment of such weight or so loaded as to cause damage to any type of construction will not be permitted. No overloads will be permitted on the base course or surface course under construction. No loads will be permitted on a concrete pavement, base or structure before the expiration of the curing period. The CONTRACTOR shall be responsible for all damage done by his equipment.

ARTICLE 7 - LAWS AND REGULATIONS

7.1 Laws to be Observed

The CONTRACTOR shall keep fully informed of all federal and state Regulatory Requirements and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the Work, or which in any way affect the conduct of the Work. The CONTRACTOR shall at all times observe and comply with all such Regulatory Requirements, orders and decrees; and shall protect and indemnify the DEPARTMENT and its representatives against claim or liability arising from or based on the violation of any such Regulatory Requirement, order, or decree whether by the CONTRACTOR, Subcontractor, or any employee of either. Except where otherwise expressly required by applicable Regulatory Requirements, the DEPARTMENT shall not be responsible for monitoring CONTRACTOR's compliance with any Regulatory Requirements.

7.2 Permits, Licenses, and Taxes

- 7.2.1 The CONTRACTOR shall procure all permits and licenses, pay all charges, fees and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the Work. As a condition of performance of this Contract, the CONTRACTOR shall pay all federal, state and local taxes incurred by the CONTRACTOR, in the performance of this Contract. Proof of payment of these taxes is a condition precedent to final payment by the DEPARTMENT under this Contract.
- 7.2.2 The CONTRACTOR's certification that taxes have been paid (as contained in the *Release of Contract*) will be verified with the Department of Revenue and Department of Labor, prior to final payment.
- 7.2.3 If any federal, state or local tax is imposed, charged, or repealed after the date of bid opening and is made applicable to and paid by the CONTRACTOR on the articles or supplies herein contracted for, then the Contract shall be increased or decreased accordingly by a Change Order.

7.3 Patented Devices, Materials and Processes

If the CONTRACTOR employs any design, device, material, or process covered by letters of patent, trademark or copyright, the CONTRACTOR shall provide for such use by suitable legal agreement with the patentee or owner. The CONTRACTOR and the Surety shall indemnify and save harmless the DEPARTMENT, any affected third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the DEPARTMENT for any costs, expenses, and damages which it may be obliged to pay by reason of any infringement, at any time during the prosecution or after the completion of the Work.

7.4 Compliance of Specifications and Drawings:

If the CONTRACTOR observes that the Specifications and Drawings supplied by the DEPARTMENT are at variance with any Regulatory Requirements, CONTRACTOR shall give the Contracting Officer prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in paragraph 9.2. as determined appropriate by the Contracting Officer. If the CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Regulatory Requirements, and without such notice to the Contracting Officer, the CONTRACTOR shall bear all costs arising therefrom; however, it shall not be the CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings supplied by the DEPARTMENT are in accordance with such Regulatory Requirements.

7.5 Accident Prevention:

The CONTRACTOR shall comply with AS 18.60.075 and all pertinent provisions of the Construction Code Occupational Safety and Health Standards issued by the Alaska Department of Labor.

7.6 Sanitary Provisions:

The CONTRACTOR shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees and DEPARTMENT representatives as may be necessary to comply with the requirements of the State and local Boards of Health, or of other bodies or tribunals having jurisdiction.

7.7 Business Registration:

Comply with AS 08.18.011, as follows: "it is unlawful for a person to submit a bid or work as a contractor until he has been issued a certificate of registration by the Department of Commerce. A partnership or joint venture shall be considered registered if one of the general partners or venturers whose name appears in the name under which the partnership or venture does business is registered."

7.8 Professional Registration and Certification:

All craft trades, architects, engineers and land surveyors, electrical administrators, and explosive handlers employed under the Contract shall specifically comply with applicable provisions of AS 08.18, 08.48, 08.40, and 08.52. Provide copies of individual licenses within seven days following a request from the Contracting Officer.

7.9 Local Building Codes:

The CONTRACTOR shall comply with AS 35.10.025 which requires construction in accordance with applicable local building codes to include the obtaining of required permits.

7.10 Air Quality Control:

The CONTRACTOR shall comply with all applicable provisions of AS 46.03.04 as pertains to Air Pollution Control.

7.11 Archaeological or Paleontological Discoveries:

When the CONTRACTOR's operation encounters prehistoric artifacts, burials, remains of dwelling sites, or paleontological remains, such as shell heaps, land or sea mammal bones or tusks, the CONTRACTOR shall cease operations immediately and notify the Contracting Officer. No artifacts or specimens shall be further disturbed or removed from the ground and no further operations shall be performed at the site until so directed. Should the Contracting Officer order suspension of the CONTRACTOR's operations in order to protect an archaeological or historical finding, or order the CONTRACTOR to perform extra Work, such shall be covered by an appropriate Contract change document.

7.12 Applicable Alaska Preferences:

- 7.12.1 In determining the low bidder for State funded projects, a 5% bid preference has been given to "Alaska bidders", as required under AS 36.30.170. "Alaska bidder" means a person who:
- (1) holds a current Alaska business license;
 - (2) submits a bid for goods, services, or construction under the name as appearing on the person's current Alaska business license
 - (3) has maintained a place of business within the state staffed by the bidder or an employee of the bidder for a period of six months immediately preceding the date of the bid;
 - (4) is incorporated or qualified to do business under the laws of the state, is a sole proprietorship, and the proprietor is a resident of the state or is a partnership, and all partners are residents of the state; and
 - (5) if a joint venture, is composed entirely of ventures that qualify under (1) through (4), above.
- 7.12.2 In determining the low bidder for State funded projects, an "Alaska products" preference has been given as required under AS 36.30.326 - 36.30.332, when the bidder designates the use of Alaska products. The Bidder shall complete the Alaska Products Preference Worksheet per its instructions and submit it with the Bid

Proposal. If the successful Bidder/CONTRACTOR proposes to use an Alaska product and does not do so, a penalty will be assessed against the successful Bidder/CONTRACTOR in an amount equal to the product preference percentage granted to the successful Bidder/CONTRACTOR plus one percent multiplied by the total declared value of the Alaska products proposed but not used.

- 7.12.3 Pursuant to AS 36.15.050 and AS 36.30.322, "agricultural/wood" products harvested in Alaska shall be used in State funded projects whenever they are priced no more than seven percent above agricultural/wood products harvested outside the state and are of a like quality as compared with agricultural/wood products harvested outside the state, when such products are not utilized, the CONTRACTOR shall document the efforts he made towards obtaining agricultural/wood products harvested in Alaska and include in this documentation a written statement that he contacted the manufacturers and suppliers identified on the Department of Commerce and Economic Development's list of suppliers of Alaska forest products concerning the availability of agricultural/wood products harvested in Alaska and, if available, the product prices. The CONTRACTOR's use of agricultural/wood products that fail to meet the requirements of this section shall be subject to the provisions of paragraphs 12.6 through 12.9 relating to Defective Work.
- 7.12.4 The CONTRACTOR shall maintain records, in a format acceptable to the Contracting Officer, which establish the type and extent of "agricultural/wood" and "Alaska" products utilized. All record keeping and documentation associated with the requirements 7.12.2 and 7.12.3 of this paragraph, must be provided to the DEPARTMENT upon written request or as otherwise provided within the Contract Documents.

7.13 Wages and Hours of Labor:

- 7.13.1 One certified copy of all payrolls shall be submitted weekly to the State Department of Labor and, upon request, to the Contracting Officer to assure to assure compliance with AS 36.05.040, *Filing Schedule of Employees Wages Paid and Other Information*. The CONTRACTOR shall be responsible for the submission of certified copies of payrolls of all Subcontractors. The certification shall affirm that the payrolls are current and complete, that the wage rates contained therein are not less than the applicable rates referenced in these Contract Documents, and that the classification set forth for each laborer or mechanic conforms with the Work he performed. The CONTRACTOR and his Subcontractors shall attend all hearings and conferences and produce such books, papers, and documents all as requested by the Department of Labor. Should federal funds be involved, the appropriate federal agency shall also receive a copy of the CONTRACTOR's certified payrolls. Regardless of project funding source, copies of all certified payrolls supplied to the State Department of Labor by the CONTRACTOR shall be supplied also to the Project Manager upon request, including submittals made by, or on behalf of, subcontractors.
- 7.13.2 The following labor provisions shall also apply to this Contract:
- a. The CONTRACTOR and his Subcontractors shall pay all employees unconditionally and not less than once a week;
 - b. wages may not be less than those stated under AS 36.05.010, regardless of the contractual relationship between the CONTRACTOR or Subcontractors and laborers, mechanics, or field surveyors;
 - c. the scale of wages to be paid shall be posted by the CONTRACTOR in a prominent and easily accessible place at the site of the Work;
 - d. the DEPARTMENT shall withhold so much of the accrued payments as is necessary to pay to laborers, mechanics, or field surveyors employed by the CONTRACTOR or Subcontractors the difference between
 1. the rates of wages required by the Contract to be paid laborers, mechanics, or field surveyors on the Work, and
 2. the rates of wages in fact received by laborers, mechanics or field surveyors.

- 7.13.3 Within three calendar days of award of a construction contract, the CONTRACTOR shall file a "Notice of Work" with the Department of Labor and shall pay all related fees. The Contracting Officer will not issue Notice to Proceed to the CONTRACTOR until such notice and fees have been paid to the State Department of Labor. Failure of the CONTRACTOR to file the Notice of Work and pay fees within this timeframe shall not constitute grounds for an extension of contract time or adjustment of contract price.

7.14 Overtime Work Hours and Compensation:

Pursuant to 40 U.S.C. 327-330 and AS 23.10.060 -.110, the CONTRACTOR shall not require nor permit any laborer or mechanic in any workweek in which he is employed on any Work under this Contract to work in excess of eight hours in any Calendar Day or in excess of forty hours in such workweek on Work subject to the provisions of the *Contract Work Hours and Safety Standards Act* unless such laborer or mechanic receives compensation at a rate not less than one and one half times his basic rate of pay for all such hours worked in excess of eight hours in any Calendar Day or in excess of forty hours in such workweek whichever is the greater number of overtime hours. In the event of any violation of this provision, the CONTRACTOR shall be liable to any affected employee for any amounts due and penalties and to the DEPARTMENT for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of this provision in the sum of \$10.00 for each Calendar Day on which such employee was required or permitted to be employed on such Work in excess of eight hours or in excess of the standard workweek of forty hours without payment of the overtime wages required by this paragraph.

ARTICLE 8 - OTHER WORK

8.1 Related Work at Site:

- 8.1.1 The DEPARTMENT reserves the right at any time to contract for and perform other or additional work on or near the Work covered by the Contract.
- 8.1.2 When separate contracts are let within the limits of the Project, the CONTRACTOR shall conduct his Work so as not to interfere with or hinder the work being performed by other contractors. The CONTRACTOR when working on the same Project with other contractors shall cooperate with such other contractors. The CONTRACTOR shall join his Work with that of the others in an acceptable manner and shall perform it in proper sequence to that of others.
- 8.1.3 If the fact that other such work is to be performed is identified or shown in the Contract Documents the CONTRACTOR shall assume all liability, financial or otherwise, in connection with this Contract and indemnify and save harmless the DEPARTMENT from any and all damages or claims that may arise because of inconvenience, delay, or loss experienced by the CONTRACTOR because of the presence and operations of other contractors.
- 8.1.4 If the fact that such other work is to be performed was not identified or shown in the Contract Documents, written notice thereof will be given to the CONTRACTOR prior to starting any such other work. If the CONTRACTOR believes that such performance will require an increase in Contract Price or Contract Time, the CONTRACTOR shall notify the Contracting Officer of such required increase within fifteen (15) calendar days following receipt of the Contracting Officer's notice. Should the Contracting Officer find such increase(s) to be justified, a Change Order will be executed.

8.2 Access, Cutting, and Patching:

The CONTRACTOR shall afford each utility owner and any other contractor who is a party to such a direct contract with the DEPARTMENT (or the DEPARTMENT, if the DEPARTMENT is performing the additional work with the DEPARTMENT's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with the work of others. The CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work, the CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter such other work with the written consent of the Contracting Officer. The duties and responsibilities of the CONTRACTOR under this paragraph are for the benefit of other contractors to the extent that there are comparable provisions for the benefit of the CONTRACTOR in said direct contracts between the DEPARTMENT and other contractors.

8.3 Defective Work by Others:

If any part of the CONTRACTOR's Work depends for proper execution or results upon the work of any such other contractor, utility owner, or the DEPARTMENT, the CONTRACTOR shall inspect and promptly report to the Contracting Officer in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. The CONTRACTOR's failure to so report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR's Work except for latent or nonapparent defects and deficiencies in the other work.

8.4 Coordination:

If the DEPARTMENT contracts with others for the performance of other work at the site, Contracting Officer will have authority and responsibility for coordination of the activities among the various prime contractors.

ARTICLE 9 - CHANGES

9.1 DEPARTMENT's Right to Change:

Without invalidating the Contract and without notice to any Surety, the DEPARTMENT may, at any time or from time to time, order additions, deletions or revisions in the Work within the general scope of the Contract, including but not limited to changes:

- 9.1.1 In the Contract Documents;
- 9.1.2 In the method or manner of performance of the Work;
- 9.1.3 In State-furnished facilities, equipment, materials, services, or site;
- 9.1.4 Directing acceleration in the performance of the Work.

9.2 Authorization of Changes within the General Scope:

Additions, deletions, or revisions in the Work within the general scope of the Contract as specified in 9.1 shall be authorized by one or more of following ways:

- 9.2.1 Directive (pursuant to paragraph 9.3)
- 9.2.2 A Change Order (pursuant to paragraph 9.4)
- 9.2.3 DEPARTMENT's acceptance of Shop Drawing variations from the Contract Documents as specifically identified by the CONTRACTOR as required by paragraph 6.20.4.

9.3 Directive:

- 9.3.1 The Contracting Officer shall provide written clarification or interpretation of the Contract Documents (pursuant to paragraph 3.6).
- 9.3.2 The Contracting Officer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents.
- 9.3.3 The Contracting Officer may order the Contractor to correct Defective Work or methods which are not in conformance with the Contract Documents.
- 9.3.4 The Contracting Officer may direct the commencement or suspension of Work or emergency related Work (as provided in paragraph 6.19).
- 9.3.5 Upon the issuance of a Directive to the CONTRACTOR by the Contracting Officer, the CONTRACTOR shall proceed with the performance of the Work as prescribed by such Directive.
- 9.3.6 If the CONTRACTOR believes that the changes noted in a Directive may cause an increase in the Contract Price or an extension of Contract Time, the CONTRACTOR shall immediately provide written notice to the Contracting Officer depicting such increases before proceeding with the Directive, except in the case of an emergency. If the Contracting Officer finds the increase in Contract Price or the extension of Contract Time justified, a Change Order will be issued. If however, the Contracting Officer does not find that a Change Order is justified, the Contracting Officer may direct the CONTRACTOR to proceed with the Work. The CONTRACTOR shall cooperate with the Contracting Officer in keeping complete daily records of the cost of such Work. If a Change Order is ultimately determined to be justified, in the absence of agreed prices and unit prices, payment for such Work will be made on a "cost of the work basis" as provided in 10.4

9.4 Change Order:

A change in Contract Time, Contract Price, or responsibility may be made for changes within the scope of the Work by Change Order. Upon receipt of an executed Change Order, the CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents except as otherwise specifically provided. Changes in Contract Price and Contract Time shall be made in accordance with Articles 10 and 11. A Change Order shall be considered executed when it is signed by the DEPARTMENT.

9.5 Shop Drawing Variations:

Variations by shop drawings shall only be eligible for consideration under 9.4 when the conditions affecting the price, time, or responsibility are identified by the CONTRACTOR in writing and a request for a Change Order is submitted as per 6.20.4.

9.6 Changes Outside the General Scope; Supplemental Agreement:

Any change which is outside the general scope of the Contract, as determined by the Contracting Officer, must be authorized by a Supplemental Agreement signed by the appropriate representatives of the DEPARTMENT and the CONTRACTOR.

9.7 Unauthorized Work:

The CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in this Article 9, except in the case of an emergency as provided in paragraph 6.19 and except in the case of uncovering Work as provided in paragraph 12.4.2.

9.8 Notification of Surety:

If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any bond to be given to a Surety, the giving of any such notice will be the CONTRACTOR's responsibility, and the amount of each applicable bond will be adjusted accordingly.

9.9 Differing Site Conditions:

- 9.9.1 The CONTRACTOR shall promptly, and before such conditions are disturbed (except in an emergency as permitted by paragraph 6.19), notify the Contracting Officer in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in the Contract, and which could not have been discovered by a careful examination of the site, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract. The Contracting Officer shall promptly investigate the conditions, and if the Contracting Officer finds that such conditions do materially so differ and cause an increase or decrease in the CONTRACTOR's cost of, or time required for, performance of this Contract, an adjustment shall be made and the Contract modified in writing accordingly. An adjustment in compensation shall be computed under Article 10.
- 9.9.2 Any claim for additional compensation by the CONTRACTOR under this clause shall be made in accordance with Article 15. In the event that the Contracting Officer and the CONTRACTOR are unable to reach an agreement concerning an alleged differing site condition, the CONTRACTOR will be required to keep an accurate and detailed record which will indicate the actual "cost of the work" done under the alleged differing site condition. Failure to keep such a record shall be a bar to any recovery by reason of such alleged differing site conditions. The Contracting Officer shall be given the opportunity to supervise and check the keeping of such records.

9.10 Interim Work Authorization:

An Interim Work Authorization may be used to establish a change within the scope of the Work; however, only a Change Order shall establish associated changes in Contract Time and Price. Work authorized by Interim Work Authorization shall be converted to a Change Order. The basis of payment shall be as stated in the Interim Work Authorization, unless it states that the basis of payment has not been established and is to be negotiated, in which case the Cost of the Work shall be documented pursuant to Article 10.4, to establish a basis for negotiating a lump sum price for the Change Order.

ARTICLE 10 - CONTRACT PRICE; COMPUTATION AND CHANGE

10.1 Contract Price:

The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to the CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the CONTRACTOR shall be at his expense without change in the Contract Price. The Contract Price may only be changed by a Change Order or Supplemental Agreement.

10.2 Claim for Price Change:

Any claim for an increase or decrease in the Contract Price shall be submitted in accordance with the terms of Article 15, and shall not be allowed unless notice requirements of this Contract have been met.

10.3 Change Order Price Determination:

The value of any Work covered by a Change Order for an increase or decrease in the Contract Price shall be determined in one of the following ways:

- 10.3.1 Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved (subject to the provisions of subparagraphs 10.9.1 through 10.9.3, inclusive).
- 10.3.2 By mutual acceptance of a lump sum (fixed price) which includes overhead and profit. The lump sum (fixed price) shall be negotiated on the basis of the estimated "cost of the work" in accordance with Articles 10.4 and 10.5. The following maximum rates of cost markup (to cover both overhead and profit of the CONTRACTOR) shall be used in the negotiation of a Lump Sum Change Order:
 - a. For costs incurred under paragraphs 10.4.1 and 10.4.2, the CONTRACTOR's fee shall be twenty percent;
 - b. For costs incurred under paragraph 10.4.3, the CONTRACTOR's fee shall be ten percent; and if a subcontract is on the basis of "cost of the work" plus a fee, the maximum allowable to CONTRACTOR on account of overhead and profit for itself and all Subcontractors and multiple tiers thereof shall be fifteen percent of the cost incurred by the subcontractor actually performing the work;
 - c. No fee shall be payable on the basis of costs itemized under paragraphs 10.4.4, 10.4.5 and 10.5;
 - d. The amount of credit to be allowed by the CONTRACTOR to the DEPARTMENT for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR's fee by an amount equal to twenty percent of the net decrease; and
 - e. When both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 10.3.2.a through 10.3.2.d, inclusive
- 10.3.3 When 10.3.1 and 10.3.2 are inapplicable, on the basis of the "cost of the work" (determined as provided in paragraphs 10.4 and 10.5) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 10.6).
- 10.3.4 Before a Change Order or Supplemental Agreement is Approved, the CONTRACTOR shall submit cost or pricing data regarding the changed or extra Work. The CONTRACTOR shall certify that the data submitted is, to his best knowledge and belief, accurate, complete and current as of a mutually determined specified date and that such data will continue to be accurate and complete during the performance of the changed or extra Work.

10.4 Cost of the Work:

The term "cost of the work" means the sum of all costs necessarily incurred and paid by the CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by the DEPARTMENT, such costs shall be in amount no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in subparagraph 10.5:

- 10.4.1 Payroll costs for employees in the direct employ of the CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by the DEPARTMENT and the CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include manual workers up through the level of foreman but shall not include general foremen, superintendents, and non-manual employees. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by the DEPARTMENT.
- 10.4.2 Cost of all materials and equipment furnished and incorporated or consumed in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to the CONTRACTOR unless the DEPARTMENT deposits funds with the CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to the DEPARTMENT. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to the DEPARTMENT, and the CONTRACTOR shall make provisions so that they may be obtained.
- 10.4.3 Payments made by the CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by the DEPARTMENT, CONTRACTOR shall obtain competitive quotes from Subcontractors or Suppliers acceptable to the CONTRACTOR and shall deliver such quotes to the DEPARTMENT who will then determine which quotes will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of "cost of the work" plus a fee, the Subcontractor's "cost of the work" shall be determined in the same manner as the CONTRACTOR's "cost of work" as described in paragraphs 10.4 through 10.5; and the Subcontractor's fee shall be established as provided for under subparagraph 10.6.2 clause b. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.
- 10.4.4 Costs of special consultants (including but not limited to engineers, architects, testing laboratories, and surveyors) employed for services necessary for the completion of the Work.
- 10.4.5 Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel and subsistence expenses of the CONTRACTOR's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of the CONTRACTOR.
 - c. Rentals of all construction equipment and machinery and the parts thereof whether rented from the CONTRACTOR or others in accordance with rental agreements Approved by the DEPARTMENT and the costs of transportation, loading, unloading, installation, dismantling and removal thereof - all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

For any machinery or special equipment (other than small tools) which has been authorized by the Project

Manager, the CONTRACTOR shall receive the rental rates in the current edition and appropriate volume of the "Rental Rate Blue Book for Construction Equipment", published by Dataquest, Inc., 1290 Ridder Park Drive, San Jose, CA 95131. Hourly rental rates shall be determined as follows:

The established hourly rental rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 176, and multiplied by the area adjustment factor, plus the estimated hourly operating cost.

The adjusted monthly rate is that resulting from application of the rate adjustment formula in order to eliminate replacement cost allowances in machine depreciation and contingency cost allowances.

Attachments shall not be included unless required for the time and materials work.

For equipment not listed in The Blue Book, the CONTRACTOR shall receive a rental rate as agreed upon before such work is begun. If agreement cannot be reached, the DEPARTMENT reserves the right to establish a rate based on similar equipment in the Blue Book or prevailing commercial rates in the area.

These rates shall apply for equipment used during the CONTRACTOR's regular shift of 10 hours per day. Where the equipment is used more than 10 hours per day, either on the CONTRACTOR's normal work or on time and materials, and either on single or multiple shifts, an overtime rate, computed as follows, shall apply:

The hourly overtime rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 352, and multiplied by the area adjustment factor, plus the estimated hourly operating cost.

Equipment which must be rented or leased specifically for work required under this section shall be authorized in writing by the Project Manager. The CONTRACTOR shall be paid invoice price plus 15%.

When it is necessary to obtain equipment from sources beyond the project limits exclusively for time and materials, work, the actual cost of transferring the equipment to the site of the work and return will be allowed as an additional item of expense. Where the move is made by common carrier, the move-in allowance will be limited to the amount of the freight bill or invoice. If the CONTRACTOR hauls the equipment with his own forces, the allowance will be limited to the rental rate for the hauling unit plus operator wages. In the event that the equipment is transferred under its own power, the moving allowance will be limited to one-half of the normal hourly rental rate plus operator's wages. In the event that the move-out is to a different location, payment will in no instance exceed the amount of the move-in. Move-in allowance shall not be made for equipment brought to the project for time and materials work which is subsequently retained on the project and utilized for completion of contract items, camp maintenance, or related work.

Equipment ordered to be on a stand-by basis shall be paid for at the stand-by rental rate for the number of hours in the CONTRACTOR'S normal work shift, but not to exceed 8 hours per day. The stand-by rental rate shall be computed as follows:

The hourly stand-by rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 352, all multiplied by the area adjustment factor.

Time will be recorded to the nearest one-quarter hour for purposes of computing compensation to the CONTRACTOR for equipment utilized under these rates.

The equipment rates as determined above shall be full compensation, including overhead and profit, for providing the required equipment and no additional compensation will be made for other costs such as, but not limited to, fuels, lubricants, replacement parts or maintenance costs. Cost of repairs, both major and minor, as well as charges for mechanic's time utilized in servicing equipment to ready it for use prior to moving to the project and similar charges will not be allowed.

- d. Sales, consumer, use or similar taxes related to the Work, and for which the CONTRACTOR is liable, imposed by Regulatory Requirements.
- e. Deposits lost for causes other than negligence of the CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by the CONTRACTOR in connection with the performance and furnishing of the Work provided they have resulted from causes other than the negligence of the CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and Approval of the DEPARTMENT. No such losses, damages and expenses shall be included in the "cost of the work" for the purpose of determining the CONTRACTOR's fee. If, however, any such loss or damage requires reconstruction and the CONTRACTOR is placed in charge thereof, the CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraphs 10.6.2.a and 10.6.2.b.
- g. The cost of utilities, fuel and sanitary facilities at the site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.
- i. Cost of premiums for additional bonds and insurance required because of changes in the Work and premiums for property insurance coverage within the limits of the deductible amounts established by the DEPARTMENT in accordance with Article 5.

10.5 Excluded Costs:

The term "cost of the work" shall not include any of the following:

- 10.5.1 Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agency, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.4.i or specifically covered by paragraph 10.4.4 all of which are to be considered administrative costs covered by the CONTRACTOR's fee.
- 10.5.2 Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.
- 10.5.3 Any part of CONTRACTOR's capital expenses including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.
- 10.5.4 Cost of premiums for all bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 10.4.5.i above).
- 10.5.5 Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of Defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.
- 10.5.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 10.4.

10.6 CONTRACTOR's Fee:

The CONTRACTOR's fee allowed to CONTRACTOR for overhead and profit shall be determined as follows.

10.6.1 A mutually acceptable fixed fee; or if none can be agreed upon.

10.6.2 A fee based on the following percentages of the various portions of the "cost of the work":

- a. For costs incurred under paragraphs 10.4.1 and 10.4.2, the CONTRACTOR's fee shall be fifteen percent;
- b. For costs incurred under paragraph 10.4.3, the CONTRACTOR's fee shall be ten percent; and if a subcontract is on the basis of "cost of the work" plus a fee, the maximum allowable to CONTRACTOR on account of overhead and profit for itself and all Subcontractors and multiple tiers thereof shall be fifteen percent of the cost incurred by the subcontractor actually performing the work;
- c. No fee shall be payable on the basis of costs itemized under paragraphs 10.4.4, 10.4.5 and 10.5;
- d. The amount of credit to be allowed by the CONTRACTOR to the DEPARTMENT for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR's fee by an amount equal to fifteen percent of the net decrease; and
- e. When both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 10.6.2.a through 10.6.2.d, inclusive.

10.7 Cost Breakdown:

Whenever the cost of any Work is to be determined pursuant to paragraphs 10.4 and 10.5, the CONTRACTOR will submit in a form acceptable to the DEPARTMENT an itemized cost breakdown together with supporting data.

10.8 Cash Allowances:

It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such Subcontractors or Suppliers and for such sums within the limit of the allowances as may be acceptable to the Contracting Officer. CONTRACTOR agrees that:

- 10.8.1 The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and
- 10.8.2 CONTRACTOR's cost for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances. No demand for additional payment on account of any thereof will be valid.

Prior to final payment, an appropriate Change Order will be issued to reflect actual amounts due the CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

10.9 Unit Price Work:

- 10.9.1 Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Contract. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by the CONTRACTOR will be made by the

DEPARTMENT in accordance with paragraph 10.10.

- 10.9.2 Each unit price will be deemed to include an amount considered by the CONTRACTOR to be adequate to cover the CONTRACTOR's overhead and profit for each separately identified item. If the "Basis of Payment" clause in the Contract Documents relating to any unit price in the bid schedule requires that the said unit price cover and be considered compensation for certain work or material essential to the item, this same work or material will not also be measured or paid for under any other pay item which may appear elsewhere in the Contract Documents.
- 10.9.3 Payment to the CONTRACTOR shall be made only for the actual quantities of Work performed and accepted or materials furnished, in conformance with the Contract Documents. When the accepted quantities of Work or materials vary from the quantities stated in the bid schedule, or change documents, the CONTRACTOR shall accept as payment in full, payment at the stated unit prices for the accepted quantities of Work and materials furnished, completed and accepted; except as provided below:
- a. When the quantity of Work to be done or material to be furnished under any item, for which the total cost of the item exceeds 10% of the total Contract Price, is increased by more than 25 percent of the quantity stated in the bid schedule, or change documents, either party to the Contract, upon demand, shall be entitled to an equitable unit price adjustment on that portion of the Work above 125 percent of the quantity stated in the bid schedule.
 - b. When the quantity of Work to be done or material to be furnished under any major item, for which the total cost of the item exceeds 10% of the total Contract Price, is decreased by more than 25 percent of the quantity stated in the bid schedule, or change documents either party to the Contract, upon demand, shall be entitled to an equitable price adjustment for the quantity of Work performed or material furnished, limited to a total payment of not more than 75 percent of the amount originally bid for the item.

10.10 Determinations for Unit Prices:

The Contracting Officer will determine the actual quantities and classifications of Unit Price Work performed by the CONTRACTOR. The Contracting Officer will review with the CONTRACTOR preliminary determinations on such matters before finalizing the costs and quantities on the Schedule of Values. The Contracting Officer's acknowledgment thereof will be final and binding on the CONTRACTOR, unless, within 10 days after the date of any such decisions, the CONTRACTOR delivers to the Contracting Officer written notice of intention to appeal from such a decision.

ARTICLE 11 - CONTRACT TIME; COMPUTATION AND CHANGE

11.1 Commencement of Contract Time; Notice to Proceed:

The Contract Time will commence to run on the day indicated in the Notice to Proceed.

11.2 Starting the Work:

No Work on Contract items shall be performed before the effective date of the Notice to Proceed. The CONTRACTOR shall notify the Contracting Officer at least 24 hours in advance of the time actual construction operations will begin. The CONTRACTOR may request a limited Notice to Proceed after Award has been made, to permit him to order long lead materials which could cause delays in Project completion. However, granting is within the sole discretion of the Contracting Officer, and refusal or failure to grant a limited Notice to Proceed shall not be a basis for claiming for delay, extension of time, or alteration of price.

11.3 Computation of Contract Time:

- 11.3.1 When the Contract Time is specified on a Calendar Day basis, all Work under the Contract shall be completed within the number of Calendar Days specified. The count of Contract Time begins on the day following receipt of the Notice to Proceed by the CONTRACTOR, if no starting day is stipulated therein.

Calendar Days shall continue to be counted against Contract Time until and including the date of Substantial Completion of the Work.

- 11.3.2 When the Contract completion time is specified as a fixed calendar date, it shall be the date of Substantial Completion.

- 11.3.3 The Contract Time shall be as stated on form 25D-9, Proposal.

11.4 Time Change:

The Contract Time may only be changed by a Change Order or Supplemental Agreement.

11.5 Extension Due to Delays:

The right of the CONTRACTOR to proceed shall not be terminated nor the CONTRACTOR charged with liquidated or actual damages because of delays to the completion of the Work due to unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including, but not restricted to the following: acts of God or of the public enemy, acts of the DEPARTMENT in its contractual capacity, acts of another contractor in the performance of a contract with the DEPARTMENT, floods, fires, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather and delays of Subcontractors or Suppliers due to such causes. Any delay in receipt of materials on the site, caused by other than one of the specifically mentioned occurrences above, does not of itself justify a time extension, provided that the CONTRACTOR shall within twenty four (24) hours from the beginning of any such delay (unless the Contracting Officer shall grant a further period of the time prior to the date of final settlement of the Contract), notify the Contracting Officer in writing of the cause of delay. The Contracting Officer shall ascertain the facts and the extent of the delay and extend the time for completing the Work when the findings of fact justify such an extension.

11.6 Essence of Contract:

All time limits stated in the Contract Documents are of the essence of the Contract.

11.7 Reasonable Completion Time:

It is expressly understood and agreed by and between the CONTRACTOR and the DEPARTMENT that the date of

beginning and the time for Substantial Completion of the Work described herein are reasonable times for the completion of the Work.

11.8 Delay Damages:

Whether or not the CONTRACTOR's right to proceed with the Work is terminated, he and his Sureties shall be liable for damages resulting from his refusal or failure to complete the Work within the specified time.

Liquidated and actual damages for delay shall be paid by the CONTRACTOR or his Surety to the DEPARTMENT in the amount as specified in the Supplementary Conditions for each Calendar Day the completion of the Work or any part thereof is delayed beyond the time required by the Contract, or any extension thereof. If a listing of incidents resulting from a delay and expected to give rise to actual or liquidated damages is not established by the Contract Documents, then the CONTRACTOR and his Surety shall be liable to the DEPARTMENT for any actual damages occasioned by such delay. The CONTRACTOR acknowledges that the liquidated damages established herein are not a penalty but rather constitute an estimate of damages that the DEPARTMENT will sustain by reason of delayed completion. These liquidated and actual damages are intended as compensation for losses anticipated to arise, and include those items enumerated in the Supplementary Conditions.

These damages will continue to run both before and after termination in the event of default termination. These liquidated damages do not cover excess costs of completion or DEPARTMENT costs, fees, and charges related to reprocurement. If a default termination occurs, the CONTRACTOR or his Surety shall pay in addition to these damages, all excess costs and expenses related to completion as provided by Article 14.2.5.

ARTICLE 12 - QUALITY ASSURANCE

12.1 Warranty and Guaranty:

The CONTRACTOR warrants and guarantees to the DEPARTMENT that all Work will be in accordance with the Contract Documents and will not be Defective. Prompt notice of all defects shall be given to the CONTRACTOR. All Defective Work, whether or not in place, may be rejected, corrected or accepted as provided for in this article.

12.2 Access to Work:

The DEPARTMENT and the DEPARTMENT's representatives, testing agencies and governmental agencies with jurisdiction interests will have access to the Work at reasonable times for their observation, inspecting and testing. The CONTRACTOR shall provide proper and safe conditions for such access.

12.3 Tests and Inspections:

- 12.3.1 The CONTRACTOR shall give the Contracting Officer timely notice of readiness of the Work for all required inspections, tests or Approvals.
- 12.3.2 If Regulatory Requirements of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approved, the CONTRACTOR shall assume full responsibility therefor, pay all costs in connection therewith and furnish the Contracting Officer the required certificates of inspection, testing or approval. The CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with DEPARTMENT's acceptance of a Supplier of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for Approval prior to the CONTRACTOR's purchase thereof for incorporation in the Work. The cost of all inspections, tests and approvals in addition to the above which are required by the Contract Documents shall be paid by the CONTRACTOR. The DEPARTMENT may perform additional tests and inspections which it deems necessary to insure quality control. All such failed tests or inspections shall be at the CONTRACTOR's expense.
- 12.3.4 If any Work (including the work of others) that is to be inspected, tested or Approved is covered without written concurrence of the Contracting Officer, it must, if requested by the Contracting Officer, be uncovered for observation. Such uncovering shall be at the CONTRACTOR's expense unless the CONTRACTOR has given the Contracting Officer timely notice of CONTRACTOR's intention to cover the same and the Contracting Officer has not acted with reasonable promptness in response to such notice.
- 12.3.5 Neither observations nor inspections, tests or Approvals by the DEPARTMENT or others shall relieve the CONTRACTOR from the CONTRACTOR's obligations to perform the Work in accordance with the Contract Documents.

12.4 Uncovering Work:

- 12.4.1 If any Work is covered contrary to the written request of the Contracting Officer, it must, if requested by the Contracting Officer, be uncovered for the Contracting Officer's observation and replaced at the CONTRACTOR's expense.

- 12.4.2 If the Contracting Officer considers it necessary or advisable that covered Work be observed inspected or tested, the CONTRACTOR, at the Contracting Officer's request, shall uncover, expose or otherwise make available for observation, inspection or testing as the Contracting Officer may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is Defective, the CONTRACTOR shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) and the DEPARTMENT shall be entitled to an appropriate decrease in the Contract Price. If, however, such Work is not found to be Defective, the CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction.

12.5 DEPARTMENT May Stop the Work:

If the Work is Defective, or the CONTRACTOR fails to supply suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, the Contracting Officer may order the CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Contracting Officer to stop the Work shall not give rise to any duty on the part of the Contracting Officer to exercise this right for the benefit of the CONTRACTOR or any other party.

12.6 Correction or Removal of Defective Work:

If required by the Contracting Officer, the CONTRACTOR shall promptly, as directed, either correct all Defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by the Contracting Officer, remove it from the site and replace it with Work which conforms to the requirements of the Contract Documents. The CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

12.7 One Year Correction Period:

If within one year after the date of Substantial Completion of the relevant portion of the work or such longer period of time as may be prescribed by Regulatory Requirements or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be Defective, the CONTRACTOR shall promptly, without cost to the DEPARTMENT and in accordance with the Contracting Officer's written instructions, either correct such Defective Work, or, if it has been rejected by the Contracting Officer, remove it from the site and replace it with conforming Work. If the CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, the DEPARTMENT may have the Defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by the CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service for the benefit of the DEPARTMENT before Substantial Completion of all the Work, the correction period for that item may begin on an earlier date if so provided in the Specifications or by Change Order. Provisions of this paragraph are not intended to shorten the statute of limitations for bringing an action.

12.8 Acceptance of Defective Work:

Instead of requiring correction or removal and replacement of Defective Work, the Contracting Officer may accept Defective Work, the CONTRACTOR shall bear all direct, indirect and consequential costs attributable to the Contracting Officer's evaluation of and determination to accept such Defective Work (costs to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals). If any such acceptance occurs prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and the DEPARTMENT shall be entitled to an appropriate decrease in the Contract Price. If the DEPARTMENT has already made final payment to the CONTRACTOR, an appropriate amount shall be paid by the CONTRACTOR or his Surety to the DEPARTMENT.

12.9 DEPARTMENT May Correct Defective Work:

If the CONTRACTOR fails within a reasonable time after written notice from the Contracting Officer to proceed to correct Defective Work or to remove and replace rejected Work as required by the Contracting Officer in accordance with paragraph 12.6, or if the CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if the CONTRACTOR fails to comply with any other provision of the Contract Documents, the DEPARTMENT may, after 7 days' written notice to the CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph the DEPARTMENT shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, the Contracting Officer may exclude the CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend the CONTRACTOR's services related thereto, take possession of the CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or approved remote storage sites or for which the DEPARTMENT has paid the CONTRACTOR but which are stored elsewhere. The CONTRACTOR shall allow the Contracting Officer and his authorized representatives such access to the site as may be necessary to enable the Contracting Officer to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of the DEPARTMENT in exercising such rights and remedies will be charged against the CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and the DEPARTMENT shall be entitled to an appropriate decrease in the Contract Price. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court and arbitration costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of the CONTRACTOR's Defective Work. The CONTRACTOR shall not be allowed an extension of time because of any delay in performance of the work attributable to the exercise, by the Contracting Officer, of the DEPARTMENT's rights and remedies hereunder.

ARTICLE 13 - PAYMENTS TO CONTRACTOR AND COMPLETION

13.1 Schedule of Values:

The Schedule of Values established as provided in paragraph 6.6 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to the Contracting Officer. Progress payments on account of Unit Price Work will be based on the number of units completed.

13.2 Preliminary Payments:

Upon approval of the Schedule of Values the CONTRACTOR may be paid for direct costs substantiated by paid invoices and other prerequisite documents required by the General Requirements. Direct costs shall include the cost of bonds, insurance, approved materials stored on the site or at approved remote storage sites, deposits required by a Supplier prior to fabricating materials, and other approved direct mobilization costs substantiated as indicated above. These payments shall be included as a part of the total Contract Price as stated in the Contract.

13.3 Application for Progress Payment:

The CONTRACTOR shall submit to the Contracting Officer for review an Application for Payment filled out and signed by the CONTRACTOR covering the Work completed as of the date of the Application for Payment and accompanied by such supporting documentation as is required by the Contract Documents. Progress payments will be made as the Work progresses on a monthly basis.

13.4 Review of Applications for Progress Payment:

Contracting Officer will either indicate in writing a recommendation of payment or return the Application for Payment to the CONTRACTOR indicating in writing the Contracting Officer's reasons for refusing to recommend payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the Application for Payment.

13.5 Stored Materials and Equipment:

If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, paid invoice or other documentation warranting that the DEPARTMENT has received the materials and equipment free and clear of all charges, security interests and encumbrances and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect the DEPARTMENT's interest therein, all of which will be satisfactory to the Contracting Officer. No payment will be made for perishable materials that could be rendered useless because of long storage periods. No progress payment will be made for living plant materials until planted.

13.6 CONTRACTOR's Warranty of Title:

The CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to the DEPARTMENT no later than the time of payment free and clear of any claims, liens, security interests and further obligations.

13.7 Withholding of Payments:

The DEPARTMENT may withhold or refuse payment for any of the reasons listed below provided it gives written notice of its intent to withhold and of the basis for withholding:

- 13.7.1 The Work is Defective, or completed Work has been damaged requiring correction or replacement, or has been installed without Approval of Shop Drawings, or by an unapproved Subcontractor, or for unsuitable storage of materials and equipment.

- 13.7.2 The Contract Price has been reduced by Change Order,
- 13.7.3 The DEPARTMENT has been required to correct Defective Work or complete Work in accordance with paragraph 12.9.
- 13.7.4 The DEPARTMENT's actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.2.1.a through 14.2.1.k inclusive.
- 13.7.5 Claims have been made against the DEPARTMENT or against the funds held by the DEPARTMENT on account of the CONTRACTOR's actions or inactions in performing this Contract, or there are other items entitling the DEPARTMENT to a set off.
- 13.7.6 Subsequently discovered evidence or the results of subsequent inspections or test, nullify any previous payments for reasons stated in subparagraphs 13.7.1 through 13.7.5.
- 13.7.7 The CONTRACTOR has failed to fulfill or is in violation of any of his obligations under any provision of this Contract.

13.8 Retainage:

At any time the DEPARTMENT finds that satisfactory progress is not being made it may in addition to the amounts withheld under 13.7 retain a maximum amount equal to 10% of the total amount earned on all subsequent progress payments. This retainage may be released at such time as the Contracting Officer finds that satisfactory progress is being made.

13.9 Request for Release of Funds:

If the CONTRACTOR believes the basis for withholding is invalid or no longer exists, immediate written notice of the facts and Contract provisions on which the CONTRACTOR relies, shall be given to the DEPARTMENT, together with a request for release of funds and adequate documentary evidence proving that the problem has been cured. In the case of withholding which has occurred at the request of the Department of Labor, the CONTRACTOR shall provide a letter from the Department of Labor stating that withholding is no longer requested.

Following such a submittal by the CONTRACTOR, the DEPARTMENT shall have a reasonable time to investigate and verify the facts and seek additional assurances before determining whether release of withheld payments is justified.

13.10 Substantial Completion:

When the CONTRACTOR considers the Work ready for its intended use the CONTRACTOR shall notify the Contracting Officer in writing that the Work or a portion of Work which has been specifically identified in the Contract Documents is substantially complete (except for items specifically listed by the CONTRACTOR as incomplete) and request that the DEPARTMENT issue a certificate of Substantial Completion. Within a reasonable time thereafter, the Contracting Officer, the CONTRACTOR and appropriate Consultant(s) shall make an inspection of the Work to determine the status of completion. If the Contracting Officer does not consider the Work substantially complete, the Contracting Officer will notify the CONTRACTOR in writing giving the reasons therefor. If the Contracting Officer considers the Work substantially complete, the Contracting Officer will within fourteen days execute and deliver to the CONTRACTOR a certificate of Substantial Completion with tentative list of items to be completed or corrected. At the time of delivery of the certificate of Substantial Completion the Contracting Officer will deliver to the CONTRACTOR a written division of responsibilities pending Final Completion with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties which shall be consistent with the terms of the Contract Documents.

The DEPARTMENT shall be responsible for all DEPARTMENT costs resulting from the initial inspection and the first re-inspection, the CONTRACTOR shall pay all costs incurred by the DEPARTMENT resulting from re-

inspections, thereafter.

13.11 Access Following Substantial Completion:

The DEPARTMENT shall have the right to exclude the CONTRACTOR from the Work after the date of Substantial Completion, but the DEPARTMENT shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

13.12 Final Inspection:

Upon written notice from the CONTRACTOR that the entire Work or an agreed portion thereof is complete, the Contracting Officer will make a final inspection with the CONTRACTOR and appropriate Consultant(s) and will notify the CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or Defective. The CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies. The CONTRACTOR shall pay for all costs incurred by the DEPARTMENT resulting from re-inspections.

13.13 Final Completion and Application for Payment:

After the CONTRACTOR has completed all such corrections to the satisfaction of the Contracting Officer and delivered all schedules, guarantees, bonds, certificates of payment to all laborers, Subcontractors and Suppliers, and other documents - all as required by the Contract Documents; and after the Contracting Officer has indicated in writing that the Work has met the requirements for Final Completion, and subject to the provisions of paragraph 13.18, the CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all remaining certificates, warranties, guarantees, releases, affidavits, and other documentation required by the Contract Documents.

13.14 Final Payment:

- 13.14.1 If on the basis of the Contracting Officer's observation of the Work during construction and final inspection, and the Contracting Officer's review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents; and the Contracting Officer is satisfied that the Work has been completed and the CONTRACTOR's other obligations under the Contract Documents have been fulfilled, the DEPARTMENT will process final Application for Payment. Otherwise, the Contracting Officer will return the Application for Payment to the CONTRACTOR, indicating in writing the reasons for refusing to process final payment, in which case the CONTRACTOR shall make the necessary corrections and resubmit the final Application for Payment.
- 13.14.2 If, through no fault of the CONTRACTOR, Final Completion of the Work is significantly delayed, the Contracting Officer shall, upon receipt of the CONTRACTOR's final Application for Payment, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by the DEPARTMENT for Work not fully completed or corrected is less than the retainage provided for in paragraph 13.9, and if bonds have been furnished as required in paragraph 5.1, the written consent of the Surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the CONTRACTOR to the DEPARTMENT with the application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

13.15 Final Acceptance:

Following certification of payment of payroll and revenue taxes, and final payment to the CONTRACTOR, the DEPARTMENT will issue a letter of Final Acceptance, releasing the CONTRACTOR from further obligations under the Contract, except as provided in paragraph 13.17.

13.16 CONTRACTOR's Continuing Obligation:

The CONTRACTOR's obligation to perform and complete the Work and pay all laborers, Subcontractors, and materialmen in accordance with the Contract Documents shall be absolute. Neither any progress or final payment by the DEPARTMENT, nor the issuance of a certificate of Substantial Completion, nor any use or occupancy of the Work or any part thereof by the DEPARTMENT or Using Agency, nor any act of acceptance by the DEPARTMENT nor any failure to do so, nor any review and Approval of a Shop Drawing or sample submission, nor any correction of Defective Work by the DEPARTMENT will constitute an acceptance of Work not in accordance with the Contract Documents or a release of the CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents.

When it is anticipated that restarting, testing, adjusting, or balancing of systems will be required following Final Acceptance and said requirements are noted in Section(s) 01650, such Work shall constitute a continuing obligation under the Contract.

13.17 Waiver of Claims by CONTRACTOR:

The making and acceptance of final payment will constitute a waiver of all claims by the CONTRACTOR against the DEPARTMENT other than those previously made in writing and still unsettled.

13.18 No Waiver of Legal Rights:

The DEPARTMENT shall not be precluded or be estopped by any payment, measurement, estimate, or certificate made either before or after the completion and acceptance of the Work and payment therefor, from showing the true amount and character of the Work performed and materials furnished by the CONTRACTOR, nor from showing that any payment, measurement, estimate or certificate is untrue or is incorrectly made, or that the Work or materials are Defective. The DEPARTMENT shall not be precluded or estopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the CONTRACTOR or his Sureties, or both, such damages as it may sustain by reason of his failure to comply with requirements of the Contract Documents. Neither the acceptance by the DEPARTMENT, or any representative of the DEPARTMENT, nor any payment for or acceptance of the whole or any part of the Work, nor any extension of the Contract Time, nor any possession taken by the DEPARTMENT, shall operate as a waiver of any portion of the Contract or of any power herein reserved, or of any right to damages. A waiver by the DEPARTMENT of any breach of the Contract shall not be held to be a waiver of any other subsequent breach.

ARTICLE 14 - SUSPENSION OF WORK, DEFAULT AND TERMINATION

14.1 DEPARTMENT May Suspend Work:

14.1.1 The DEPARTMENT may, at any time, suspend the Work or any portion thereof by notice in writing to the CONTRACTOR. If the Work is suspended without cause the CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if the CONTRACTOR makes an Approved claim therefor as provided in Article 15. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that suspension is due to the fault or negligence of the CONTRACTOR, or that suspension is necessary for Contract compliance, or that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the CONTRACTOR.

14.1.2 In case of suspension of Work, the CONTRACTOR shall be responsible for preventing damage to or loss of any of the Work already performed and of all materials whether stored on or off the site or Approved remote storage sites.

14.2 Default of Contract:

14.2.1 The Contracting Officer may give the CONTRACTOR and its surety a written Notice to Cure Default if the CONTRACTOR:

- a. fails to begin work in the time specified,
- b. fails to use sufficient resources to assure prompt completion of the work,
- c. performs the work unsuitably or neglects or refuses to remove and replace rejected materials or work,
- d. stops work,
- e. fails to resume stopped work after receiving notice to do so,
- f. becomes insolvent (except that if the CONTRACTOR declares bankruptcy, termination will be under Title 11 US Code 362 and/or 365. The CONTRACTOR'S bankruptcy does not relieve the surety of any obligations to assume the Contract and complete the work in a timely manner.
- g. Allows any final judgment to stand against him unsatisfied for period of 60 days, or
- h. Makes an assignment for the benefit of creditors without the consent of the Contracting Officer, or
- i. Disregards Regulatory Requirements of any public body having jurisdiction, or
- j. Otherwise violates in any substantial way any provisions of the Contract Documents, or
- k. fails to comply with Contract minimum wage payments or civil rights requirements, or
- l. is a party to fraud, deception, misrepresentation , or
- m. for any cause whatsoever, fails to carry on the Work in an acceptable manner.

14.2.2 The Notice to Cure Default will detail the conditions determined to be in default, the time within which to cure the default and may, in the Contracting Officer's discretion, specify the actions necessary to cure the default. Failure to cure the delay, neglect or default within the time specified in the Contracting Officer's written notice to cure authorizes the DEPARTMENT to terminate the contract. The Contracting Officer may allow more time to cure than originally stated in the Notice to Cure Default if he deems it to be in the best interests of the DEPARTMENT. The DEPARTMENT will provide the CONTRACTOR or its surety with a written Notice of Default Termination that details the default and the failure to cure it.

14.2.3 If the CONTRACTOR or its Surety, within the time specified in the above notice of default, shall not proceed in accordance therewith, then the DEPARTMENT may, upon written notification from the Contracting Officer of the fact of such delay, neglect or default and the CONTRACTOR's failure to comply with such notice, have full power and authority without violating the Contract, to take the prosecution of the Work out of the hands of the CONTRACTOR. The DEPARTMENT may terminate the services of the CONTRACTOR, exclude the CONTRACTOR from the site and take possession of the Work and of all the CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be

used by the CONTRACTOR (without liability to the CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which the DEPARTMENT has paid the CONTRACTOR but which are stored elsewhere, and finish the Work as the DEPARTMENT may deem expedient. The DEPARTMENT may enter into an agreement for the completion of said Contract according to the terms and provisions thereof, or use such other methods that in the opinion of the Contracting Officer are required for the completion of said Contract in an acceptable manner.

- 14.2.4 The Contracting Officer may, by written notice to the CONTRACTOR and its Surety or its representative, transfer the employment of the Work from the CONTRACTOR to the Surety, or if the CONTRACTOR abandons the Work undertaken under the Contract, the Contracting Officer may, at its option with written notice to the Surety and without any written notice to the CONTRACTOR, transfer the employment for said Work directly to the Surety. The Surety shall submit its plan for completion of the Work, including any contracts or agreements with third parties for such completion, to the DEPARTMENT for approval prior to beginning completion of the Work. Approval of such contracts shall be in accordance with all applicable requirements and procedures for approval of subcontracts as stated in the Contract Documents.
- 14.2.5 After the notice of termination is issued, the DEPARTMENT may take over the work and complete it by contract or otherwise and may take possession of and use materials, appliances, equipment or plant on the work site necessary for completing the work.
- 14.2.6 Rather than taking over the work itself, the DEPARTMENT may transfer the obligation to perform the work from the CONTRACTOR to its surety. The surety must submit its plan for completion of the work, including any contracts or agreements with third parties for completion, to the DEPARTMENT for approval prior to beginning work. The surety must follow the Contract requirements for approval of subcontracts, except that the limitation on percent of work subcontracted will not apply.
- 14.2.7 On receipt of the transfer notice, the surety must take possession of all materials, tools, and appliances at the work site, employ an appropriate work force, and complete the Contract work, as specified. The Contract specifications and requirements shall remain in effect. However the DEPARTMENT will make subsequent Contract payments directly to the Surety for work performed under the terms of the Contract. The CONTRACTOR shall forfeit any right to claim for the same work or any part thereof. The CONTRACTOR shall not be entitled to receive any further balance of the amount to be paid under the Contract.
- 14.2.8 Upon receipt of the notice terminating the services of the CONTRACTOR, the Surety shall enter upon the premises and take possession of all materials, tools, and appliances thereon for the purpose of completing the Work included under the Contract and employ by contract or otherwise any person or persons to finish the Work and provide the materials therefore, without termination of the continuing full force and effect of this Contract. In case of such transfer of employment to the Surety, the Surety shall be paid in its own name on estimates covering Work subsequently performed under the terms of the Contract and according to the terms thereof without any right of the CONTRACTOR to make any claim for the same or any part thereof.
- 14.2.9 If the Contract is terminated for default, the CONTRACTOR and the Surety shall be jointly and severally liable for damages for delay as provided by paragraph 11.8, and for the excess cost of completion, and all costs and expenses incurred by the DEPARTMENT in completing the Work or arranging for completion of the Work, including but not limited to costs of assessing the Work to be done, costs associated with advertising, soliciting or negotiating for bids or proposals for completion, and other reprourement costs. Following termination the CONTRACTOR shall not be entitled to receive any further balance of the amount to be paid under the Contract until the Work is fully finished and accepted, at which time if the unpaid balance exceeds the amount due the DEPARTMENT and any amounts due to persons for whose benefit the DEPARTMENT has withheld funds, such excess shall be paid by the DEPARTMENT to the CONTRACTOR. If the damages, costs, and expenses due the DEPARTMENT exceed the unpaid balance, the CONTRACTOR and its Surety shall pay the difference.
- 14.2.10 If, after notice of termination of the CONTRACTOR's right to proceed under the provisions of this clause, it is determined for any reason that the CONTRACTOR was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, or that termination was wrongful, the rights and obligations of the parties shall be determined in accordance with the clause providing for convenience termination.

14.3 Rights or Remedies:

Where the CONTRACTOR's services have been so terminated by the DEPARTMENT, the termination will not affect any rights or remedies of the DEPARTMENT against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due the CONTRACTOR by the DEPARTMENT will not release the CONTRACTOR from liability.

14.4 Convenience Termination:

14.4.1 The performance of the Work may be terminated by the DEPARTMENT in accordance with this section in whole or in part, whenever, for any reason the Contracting Officer shall determine that such termination is in the best interest of the DEPARTMENT. Any such termination shall be effected by delivery to the CONTRACTOR of a Notice of Termination, specifying termination is for the convenience of the DEPARTMENT the extent to which performance of Work is terminated, and the date upon which such termination becomes effective.

14.4.2 Immediately upon receipt of a Notice of Termination and except as otherwise directed by the Contracting Officer, the CONTRACTOR shall:

- a. Stop Work on the date and to the extent specified in the Notice of Termination;
- b. Place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the Work as is not terminated;
- c. Terminate all orders and subcontracts to the extent that they relate to the performance of Work terminated by the Notice of Termination;
- d. With the written Approval of the Contracting Officer, to the extent he may require, settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, the cost of which would be reimbursable, in whole, or in part, in accordance with the provisions of the Contract;
- e. Submit to the Contracting Officer a list, certified as to quantity and quality, of any or all items of termination inventory exclusive of items the disposition of which had been directed or authorized by the Contracting Officer;
- f. Transfer to the Contracting Officer the completed or partially completed record drawings, Shop Drawings, information, and other property which, if the Contract had been completed, would be required to be furnished to the DEPARTMENT;
- g. Take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to the Contract which is in the possession of the CONTRACTOR and in which the DEPARTMENT has or may acquire any interest.

The CONTRACTOR shall proceed immediately with the performance of the above obligations.

14.4.3 When the DEPARTMENT orders termination of the Work effective on a certain date, all Work in place as of that date will be paid for in accordance with Article 13 of the Contract. Materials required for completion and on hand but not incorporated in the Work will be paid for at invoice cost plus 15% with materials becoming the property of the DEPARTMENT - or the CONTRACTOR may retain title to the materials and be paid an agreed upon lump sum. Materials on order shall be cancelled, and the DEPARTMENT shall pay reasonable factory cancellation charges with the option of taking delivery of the materials in lieu of payment of cancellation charges. The CONTRACTOR shall be paid 10% of the cost, freight not included, of materials cancelled, and direct expenses only for CONTRACTOR chartered freight transport which cannot be cancelled without charges, to the extent that the CONTRACTOR can establish them. The extra costs due to cancellation of bonds and insurance and that part of job start-up and phase-out costs not amortized by the amount of Work accomplished shall be paid by the DEPARTMENT. Charges for loss of profit or consequential damages shall not be recoverable except as provided above.

- a. The following costs are not payable under a termination settlement agreement or Contracting Officer's determination of the termination claim:
 1. Loss of anticipated profits or consequential or compensatory damages

2. Unabsorbed home office overhead (also termed "General & Administrative Expense") related to ongoing business operations
 3. Bidding and project investigative costs
 4. Direct costs of repairing equipment to render it operable for use on the terminated work
- 14.4.4 The termination claim shall be submitted promptly, but in no event later than 90 days from the effective date of termination, unless extensions in writing are granted by the Contracting Officer upon written request of the CONTRACTOR made within the 90-day period. Upon failure of the CONTRACTOR to submit his termination claim within the time allowed, the Contracting Officer may determine, on the basis of information available to him, the amount, if any, due to the CONTRACTOR by reason of the termination and shall thereupon pay to the CONTRACTOR the amount so determined.
- 14.4.5 The CONTRACTOR and the Contracting Officer may agree upon whole or any part of the amount or amounts to be paid to the CONTRACTOR by reason of the total or partial termination of Work pursuant to this section. The Contract shall be amended accordingly, and the CONTRACTOR shall be paid the agreed amount.
- 14.4.6 In the event of the failure of the CONTRACTOR and the Contracting Officer to agree in whole or in part, as provided heretofore, as to the amounts with respect to costs to be paid to the CONTRACTOR in connection with the termination of the Work the Contracting Officer shall determine, on the basis of information available to him, the amount, if any, due to the CONTRACTOR by reason of the termination and shall pay to the CONTRACTOR the amount determined as follows:
- a. All costs and expenses reimbursable in accordance with the Contract not previously paid to the CONTRACTOR for the performance of the Work prior to the effective date of the Notice of Termination;
 - b. So far as not included under "a" above, the cost of settling and paying claims arising out of the termination of the Work under subcontracts or orders which are properly chargeable to the terminated portions of the Contract;
 - c. So far as practicable, claims by the CONTRACTOR for idled or stand-by equipment shall be made as follows: Equipment claims will be reimbursed as follows:
 1. Contractor-owned equipment usage, based on the CONTRACTOR'S ownership and operating costs for each piece of equipment as determined from the CONTRACTOR'S accounting records. Under no circumstance, may the CONTRACTOR base equipment claims on published rental rates.
 2. Idle or stand-by time for Contractor-owned equipment, based on the CONTRACTOR'S internal ownership and depreciation costs. Idle or stand-by equipment time is limited to the actual period of time equipment is idle or on stand-by as a direct result of the termination, not to exceed 30 days. Operating expenses will not be included for payment of idle or stand-by equipment time.
 3. Rented equipment, based on reasonable, actual rental costs. Equipment leased under "capital leases" as defined in Financial Accounting Standard No. 13 will be considered Contractor-owned equipment. Equipment leased from an affiliate, division, subsidiary or other organization under common control with the CONTRACTOR will be considered Contractor-owned equipment, unless the lessor has an established record of leasing to unaffiliated lessees at competitive rates consistent with the rates the CONTRACTOR has agreed to pay and no more than forty percent of the lessor's leasing business, measured in dollars, is with organizations affiliated with the lessor.
- 14.4.7 The CONTRACTOR shall have the right of appeal under the DEPARTMENT's claim procedures, as defined in Article 15, for any determination made by the Contracting Officer, except if the CONTRACTOR has failed to submit his claim within the time provided and has failed to request extension of such time, CONTRACTOR shall have no such right of appeal. In arriving at the amount due the CONTRACTOR under this section, there shall be deducted:
- a. All previous payments made to the CONTRACTOR for the performance of Work under the Contract prior to termination;
 - b. Any claim for which the DEPARTMENT may have against the CONTRACTOR;
 - c. The agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the

CONTRACTOR or sold pursuant to the provisions of this section and not otherwise recovered by or credited to the DEPARTMENT; and,

d. All progress payments made to the CONTRACTOR under the provisions of this section.

- 14.4.8 Where the Work has been terminated by the DEPARTMENT said termination shall not affect or terminate any of the rights of the DEPARTMENT against the CONTRACTOR or his Surety then existing or which may thereafter accrue because of such default. Any retention or payment of monies by the DEPARTMENT due to the CONTRACTOR under the terms of the Contract shall not release the CONTRACTOR or its Surety from liability.
- 14.4.9 The CONTRACTOR's termination claim may not include claims that pre dated the notice for termination for convenience. Those claims shall be prosecuted by the CONTRACTOR under Article 15.
- 14.4.10 The CONTRACTOR'S termination claim may not exceed the total dollar value of the contract as awarded plus agreed upon change orders less the amounts that have been paid for work completed.
- a. Unless otherwise provided for in the Contract Documents, or by applicable statute, the CONTRACTOR, from the effective date of termination and for a period of three years after final settlement under this Contract, shall preserve and make available to the DEPARTMENT at all reasonable times at the office of the CONTRACTOR, all its books, records, documents, and other evidence bearing on the cost and expenses of the CONTRACTOR under his Contract and relating to the Work terminated hereunder.
- b. Definitions. In this Subsection 108-1.09, the term "cost" and the term "expense" mean a monetary amount in U.S. Dollars actually incurred by the CONTRACTOR, actually reflected in its contemporaneously maintained accounting or other financial records and supported by original source documentation.
- c. Cost Principles. The DEPARTMENT may use the federal cost principles at 48 CFR §§ 31.201-1 to 31.205-52 (or succeeding cost principles for fixed price contracts) as guidelines in determining allowable costs under this Subsection to the extent they are applicable to construction contracts and consistent with the specifications of this Contract. The provisions of this contract control where they are more restrictive than, or inconsistent with, these federal cost principles."

ARTICLE 15 - CLAIMS FOR ADJUSTMENT AND DISPUTES

15.1 Notification

- 15.1.1 The CONTRACTOR shall notify the DEPARTMENT in writing as soon as the CONTRACTOR becomes aware of any act or occurrence which may form the basis of a claim for additional compensation or an extension of Contract Time or of any dispute regarding a question of fact or interpretation of the Contract. The DEPARTMENT has no obligation to investigate any fact or occurrence that might form the basis of a claim or to provide any additional compensation or extension of Contract Time unless the CONTRACTOR has notified the DEPARTMENT in writing in a timely manner of all facts the CONTRACTOR believes form the basis for the claim.
- 15.1.2 If the CONTRACTOR believes that he is entitled to an extension of Contract Time, then the CONTRACTOR must state the contract section on which he basis his extension request, provide the DEPARTMENT with sufficient information to demonstrate that the CONTRACTOR has suffered excusable delay, and show the specific amount of time to which the CONTRACTOR is entitled. The DEPARTMENT will not grant an extension of Contract Time if the CONTRACTOR does not timely submit revised schedules under **Section 01310**.
- 15.1.3 If the matter is not resolved by agreement within 7 days, the CONTRACTOR shall submit an Intent to Claim, in writing, to the DEPARTMENT within the next 14 days.
- 15.1.4 If the CONTRACTOR believes additional compensation or time is warranted, then he must immediately begin keeping complete, accurate, and specific daily records concerning every detail of the potential claim including actual costs incurred. The CONTRACTOR shall provide the DEPARTMENT access to any such records and furnish the DEPARTMENT copies, if requested. Equipment costs must be based on the CONTRACTOR's internal rates for ownership, depreciation, and operating expenses and not on published rental rates. In computing damages, or costs claimed for a change order, or for any other claim against the DEPARTMENT for additional time, compensation or both, the CONTRACTOR must prove actual damages based on internal costs for equipment, labor or efficiencies. Total cost, modified total cost or jury verdict forms of presentation of damage claims are not permissible to show damages. Labor inefficiencies must be shown to actually have occurred and can be proven solely based on job records. Theoretical studies are not a permissible means of showing labor inefficiencies. Home office overhead will not be allowed as a component of any claim against the DEPARTMENT.
- 15.1.5 If the claim or dispute is not resolved by the DEPARTMENT, then the CONTRACTOR shall submit a written Claim to the Contracting Officer within 90 days after the CONTRACTOR becomes aware of the basis of the claim or should have known the basis of the claim, whichever is earlier. The Contracting Officer will issue written acknowledgment of the receipt of the Claim.
- 15.1.6 The CONTRACTOR waives any right to claim if the DEPARTMENT was not notified properly or afforded the opportunity to inspect conditions or monitor actual costs or if the Claim is not filed on the date required.

15.2 Presenting the Claim

- 15.2.1 The Claim must include all of the following:
- a. The act, event, or condition the claim is based on
 - b. The Contract provisions which apply to the claim and provide relief
 - c. The item or items of Contract work affected and how they are affected
 - d. The specific relief requested, including Contract Time if applicable, and the basis upon which it was calculated
 - e. A statement certifying that the claim is made in good faith, that the supporting cost and pricing data are accurate and complete to the best of your knowledge and belief, and that the amount requested accurately reflects the Contract adjustment which the CONTRACTOR believes is due.

15.3 Claim Validity, Additional Information, and DEPARTMENT's Action

- 15.3.1 The Claim, in order to be valid, must not only show that the CONTRACTOR suffered damages or delay but that it was caused by the act, event, or condition complained of and that the Contract provides entitlement to relief for such act, event, or condition.
- 15.3.2 The DEPARTMENT can make written request to the CONTRACTOR at any time for additional information relative to the Claim. The CONTRACTOR shall provide the DEPARTMENT the additional information within 30 days of receipt of such a request. Failure to furnish the additional information may be regarded as a waiver of the Claim.

15.4 Contracting Officer's Decision

The CONTRACTOR will be furnished the Contracting Officer's Decision within 90 days, unless the Contracting Officer requests additional information or gives the CONTRACTOR notice that the time for issuing a decision is being extended for a specified period under AS 36.30.620. The Contracting Officer's decision is final and conclusive unless, within 14 days of receipt of the decision, the CONTRACTOR delivers a Notice of Appeal to the Appeals Officer. Procedures for appeals are covered under AS 36.30.625 and AS 36.30.630.

15.5 Fraud and Misrepresentation in Making Claims

Criminal and Civil penalties authorized under AS 36.30.687 (including, but not limited to, forfeiture of all claimed amounts) may be imposed on the CONTRACTOR if the CONTRACTOR makes or uses a misrepresentation in support of a claim or defraud or attempt to defraud the DEPARTMENT at any stage of prosecuting a claim under this Contract.

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**SECTION 00800
SUPPLEMENTARY CONDITIONS
MODIFICATIONS TO THE GENERAL CONDITIONS
(STATE FUNDED CONTRACTS)**

The following supplements modify, change, delete from, or add to Section 00700 "General Conditions of the Construction Contract for Buildings", issued December 2011. Where any article of the General Conditions is modified, or a Paragraph, Subparagraph, or Clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph, or Clause shall remain in effect.

SC-1-DEFINITIONS

- A. Add the following definitions:
1. **OWNER** – The State of Alaska.
 2. **QUALITY ASSURANCE ACCEPTANCE TESTING** – This is all sampling and testing performed by the DEPARTMENT to determine at what level the product or service will be accepted for payment. Qualified personnel and laboratories will perform sampling and testing. The DEPARTMENT pays for this testing.
 3. **QUALITY CONTROL PROGRAM (QC PROGRAM)** – The CONTRACTOR'S, Subcontractor's or Supplier's operational techniques and activities that maintain control of the manufacturing process to fulfill the Contract requirements. This may include materials handling, construction procedures, calibration and maintenance of equipment, production process control, material sampling, testing and inspection, and data analysis.
 4. **RESIDENT ENGINEER** - The Engineer's authorized representative assigned to make detailed observations relating to contract performance.
- B. Replace the first sentence of the definition for "DEPARTMENT" with "The Alaska Department of Natural Resources."

SC-2.4-VISITS TO SITE/PLACE OF BUSINESS

At General Conditions Article 2.4, replace the first four words of the first sentence ("The Contracting Officer will ...") with the following words "The Contracting Officer has the right to, but is not obligated to..."

SC-4.3-EXPLORATIONS AND REPORTS

At General Conditions Article 4.3, add the following paragraph:

"All reports and other records (if available) are provided for informational purposes only to all plan holders listed with the DEPARTMENT as General Contractors, and are available to other planholders upon request. They are made available so Bidders have access to the same information available to the DEPARTMENT. The reports and other records are not intended as a substitute for independent investigation, interpretation, or judgment of the Bidder. The DEPARTMENT is not responsible for any interpretation or conclusion drawn from its records by the Bidder. While referenced by or provided with the Contract Documents; the recommendations, engineering details, and other information contained in these reports of explorations shall not be construed to supercede or constitute conditions of the Contract Documents."

SC-5.4.1 – INSURANCE REQUIREMENTS

At General Condition Article 5.4.1, delete the second to the last sentence and replace with the following: “The delivery to the DEPARTMENT of a written notice in accordance with the policy provisions is required before cancellation of any coverage or reduction in any limits of liability.”

SC-5.4.2a – WORKERS COMPENSATION INSURANCE

At General Condition Article 5.4.2a, replace paragraph “a” in its entirety with the following:

- "a. Workers' Compensation Insurance: The Contractor shall provide and maintain, for all employees of the Contractor engaged in work under this contract, Workers' Compensation Insurance as required by AS 23.30.045. The Contractor shall be responsible for Workers' Compensation Insurance for any subcontractor who provides services under this contract. Coverage shall include:
1. Waiver of subrogation against the State.
 2. Employer's Liability Protection in the amount of \$500,000 each accident / \$500,000 each disease.
 3. If the Contractor directly utilizes labor outside of the State of Alaska in the prosecution of the work, “Other States” endorsement shall be required as a condition of the contract.
 4. Whenever the work involves activity on or about navigable waters, the Workers' Compensation policy shall contain a United States Longshoreman's and Harbor Worker's Act endorsement, and when appropriate, a Maritime Employer's Liability (Jones Act) endorsement with a minimum limit of \$1,000,000.”

SC-6.9–SUBSTITUTES OR “OR-EQUAL” ITEMS

- A. In Paragraph 6.9.5, delete “Document 01630 – Product Options and Substitutions” and replace with “Document 01600 – Material and Equipment.”

SC-6.13–SUBCONTRACTORS

- A. Add the following paragraph:

“6.13.7 The CONTRACTOR may, without penalty, replace a Subcontractor who:

1. Fails to comply with the licensing and registration requirements of AS 08.18;
2. Fails to obtain or maintain a valid Alaska Business License;
3. Files for bankruptcy or becomes insolvent;
4. Fails to execute a subcontract or performance of the work for which the Subcontractor was listed, and the CONTRACTOR has acted in good faith;
5. Fails to obtain bonding acceptable to the DEPARTMENT;
6. Fails to obtain insurance acceptable to the DEPARTMENT;

7. Fails to perform subcontract work for which the Subcontractor was listed;
8. Must be replaced to meet the CONTRACTOR'S required state or federal affirmative action requirements.
9. Refuses to agree to abide by the CONTRACTOR'S labor agreement; or
10. Is determined by the DEPARTMENT to be not responsible.

In addition to the circumstances described above, a Contractor may in writing request permission from the Department to add a new Subcontractor or replace a listed Subcontractor. The DEPARTMENT will approve the request if it determines in writing that allowing the addition or replacement is in the best interest of the state.

The contractor shall submit a written request to add a new Subcontractor or replace a listed Subcontractor to the Contracting Officer a minimum of five working days prior to the date the new Subcontractor is scheduled to begin work on the construction site. The request must state the basis for the request and include supporting documentation acceptable to the Contracting Officer.

If a CONTRACTOR violates this article, the Contracting Officer may:

1. Cancel the Contract after Award without any damages accruing to the DEPARTMENT; or
2. After notice and hearing, assess a penalty on the bidder in an amount not exceeding 10 percent of the value of the subcontract at issue."

SC-6.28--REPAIR AND MAINTENANCE DURING CONSTRUCTION

Add the following article:

"6.28 Repair and Maintenance during Construction:

The CONTRACTOR shall repair the access roads and the related facilities located within the project limits from any damage caused by the CONTRACTOR'S or their Subcontractor's operations from the date construction begins until the Contractor receives a letter of Final Completion. The Contractor shall inspect these areas continually on a daily basis and maintain these areas effectively, with adequate resources to keep them in satisfactory condition at all times. The Contractor shall inspect and maintain those areas outside the project that are affected by the work, such as haul routes, detour routes, structures, material and disposal sites, and equipment storage sites during periods of their use.

The CONTRACTOR'S repair and maintenance does not replace the Using Agency's regularly scheduled repairs and maintenance inside the project limits. It only assists the Using Agency by providing additional repair and maintenance that may occur because of the increased traffic or damage from the CONTRACTOR'S operations.

The Engineer may relieve the Contractor of this repair and maintenance responsibility for specified portions of the project during a seasonal suspension of work.

The Contractor is not responsible for routine snow removal and ice control on the Access Road."

SC-7.2–PERMITS, LICENSES, AND TAXES

In Paragraph 7.2.1, replace this paragraph with the following paragraph:

- “7.2.1 The terms, conditions, and stipulations in permits obtained either by the DEPARTMENT or by the CONTRACTOR are made part of this Contract.
- a. Obtained Permits:
 - 1. The DEPARTMENT has secured the following permits:
 - a. State of Alaska Department of Public Safety Division of Fire Prevention Full Plan Review Approval, PENDING.
 - 2. The DEPARTMENT will make these permits available upon request.
 - 3. The DEPARTMENT will pay for and modify the above permit during the performance of the Contract, if deemed necessary by the Engineer.
 - b. The CONTRACTOR shall procure all other permits and licenses required to complete the project, pay all charges, fees and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the Work.
 - c. As a condition of performance of this Contract, the CONTRACTOR shall pay all federal, state and local taxes incurred by the CONTRACTOR, in the performance of this Contract. Proof of payment of these taxes is a condition precedent to final payment by the DEPARTMENT under this Contract.”

SC-7.12 – APPLICABLE ALASKA PREFERENCES

A. Add the following paragraph:

“7.12.5 Alaska Veteran’s Preference (AS 36.30.175). In determining the low bidder for State funded projects, a 5% bid preference has been given to a bidder who qualifies under AS 36.30.170(b) as an Alaska bidder and is a Qualifying Entity. This preference may not exceed \$5,000.00. In this subsection a “Qualifying Entity” means a:

- (1) Sole proprietorship owned by an Alaska Veteran;
- (2) Partnership under AS 32.06 or AS 32.11 if a majority of the members are Alaska veterans;
- (3) Limited liability company organized under AS 10.50 and if a majority of the members are Alaska veterans; or
- (4) Corporation that is wholly owned by individuals and a majority of the individuals are Alaska veterans.

A preference under this section is in addition to any other preference for which the bidder qualifies. To qualify for this preference, the bidders must add value by the bidder actually performing, controlling, managing and supervising a significant part of the services provided or the bidder must have sold supplies or the general nature solicited to other state agencies, governments, or the general public. An Alaska veteran shall be a resident of this state and an individual who served in the Armed forces of the United

States, including a reserve unit of the United States armed forces; or Alaska Territorial Guard, the Alaska Army National Guard, or the Alaska Naval Militia; and was separated from service under a condition that was not dishonorable.”

SC-9.4–CHANGE ORDER

A. At General Conditions Article 9.4, add the following sentence:

”The DEPARTMENT will issue Change Orders for the CONTRACTOR to sign. A Change Order shall be considered executed when the DEPARTMENT signs it. The CONTRACTOR’S signature indicates that they accept the Change Order of acknowledge it. Acknowledgement of a Change Order does not surrender the CONTRACTOR’S right to claim.”

SC-11.8–DELAY DAMAGES

At General Condition Article 11.8, add the following paragraphs:

“11.8.1 Failure to Meet Substantial Completion Date. For each calendar day that the work is not Substantially Complete after the expiration of the Contract Time or the Substantial Completion Date has passed, the DEPARTMENT shall deduct \$500 from progress payments.

11.8.2 Failure to Meet Final Completion Date. For each calendar day that the work is substantially complete, but the project is not at Final Completion, after the Final Completion Date has passed, the DEPARTMENT shall deduct \$100 (20 percent of the daily charge) from progress payments.

11.8.3 If no money is due the CONTRACTOR, the DEPARTMENT shall have the right to recover these sums from the CONTRACTOR, from the Surety, or from both. These are liquidated damages and not penalties. These charges shall reimburse the DEPARTMENT for its additional administrative expenses incurred due to CONTRACTOR’S failure to complete the work within the time specified.

11.8.4 Permitting the CONTRACTOR to continue and finish the work or any part of it after the Contract time has elapsed or the completion date has passed does not waive the DEPARTMENT’S rights to collect liquidated damages under this section.”

SC-12.1–WARRANTY AND GUARANTEE

At General Condition Article 12.1, add the following sentence:

“The failure of the DEPARTMENT to strictly enforce the Contract in one or more instances does not waive its right to do so in other or future instances.”

SC-12.6–CORRECTION OR REMOVAL OF DEFECTIVE WORK

At General Condition Article 12.6, add the following paragraphs:

“The CONTRACTOR shall establish necessary lines and grades before performing the Work. Work done before necessary lines and grades are established, Work contrary to the DEPARTMENT’S instructions, Work done beyond the limits of the Contract, or any extra Work done without authority,

will be considered as unauthorized and shall not be paid for by the DEPARTMENT, and may be ordered removed or replaced at no additional cost to the DEPARTMENT.”

SC-15.1–NOTIFICATION

- A. In Paragraph 15.1.2, replace “Section 01310” with “Section 01300.”

END OF SECTION 00800

SECTION 00830 - STATE LABORERS' AND MECHANICS' MINIMUM RATES OF PAY

State wage rates can be obtained at <http://www.labor.state.ak.us/lss/pamp600.htm>. Use the State wage rates that are in effect 10 days before Bid Opening. The Department will include a paper copy of the State wage rates in the signed Contract.

END OF SECTION 00830

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SECTION 01010 - SUMMARY OF WORK

PART 1 GENERAL

1.1 RELATED REQUIREMENTS

- A. Section 00300 - Information Available to Bidders.
- B. Section 00700 - General Conditions: Provisions for use of site, and Using Agency occupancy. Relations of Contractor - Subcontractors.
- C. Section 00800 - Supplementary Conditions: Modifications to General Conditions.
- D. Section 01400 - Quality Control

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work covered by the contract documents is located at Division of Forestry's hangar, in Palmer, Alaska. The work consists of furnishing all labor, equipment, materials and supervision to reroof the Palmer Hangar, construct an exterior stair canopy and two dry wells. The tasks required to do this work include but are not limited to the following:
 - 1. Construct Roof
 - 2. Foundations
 - 3. Electrical
 - 4. Erosion and sediment control.
 - 5. Earthwork and grading.
 - 6. Construct new gutters
 - 7. Stabilization of disturbed ground as required.
 - 8. Contractor shall coordinate outages per Article 1.9 of this Section.

1.3 CONTRACT METHOD

- A. Construct the Work under a single lump sum Contract.

1.4 BASIC BID

- A. Construction Schedule:
 - 1. The Department will issue a Notice to Proceed with the Work as quickly as possible after bid opening.
 - 2. Final Inspection or Completion: On or before August 15th, 2015.
- B. Basic Bid Summary of Work: Construct a new roof, exterior stair canopy, and two dry wells. The Contract Drawings and Individual Specifications Sections describe the requirements and activities in detail.
- C. The Engineer's Estimate for this project is between \$250,000 and \$500,000.

1.5 WORK BY OTHERS

- A. The Contractor is hereby notified that there will be no other construction contracts underway on the site during the performance of this contract.

1.6 WORK INSIDE FACILITY

- A. Work within the facility shall be conducted only between the hours of 7:00 AM and 7:00 PM seven days per week, unless specifically approved by the Engineer. Requests for work outside of these hours must be submitted in writing 24 hours in advance.

- B. Contractor shall not under any circumstances leave tools or equipment unattended within the limits of the project site unless secured in a locked toolbox or equipment storage container. Contractor will be liable for any damages to persons and/or property resulting from unattended tools or equipment.

1.7 WORK PLANS AND ACCESS TO FACILITY, INDIVIDUAL WORK AREAS

- A. In close coordination with the work schedule, provide detailed written (narrative) work plan with a sketch of each area impacted by the Contractor's work. The work plan shall be broken out into phases to localize impact of construction activities. Show limits of work enclosures, barricades, temporary partitions, or other items affecting the operation of the area.
- B. Prior to beginning work in new phase of work identified in the work plan, the Contractor shall notify the Engineer in writing at least 5 (five) working days, not including weekends or Holidays.
- C. No construction operations affecting safety or comfort of the public shall begin until the work area is closed off from the public.
- D. It shall be the responsibility of the Contractor to coordinate all construction activities through the Engineer and to comply with their instructions concerning the movements of construction equipment, men and materials in the vicinity of the project. All such requests shall be made at least 48 hours (excluding weekends) in advance of any planned closure or change.
- E. All work shall be performed in a manner that will minimize disruption of on-going activities and operations in the existing facility during the course of the project. Demolition or any other work of a nature that could be hazardous or disruptive to activities shall be as approved by the Engineer.
- F. Contractor staging area shall minimize interference with the Department's use of the facility. Access shall be maintained for the Department, supply access, trash disposal, and vehicle access around the facility.
- G. Contractor staging area to remain within the location designated by Engineer.

1.8 WORK COORDINATION REQUIREMENTS

- A. Furnish all necessary equipment, services and personnel to perform the Work. Plan Work accordingly and coordinate all scheduled activities with the Engineer.
- B. Coordinate schedules, submittals and Work of the Individual Specification Sections to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed by Department or under separate contracts.
- C. Verify that characteristics of elements of interrelated operating equipment are compatible; coordinate work of Individual Specification Sections that have interdependent responsibilities for installing connection to, and placing such equipment in service.
- D. Coordinate with Engineer to ensure that concealed Work is fully inspected and accepted before covering it up by further Work.
- E. Coordinate completion and cleanup of Work of the Individual Specification Sections in preparation for Substantial Completion.

- F. Whenever the Work of a Subcontractor is dependent upon the Work of other Subcontractors, contractors, or utility company contractors installing utilities under contract with the Department, then the Contractor shall require the Subcontractor to:
1. Coordinate its Work with the dependent work.
 2. Provide dependent data and requirements.
 3. Supply and install items to be built into dependent work of others.
 4. Make provisions for dependent work of others.
 5. Examine dependent drawings, specifications and submittals.
 6. Examine previously placed dependent work.
 7. Check and verify dependent dimensions of previously placed work.
 8. Notify Contractor of previously placed dependent work or dependent dimensions, which are unsatisfactory or will prevent a satisfactory installation of its Work.
 9. Not proceed with its Work until the unsatisfactory dependent conditions have been corrected.
 10. Contractor shall require subcontractors to participate in coordination meetings as required by the Engineer.

1.9 COORDINATION WITH EXISTING FACILITIES AND UTILITIES

- A. Utilities disruptions must be kept to an absolute minimum. All disruptions to services shall be coordinated with Engineer.
- B. Arrange Work to avoid damage to the existing facilities and utilities and to avoid interference with Department operations during construction. The Contractor is solely liable for any damage caused by the interference of their operations with these facilities.
- C. The Contract indicates various site utilities that may be within the project area and indicate whether they are to remain in service, be abandoned in place, and be adjusted by others or by the Contractor. The Department endeavor to have all necessary adjustments to be made by others completed as soon as practicable.
- D. The location and elevation of existing utilities shown on the Plans are approximate only. Additional utilities may exist that are not shown on the Plans. Notify the Engineer of any discrepancies between the Drawings and actual field locations before construction.
- E. The Contractor will locate the existing utilities and at points of possible conflict before starting construction. If necessary, the Contractor shall be responsible for uncovering the located utilities and protect them.
- F. If conflicts occur or utilities are discovered that are not shown on the Drawings that require adjusting, the Engineer shall make Contract adjustments according with Section 00700 - General Conditions, Article 9. It is understood and agreed that the Contractor has considered in their bid all the permanent and temporary utility apprentices in their present and relocated positions as shown on the Plans, and the completion dates for various utility adjustments as may be stated in Section 00800 - Special Provisions, and at no additional compensation will be allowed for delays, inconvenience or damage sustained by the Contractor due to any interference from said utility appearances or the operation of moving them.

- G. Immediately notify the Engineer of any utility interruption or damage. The Contractor shall repair at their own expense, any damage done by their personnel or Subcontractors to utilities and cables within the Work area. Submit a written report describing the service type, interruption length, and repair method used.

1.10 CONTRACTOR'S USE OF PREMISES

- A. Limit use of premises to that necessary for performance of the Work and for construction operations, to allow for continuous occupancy of the facility and grounds. Coordinate use of the premises under direction of Engineer.
- B. Contractor is responsible for all safety considerations and precautions required during the construction period and to ensure all laws pertaining to workplace safety are followed.
- C. Assume full responsibility for protection and safekeeping of products under this Contract.
- D. Obtain and pay for use of additional storage or Work areas needed for operations under this Contract.
- E. Do not stop or otherwise impede traffic without prior written approval from the Engineer. Provide traffic control layout plan and traffic control schedule upon request, unless Traffic Control is specifically required by another Section within this Contract, then provide as required in that Section.

1.11 COORDINATION

- A. Coordinate Work of the various sections of Specifications to ensure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items installed later.
- B. Verify if characteristics of elements of interrelated operating equipment are compatible; coordinate Work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Coordinate space requirements and sequence of installation of electrical work, which is indicated diagrammatically on Drawings. Follow routing shown for conduits, as closely as practicable; make runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs. Coordinate work with existing elements in the building. Do not locate piping, conduit or other products where they will block access to equipment or junction boxes.
- D. In finished areas except as otherwise shown, conceal pipes, ducts, and wiring in the construction.

1.13 OVERTIME WORK

- A. The Contractor shall notify the Department at least 48 hours in advance of any overtime work, including nights, weekends, and holidays.

1.14 SURVEYING EXISTING CONDITIONS

- A. Prior to commencing work, the Contractor and the Engineer shall jointly survey existing conditions. Before work begins, the Contractor and the Department shall both sign a Survey Record.
- B. The Survey Record shall serve as a basis for determining any subsequent damage to existing facilities caused by the Contractor's work.

1.15 CONCEALED CONDITIONS UNACCEPTABLE TO CONTRACTOR

- A. Should the Contractor discover conditions that are inconsistent with the Contract or existing construction of a substandard nature that will affect the satisfactory completion of the Work proceed in accordance with the provisions in Section 00700-9.9, Differing Site Conditions.

1.16 PROJECT COORDINATION PROCEDURE

- A. Per Section 00700-2.1 Authorities and Limitations, only the Contracting Officer or his properly authorized agent has the authority to bind the Department. All other individuals have no authority to direct the work or make changes to the contract scope or contract time. Any reference to Architect, Engineer, Project Manager, or any other related title shall be as defined in Section 00700-1 Definitions.

1.17 SUPERINTENDENCE AND EMPLOYEES

- A. Superintendence by the contractor shall be in accordance with Section 00700-6.2 Superintendence by Contractor. The Contractor's Superintendent shall be supported by competent assistants, as necessary; and the Superintendent and his assistants shall be satisfactory to the Department.
- B. None of the Contractor's superintendents, supervisors, or engineers shall be withdrawn from the work without due notice being given to the Engineer; and no such withdrawal shall be made if it will jeopardize successful completion of the work.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not used

END OF SECTION 01010

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SECTION 01020 - INTENT OF DOCUMENTS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Explanation of intent and terminology of the Construction Documents.

1.2 RELATED REQUIREMENTS

- A. Section 00700 - General Conditions: Article 1 Definitions relating to 'Drawings' and 'Specifications'.
- B. Section 00700 - General Conditions: Article 3 Contract Documents relating to Intent, Amending, and Reuse.

1.3 SPECIFICATION FORMAT AND COMPOSITION

- A. Specifications are divided into Divisions and Sections for the convenience of writing and using. Titles are not intended to imply a particular trade jurisdiction or to imply a particular meaning or to fully describe the Work of each Division or Section, and are not an integral part of the text which specifies the requirements. DEPARTMENT is not bound to define the limits of any subcontract, and will not enter into disputes between the Contractor and his employees, including Subcontractors.
- B. Pages are numbered independently for each Section, and recorded in the Table of Contents. Section number is shown with the page number at the bottom of each page. The end of each Section of the specifications is ended by "End of Section". It is Contractor's responsibility to verify that Contract Documents received for bidding and/or construction are complete in accordance with Table of Contents.
- C. The language employed in the Contract Documents is addressed directly to the Contractor. Imperative or indicative language is generally employed throughout and requirements expressed are the mandatory responsibility of the Contractor, even though the work specified may be accomplished by specialty subcontractors engaged by the Contractor. References to third parties in this regard shall not be interpreted in any way as to relieve the Contractor of his or her responsibility under this Contract.
- D. These Specifications are of the abbreviated, or "streamlined" type, and may include incomplete sentences.
- E. Omissions of words or phrases such as "the Contractor shall", "in conformity therewith", "shall be", "as noted on the Drawings", "according to the Drawings", "a", "an", "the" and "all" are intentional.
- F. Omitted words or phrases shall be supplied by inference in the same manner as they are when a "note" occurs on the Drawings.

1.4 DRAWINGS: CONTENT EXPLANATION

- A. Drawings, Dimensions and Measurements.
 - 1. Contract Documents do not purport to describe in detail, absolute and complete construction information. In some instances drawings are diagrammatic. Contractor shall provide verification of actual site conditions and shall provide complete and operational systems as specified when drawings do not provide full detail.
 - 2. Where on any of the Drawings a portion of the work is drawn out and the remainder is indicated in outline, the parts drawn out shall apply also to all other portions of the Work.

3. Wherever a detail is referenced and developed for a specific condition, same or similar detail shall apply to identical or similar conditions elsewhere on Project even though not specifically referenced.
4. Where the word "similar" occurs on the Drawings, it shall be interpreted in its general sense and not as meaning identical, all details shall be worked out in relation to their location and their connection with other parts of the work.
5. The figured dimensions on the Drawings or notes indicating dimensions shall be used instead of measurements of the Drawings by scale.
6. No scale measurements shall be used as a dimension to work with unless specific permission to do so is granted in advance in writing by the Engineer.

1.5 COMMON TERMINOLOGY

- A. Certain items used generally throughout the Specifications and Drawings are used as follows:
 1. Indicated: The term "indicated" is a cross reference to details, notes or schedules on the Drawings, other paragraphs or schedules in the Specifications, and similar means of recording requirements in the Contract Documents. Where terms such as "shown", "noted", "schedules", and "specified" are used in lieu of "indicate", it is for the purpose of helping the reader accomplish the cross reference, and no limitation of location is intended except as specifically noted.
 2. Installer: The person or entity engaged by Contractor, his Subcontractor or sub-subcontractor for the performance of a particular unit of Work at the Project site, including installation, erection, application and similar required operations. It is a general requirement that installers be recognized experts in the work they are engaged to perform.
 3. Furnish: Except as otherwise defined in greater detail, the term "furnish" is used to mean "...supply and deliver to the Project site, ready for unpacking, assembly and installation..."
 4. Provide: Except to the extent further defined, the term "provide" means to furnish and install, complete and ready for the intended use.
 5. Guarantee and Warranty: "Warranty" is generally used in conjunction with products manufactured or fabricated away from the Project site, and "guarantee" is generally used in conjunction with units of work which require both products and substantial amounts of labor at the Project site. The resulting difference is that warranties are frequently issued by manufacturers, and guarantees are generally issued by Contractor and frequently supported (partially) by product warranties from manufacturers.

1.6 CONFLICTS

- A. Report any conflicts to the Engineer for clarification.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01020

SECTION 01027 - APPLICATIONS FOR PAYMENT

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Procedures for preparation and submittal of Applications for Payment.

1.2 RELATED REQUIREMENTS

- A. Section 00510 - Construction Contract - Contract Form 25D-10a and Bid Schedule: Method of Payment and Contract Price and Amounts of Liquidated Damages.
- B. Section 00700 - General Conditions: Progress Payments, and Final Payment.
- C. Section 01300 - Submittals: Procedures.
- D. Section 01700 - Contract Closeout: Closeout Procedures.

1.3 FORMAT

- A. Application for Payment form in format approved by the Engineer.

1.4 PREPARATION OF APPLICATIONS

- A. Type required information on Application for Payment form approved by the Engineer.
- B. Execute certification by original signature of authorized officer upon the Application for Payment.
- C. Submit names of individuals authorized to be responsible for information submitted on application for payment.
- D. Indicate breakdown of costs for each item of the Work on accepted Schedule of Values. Provide dollar value in each column for each line item for portion of Work performed and for stored products.
- E. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original item of Work.
- F. Prepare Application for Final Payment as specified in Section 01700.

1.5 SUBMITTAL PROCEDURES

- A. Submit one copy of each Application for Payment at times stipulated in Contract.
- B. Submit under transmittal letter specified in Section 01300.

1.6 SUBSTANTIATING DATA

- A. When Engineer requires substantiating information, submit data justifying line item amounts in question.
- B. Substantiating data required under General Conditions Articles 7.12.3 and 7.12.4 shall be submitted (or updated) when the Application for Payment includes a current request for payment on an item of Work required to include Alaska "agricultural/wood" products.
- C. Provide one copy of data with cover letter for each copy of Application. Show Application number and date, and line item by number and description.

1.7 SUBMITTALS WITH APPLICATION FOR PAYMENT

- A. Submit the following with each Application for Payment.
 - 1. Updated construction schedule as required by Section 01300 - Submittals.
 - 2. Updated Schedule of Values as required by Section 01300 - Submittals: Schedule of Values.
 - 3. The Contractor's as-builts will be reviewed prior to approving each application for payment.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01027

SECTION 01028 - CHANGE ORDER PROCEDURES

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Procedures for processing Change Orders.

1.2 RELATED REQUIREMENTS

- A. Section 00312 - Bid Schedule: Total amount bid for lump sum items.
- B. Section 00510 - Contract Form: Total amount of Contract Price, as awarded.
- C. Section 00700 - General Conditions: Governing requirements for changes in the Work, in Contract Price, and Contract Time.
- D. Section 00800 - Supplementary Conditions: Modifications to Document 00700 - General Conditions.
- E. Section 01027 - Applications for Payment.
- F. Section 01300 - Submittals: Construction Progress Schedules, Schedule of Values.
- G. Section 01600 - Material and Equipment: Product Options, Substitutions.
- H. Section 01700 - Contract Closeout: Project Record Documents.

1.3 SUBMITTALS

- A. Submit name of the individual authorized to accept changes, and to be responsible for informing others in Contractor's employ of changes in the Work.
- B. Change Order Forms will be prepared by the Department.

1.4 DOCUMENTATION OF CHANGE IN CONTRACT PRICE AND CONTRACT TIME

- A. Maintain detailed records of work done on a Cost of the Work plus a Fee basis. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Work. Incomplete or unsubstantiated costs will be disallowed.
- B. Contractor shall submit a complete, detailed, itemized cost breakdown addressing impact on Contract Time and Contract Price with each proposal.
- C. On request, provide additional data to support computations:
 - 1. Quantities of products, labor, and equipment.
 - 2. Taxes, insurance and bonds.
 - 3. Overhead and profit.
 - 4. Justification for any change in Contract Time.
 - 5. Credit for deletions from Contract, similarly documented.
- D. Support each claim for additional costs, and for work done on a cost of the Work plus a Fee basis, with additional information:
 - 1. Origin and date of claim.
 - 2. Dates and times work was performed, and by whom.
 - 3. Time records and wage rates paid.
 - 4. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

1.5 PRELIMINARY PROCEDURES

- A. Engineer may submit a Proposal Request which includes: Detailed description of change with supplementary or revised Drawings and Specifications, the projected time for executing the change, with a stipulation of any overtime work required, and the period of time during which the requested price will be considered valid.
- B. Contractor may initiate a change by submittal of a request to Engineer describing the proposed change with a statement of the reason for the change, and the effect on Contract Price and Contract Time, with full documentation. Document any requested substitutions in accordance with Section 01600.

1.6 CONSTRUCTION CHANGE AUTHORIZATION

- A. Shall be in accordance with Article 9 - Changes, in Section 00700 - General Conditions, as modified by the Supplementary Conditions.

1.7 FIXED PRICE CHANGE ORDER

- A. Contractor shall submit an itemized price proposal in sufficient detail to fully explain the basis for the proposal. Attach invoices and receipts for products, equipment, and subcontracts, as requested by the Department. Contractor and the Engineer shall then negotiate an equitable price (and time adjustment if appropriate) in good faith. The Change Order will reflect the results of those negotiations. If negotiations break down, Contractor may be directed to perform the work under COST OF THE WORK CHANGE ORDER.
- B. The following maximum rates of cost markup (to cover both overhead and profit of the Contractor) shall be used in the negotiation of a "Fixed-Price" Change Order:
 - 1. See Section 00700-10.3.2.
- C. These terms shall also apply to the proposals of subcontractors and allowances.
- D. Will be based on proposal request and Contractor's lump sum quotation or Contractor's request for Change Order as approved by the Department.

1.8 UNIT PRICE CHANGE ORDER

- A. For pre-determined Unit Prices and quantities, Change Order will be executed on a lump sum basis.
- B. For pre-determined Unit Prices and undetermined quantities, Change Order will be executed on an estimated quantity basis; payment will be based on actual quantities measured as specified.
- C. For unit costs or quantities of units of Work which are not predetermined, execute Work under a Directive. Changes in Contract Price or Contract Time will be computed as specified for Cost of the Work Change Order.

1.9 COST OF THE WORK CHANGE ORDER

- A. Contractor shall submit documentation required in Article 1.04 on a daily basis for certification by the Engineer. Engineer will indicate by signature that the submitted documentation is acceptable.
- B. After completion of the change and within 14 calendar days, unless extended by the Engineer, the Contractor shall submit in final form an itemized account, with supporting data, of all costs. Supporting data shall have been certified by the Engineer, as required above in paragraph A.

1.10 EXECUTION OF CHANGE ORDERS

- A. Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.

1.11 CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Price as shown on Change Order.
- B. Promptly revise Progress Schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of Work affected by the change, and resubmit.
- C. Promptly enter changes in Project Record Documents.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01028

SECTION 01126 - CONTRACTOR'S CERTIFICATION OF SUBCONTRACTS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Procedures for preparing, submitting and accepting subcontracts.

1.2 RELATED REQUIREMENTS

- A. Document 00101 - Supplementary Information to Bidders
- B. Document 00430 - Subcontractor List
- C. Section 00700 - General Conditions: Paragraph 6.13.1, Subcontractor Certification and Approval
- D. Section 00700 - General Conditions: Paragraph 6.13.4, Subcontractor Certification and Approval
- E. Section 00920 - General Conditions: Paragraph 2.7.3.1, Subcontractors
- F. Section 01300 - Submittals: Submittal Procedures

1.3 PREPARATION OF CERTIFICATION

- A. Certification Forms: Use forms provided by Engineer.
- B. Substitute certification forms will not be considered.
- C. CONTRACTOR to prepare certification form and submit to the Engineer for approval prior to the subcontractor's start of work. Where required, attach additional information to the certification form.

1.4 SUBMITTAL OF CERTIFICATION

- A. Contractor shall submit the initial and all subsequent certification form(s) in accordance with the submittal requirements identified under Paragraph 1.2.D, previous.
- B. Contractor shall submit a certification for all subcontractors regardless of the subcontract amount or the tier of the subcontractor.

1.5 CONSIDERATION OF CERTIFICATION

- A. Following receipt of submittal and within a reasonable period of time, the Engineer shall review for each of the following:
 - 1. Completeness of forms and attachments
 - 2. Proper execution (signatures) of forms and attachments
 - 3. Contractor restrictions for adding subcontractors, changing subcontractors, and value of contract.
- B. Submittals which are not complete or not properly executed will be returned to the Contractor under a transmittal letter denoting the deficiencies found. Contractor shall correct and resubmit per Paragraph 1.4, previous.
- C. Subcontractors which have not been approved by the Engineer shall not be allowed on site.
- D. The Engineer will not process payments for work performed by a non-certified subcontractor.

1.6 ACKNOWLEDGEMENT OF CERTIFICATION

- A. Submittals examined by the Engineer and determined to be complete and properly executed shall be acknowledged as such by the Engineer on the approval line of the certification form and returned to the Contractor.

1.7 CHANGES TO APPROVED SUBCONTRACTORS LIST

- A. Deletion or replacement of subcontractors listed on approved form 25D-5, or the addition of subcontractors not listed on approved form 25D-5 shall be in accordance with Section 00800 Supplementary Conditions, Paragraph SC-6.13.7 and AS 36.30.115.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01126

SECTION 01200 - PROJECT MEETINGS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Contractor participation in preconstruction conferences.
- B. Contractor administration of progress meetings and pre-installation conferences.

1.2 RELATED REQUIREMENTS

- A. Section 01010 - Summary of Work: Coordination.
- B. Section 01300 - Submittals: Construction Progress Schedules, Shop drawings, Product data, and Samples.
- C. Section 01400 - Quality Control.
- D. Section 01700 - Contract Closeout: Project Record Documents, Operation and Maintenance Data.

1.3 PRECONSTRUCTION CONFERENCES

- A. Subsequent to Award and prior to the beginning of on-site work, the Department will convene a meeting of the parties to the contract. The purpose of this meeting is to initiate personal contact among the Parties' representatives and establish administrative and coordination procedures. Other items of interest may be raised at this meeting. The time of the meeting will be mutually agreed upon by the parties after award of Contract.
- B. Department will administer preconstruction conference for execution of Contract and exchange of preliminary submittals and review of administrative procedures.
- C. Department will administer site mobilization conference at Project site for clarification of Contractor responsibilities in use of site. Contractor shall provide a detailed written work plan in preparation for this meeting.

1.4 PROGRESS MEETINGS

- A. Contractor shall schedule and administer Project meetings throughout progress of the Work (unless this requirement is waived in writing by the Engineer), and other meetings as required to coordinate work, and pre-installation conferences.
- B. Make physical arrangements for meetings, prepare agenda with copies for participants, preside at meetings, record minutes, and distribute copies within two days to Department, participants, and those affected by decisions made at meetings.
- C. Attendance: Job superintendent, major subcontractors and suppliers; Department and consultants as appropriate to agenda topics for each meeting.
- D. Minimum Required Agenda: Review of Work progress, status of progress schedule (including review and identification of critical path) and adjustments thereto, Work anticipated in the next two weeks (two week look ahead schedule), delivery schedules, submittals, maintenance of quality standards, pending changes and substitutions, and other items affecting progress of Work.

1.5 PRE-INSTALLATION CONFERENCES

- A. When required in individual Specification section, or directed by the Engineer convene a pre-installation conference prior to commencing Work of the section.
- B. Require attendance of entities directly affecting, or affected by, Work of the section.
- C. Review conditions of installation, preparation and installation procedures, and coordination with related Work.
- D. Notify the Engineer four days in advance of meeting date.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01200

SECTION 01300 - SUBMITTALS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Procedures
- B. Construction Progress Schedules
- C. Schedule of Values
- D. Shop Drawings, Product Data, and Samples
- E. Manufacturer's Instructions and Certificates
- F. Field Samples

1.2 RELATED REQUIREMENTS

- A. Section 00700 - General Conditions
- B. Section 00800 - Supplementary Conditions
- C. Section 01010 - Summary of Work.
- D. Section 01027 - Applications for Payment.
- E. Section 01400 - Quality Control: Manufacturers' Field Services, Testing Laboratory Services.
- F. Section 01600 - Material and Equipment: Products List.
- G. Section 01700 - Contract Closeout: Closeout Procedures.

1.3 PROCEDURES

- A. Deliver submittals to Engineer as directed.
- B. Prior to the purchase or ordering of any materials or equipment, submit for approval complete data describing all items intended for use in the Work. Include the item's manufacturer, identifying number or nomenclature, and other information as necessary to describe the item. Also include the manufacturer's published data describing each item's size, capacity, performance, and power requirements. Provide certification stating that the Contractor has reviewed the material and that all items conform with the Contract requirements. Submittals made without such certification will be returned unreviewed. This certification shall be in the form of a stamp on each material item submitted and signed or initialed. The name of the certifier shall be typed or legibly printed in or near the stamp.
- C. Transmit each item under Department accepted form. Identify Project, Contractor, subcontractor, major Supplier, identify pertinent Drawing sheet and detail number, and Specification section number, as appropriate. Identify deviations from Contract Documents by submitting a Department supplied Substitution Request Form. Provide a minimum of 8-1/2" x 5-1/2" blank space on the front page for Contractor and Consultant review stamps. Provide submittals bound in loose leaf, hard cover, three ring binders complete with tabs and indexes by Specification Section. At the Engineer's option, partial submittals, which encompass less than a single section will be returned unreviewed or held unreviewed until the submittal is complete.
- D. When substitute equipment is proposed, clearly and unambiguously mark submitted material describing the substitute to identify the differences between the qualities and characteristics of the offered substitute

and the specified material. Failure to provide this identification of differences when substitutes are submitted for consideration will result in rejection of the proposed material.

- E. When equipment substitutions are approved and that equipment alters the design or space requirements indicated on the plans, the Contractor shall pay for all items of cost for the revised design and construction including costs of other trades involved and any engineering required to incorporate the approved substituted equipment into the Project. Department shall not pay for the required additional costs.
- F. Material and equipment installed, purchased, furnished, or provided for the Project which has not been submitted and reviewed by the Engineer may be ordered removed and acceptable material and equipment installed in its place at no additional cost to the Department.
- G. Submit initial Progress Schedules and Schedule of Values in accordance with Article SC-6.6 of Section 00800 - Supplementary Conditions prior to submitting first Application for Payment. Form and content shall be reviewed by the Engineer. After review by Engineer, revise and resubmit as required. Submit subsequent updated schedules (10) days prior to each Application for Payment.
- H. Comply with progress schedule for submittals related to Work progress. Coordinate submittal of related items.
- I. After Engineer review of submittal, revise and resubmit as required, identifying changes made since previous submittal. Provide total number of submittals as required for the first submission. If six are required and four were returned for revisions, submit six again. The Engineer and Consultants will not return the first or revised copies of rejected submittals for re-use. Do not submit partial copies of submittals for incorporation into rejected submittal packages, which have been kept by the Engineer and/or Consultants. Provide complete copies for each review.
- J. If drawings, product submittals, samples, mock-ups, or other required submittals are incomplete or not properly submitted, the Engineer will not review the submittal and will immediately return submittal to Contractor. Engineer will review a submittal no more than two times (incomplete or improper submittals count as one). Contractor shall pay all review costs associated with more than two reviews, unless a resubmittal is required due to new comments addressing previously submitted information.

1.4 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit horizontal bar Gantt chart (see below for electronic version requirements). Schedule shall show:
 - 1. Separate bar for each major trade or operation, identifying the duration of each activity and precedent activities. Duration of Activities shall be no longer than 14 calendar days unless otherwise approved by the project manager.
 - 2. Coordinate listings with the schedule of values. All items on the schedule of values shall have an identical listing and ID number on the progress schedule. ID numbers shall be sequential. See Section 01300-1.05 Schedule of Values.
 - 3. Complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Show each work plan and separate work area as a separate activity or group of activities.

4. Submittal dates for required Shop Drawings, product data, and samples, and product delivery dates, including those furnished by Department and those under allowances.
5. All required submittals and indicating the date for each required submittal.
6. Show projected percentages of completion for each item of Work and submittal as of time of each Application for Progress Payment. See below for electronic version requirements.
7. Submit Progress Schedule plotted on paper 11" X 17" from the electronic program in format approved by the Engineer. Provide in electronic form compatible with Microsoft Project 2007 only.
8. Submit Progress Schedule percentages in Tracking Gantt form plotted from and in electronic form as stated above.

1.5 SCHEDULE OF VALUES

A. FORMAT

1. Form and content must be acceptable to Engineer.
2. Contractor's standard form or media-driven printout will be considered on request.
3. Follow Table of Contents of Project Manual and Divisions Indicated on the drawings for listing component parts. Identify each line item by number and title of listed Specification Sections.

B. CONTENT

1. List only the installed value of each major item of Work and each subcontracted item of Work as a separate line item to serve as a basis for computing values for progress payments. Cost for items such as product submittals, shipping etc. shall be subsidiary to the installed item for which they apply. Round off values to nearest dollar.
2. For each major subcontract, list products and operations of that subcontract as separate line items.
3. Coordinate listings with progress schedule. All items on the schedule of values shall have an identical listing and ID number on the progress schedule. ID numbers need not be sequential.
4. Component listings shall each include a directly proportional amount of Contractor's overhead and profit.
5. For items on which payments will be requested for stored products, list sub-values for cost of stored products with taxes paid. Such items will have appropriate allowance for incorporating the stored material into the work.
6. Specific line item Values as indicated below shall be minimum acceptable amounts and must be included on all approved Schedules of Values and Applications for Payment.
 - a. Section 01700 - Contract Closeout. Value of all required Substantial Completion Submittals and Closeout Submittals shall be not less than: See Supplementary Conditions, Article SC-6.6.2.
 - b. No progress payments will be made for Substantial Completion Submittals and Closeout Submittals until all submittals have been submitted to and accepted by the Engineer. Allow up to one year after Final Completion for the Department to close out the project.
7. The sum of values listed shall equal total Contract Price.

C. SUBMITTAL

1. Submit four copies of Schedule of Values within 21 days after the Notice to Proceed. Subsequent updated Schedule of Values shall be presented for review ten days prior to each Application for Payment.
2. Transmit under Engineer accepted form transmittal letter. Identify Project by Department title and Project number; identify Contract by Department Contract number.

D. SUBSTANTIATING DATA

1. When Engineer requires substantiating information, submit data justifying line item amounts in question.
2. Provide one copy of data with cover letter for each copy of the Application for Payment. Show application number and date, and line item by number and description.

1.6 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. SHOP DRAWINGS:

1. Present in a clear and thorough manner. Label each Shop Drawing with Department's Project name and Project number; identify each element of the Shop Drawings by reference to sheet number and detail, schedule, or room number of Contract Documents.
2. Identify field dimensions; show relation to adjacent or critical features or Work or products.
3. Minimum Sheet Size: 8-1/2"x11". Larger sheets may be submitted in multiples of 8-1/2"x11".

B. PRODUCT DATA

1. Submit only pages which are pertinent; mark each copy of standard printed data to identify pertinent products, models, options, and other data, referenced to Specification section and Article number. Show reference standards, performance characteristics, and capacities; wiring and piping diagrams and controls; component parts; finishes; dimensions; and required clearances.
2. Modify manufacturer's standard schematic drawings and diagrams to supplement standard information to provide information specifically applicable to the Work. Delete information not applicable.

C. SAMPLES

1. Submit full range of manufacturer's standard finishes except when more restrictive requirements are specified, indicating colors, textures, and patterns, for Engineer selection.
2. Submit samples to illustrate functional characteristics of products, including parts and attachments.
3. Approved samples, which may be used in the Work, are indicated in the Specification section.
4. Label each sample with identification required for transmittal letter.
5. Provide field samples of finishes at Project, at location acceptable to Engineer, as required by individual Specification section. Install each sample complete and finished. Acceptable finishes in place may be retained in completed Work.

D. MANUFACTURER'S INSTRUCTIONS

1. When required in individual Specification Section, submit manufacturer's printed instructions for delivery, storage, assembly, installation, start-up, adjusting, balancing, and finishing, in quantities specified for product data.

2. Manufacturer's instructions for storage, preparation, assembly, installation, start-up, adjusting, balancing, and finishing under provisions of Section 01400.

E. CONTRACTOR REVIEW

1. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of Contract Documents.
2. Coordinate submittals with requirements of Work and of Contract Documents.
3. Sign or initial each sheet of Shop Drawings and product data, and each sample label to certify compliance with requirements of Contract Documents. Notify Engineer in writing at time of submittal, of any deviations from requirements of Contract Documents.
4. Do not fabricate products or begin Work that requires submittals until return of submittal with Engineer acceptance.

F. SUBMITTAL REQUIREMENTS

1. Each submittal to be numbered by Specification Section and Paragraph. Revisions shall be identified by a hyphen after the paragraph, with a letter designator. Example: 1st submittal "01010 1.08A", 2nd submittal 01010 1.08A - A".
2. Transmit submittals in accordance with the required submittal schedule and in such sequence to avoid delay in the Work.
3. Provide 8-1/2" x 5-1/2" blank space on each submittal for Contractor and Consultant stamps.
4. Apply Contractor's stamp, signed or initialed, certifying to review, verification of products, field dimensions and field construction criteria, and coordination of information with requirements of Work and Contract Documents.
5. Coordinate submittals into logical groupings to facilitate interrelation of the several items:
 - a. Finishes which involve Engineer selection of colors, textures, or patterns.
 - b. Associated items that require correlation for efficient function or for installation.
6. Submit number of opaque reproductions of shop drawings Contractor requires, plus two copies which will be retained by Department.
7. Submit number of copies of product data and manufacturer's instructions Contractor requires, plus two copies, which will be retained by Engineer.
8. Submit number of samples specified in individual Specifications sections.
9. Submit under Engineer accepted transmittal form letter. Identify Project by title and Department Project number; identify Contract by Department contract number. Identify Work and product by Specification section and Article number.
10. Each submittal shall have as its face document a completed Department furnished Submittal Summary form.
11. Each submittal shall include the manufacturer's name and address, and supplier's name, address and telephone number.

G. RESUBMITTALS

1. After Engineer review of submittal, revise and resubmit as required, identifying changes made since previous submittal. Provide total number of submittals as required for the first submission. If six are required and four were returned for revisions, submit six again. The Engineer and Consultants will not return the first or revised copies of rejected submittals for re-use. Do not submit partial copies of submittals for incorporation into rejected submittal packages which have been kept by the Department and/or Consultants. Provide complete copies for each review.

H. DEPARTMENT REVIEW

1. Engineer or authorized agent will review Shop Drawings, product data, and samples and return submittals within (14) working days.
2. Engineer or authorized agent will examine shop drawings for general arrangement, overall dimensions and suitability, and will return to the Contractor marked as follows:
3. "No Exceptions Taken" - denotes that the submittal generally meets the requirements of the Contract Documents. "No Exceptions Taken" does not indicate a review of the Contractor's design except for general compliance with the requirements of the Contract Documents.
4. "Make Corrections Noted" - denotes review is conditional on compliance with notes made on the submittal.
5. "Revise and Resubmit" - denotes that revisions are required in the submittal in order for the submittal to be generally consistent with the requirements of the Contract Documents. Required revisions will be identified to the Contractor.
6. "Rejected" - denotes that the submittal does not meet the requirements of the Contract Documents and shall not be used in the Work. Reasons for rejection will be identified to the Contractor.
7. Review by the Department of shop and erection drawings shall not be construed as a complete check, but will indicate only that the general method of construction and detailing is consistent with the requirements of the Contract Documents. Review of such drawings shall not relieve the Contractor of the responsibility for errors, dimensions, and detail design.
8. Engineer will require submittal of all required color and finish samples in order to approve any color or finish.

I. DISTRIBUTION

1. Duplicate and distribute reproductions of Shop Drawings, copies of product data, and samples, which bear Consultant's stamp, to job site file, record documents file, Subcontractors, Suppliers, and other entities requiring information.

J. SCHEDULE OF SUBMITTALS

1. Submittal Register Form to be completed by Contractor and approved by Engineer prior to submittal of any items.
2. Submit shop drawings, product data and samples as required for each specification section.
3. Format.
 - a. Submittal schedule form as provided by Engineer.

1.7 MANUFACTURER'S INSTRUCTIONS

- A. When required in individual Specification Section, submit manufacturer's printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for product data.

1.8 FIELD SAMPLES

- A. Provide field samples of finishes as required by individual Specifications section. Install sample complete and finished. Acceptable samples in place may be retained in completed Work.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01300

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SECTION 01305 - SUBMITTAL LOG

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Submittal Register Form required under the Contractor's Quality Control Program and Plan to meet the testing and quality control requirements in the Individual Specification Sections.
- B. Test results and reports.

1.2 RELATED REQUIREMENTS

- A. Bidding and Contract Requirement Section 00020 - Invitation for Bids: Material and Equipment Substitutions.
- B. Bidding and Contract Requirement Section 00700 - General Conditions:
 - 1. Article 6 - Contractor's Responsibilities (Substitutions, Evaluating Substitutions, Shop Drawings and Samples).
 - 2. Article 9 - Changes.
- C. Section 01027 - Applications for Payment: Procedures and Submittals.
- D. Section 01028 - Change Order Procedure: Procedures and Submittals.
- E. Section 01126 - Contractor's Certification of Subcontractors: Submittals.
- F. Section 01300 - Submittals: Submittal Procedures.
- G. Section 01400 - Quality Control: Procedures and Submittals.
- H. Section 01500 - Construction Facilities and Temporary Controls: Procedures and Submittals.
- I. Section 01600 - Material and Equipment: Contractor's Products List and Substitution Submittal Procedures.
- J. Section 01700 - Contract Closeout: Closeout Procedures and Project Record Documents.

1.3 SUBMITTALS

- A. Submit under transmittal letter specified in Section 01300 Submittals.
- B. Submit the completed Submittal Register Form.

1.4 SUBMITTAL REGISTER FORM

- A. The attached Submittal Register Form includes all of the submittals required by the Department from the Division 1 Specifications and the anticipated Division 2 through 49 submittals.
- B. The Contractor needs to review and complete the Submittal Register Form for Divisions 2 through 49 as necessary.
- C. The completed list needs to include additional shop drawings, product data, samples, certifications, qualification data, work plans, permits, and product schedules that are required by the Individual Specification Sections or that the Contractor wants the Engineer to review.
- D. In addition, provide the dates that the Contractor anticipates transmitting each submittal, including the submittals required by the Department.
- E. The Engineer will provide an electronic copy of the Submittal Register Form for the Contractor to complete and submit before the Preconstruction Meeting.
- F. Do not provide any items until the Engineer accepts the Submittal Register Form.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01305

SECTION 01400 - QUALITY CONTROL

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. General Quality Control
- B. Workmanship
- C. Manufacturer's Instructions
- D. Manufacturer's Certificates
- E. Mockups
- F. Manufacturers' Field Services
- G. Testing Laboratory Services
- H. Departmental Inspection Services

1.2 RELATED REQUIREMENTS

- A. Section 00700 - General Conditions: Inspection and testing required by governing authorities.
- B. Section 01010 - Summary of Work: Work Plans and Access to Facility, Individual Work Areas.
- C. Section 01300 - Submittals: Shop Drawings, Product Data, and Samples

1.3 QUALITY CONTROL, GENERAL

- A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

1.4 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. Perform Work by persons qualified to produce workmanship of specified quality.
- C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.5 MANUFACTURERS' INSTRUCTIONS

- A. Comply with instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, request clarification from Department before proceeding.

1.6 MANUFACTURERS' CERTIFICATES

- A. When required by individual Specifications section, submit manufacturer's certification, in duplicate, that products meet or exceed specified requirements.

1.8 MANUFACTURERS' FIELD SERVICES

- A. When required by manufacturer or when specified in respective Specification sections, require manufacturer to provide qualified personnel to observe field conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to make appropriate recommendations.
- B. Require manufacturer's representative to submit written report to Engineer listing observations and recommendations.

1.9 TESTING LABORATORY SERVICES

- A. Contractor shall employ and pay for services of an independent testing laboratory to perform inspections, tests, and other services required by individual Specification sections.
- B. Services will be performed in accordance with requirements of governing authorities and with specified standards.
- C. Reports will be submitted to Engineer giving observations and results of tests, indicating compliance or non-compliance with specified standards and with Contract Documents.
- D. Contractor shall cooperate with testing laboratory personnel; furnish tools, samples of materials, mix design, equipment, storage and assistance as requested.
 - 1. Notify Engineer and testing laboratory 72 hours prior to expected time for operations requiring testing services.
 - 2. Make arrangements with testing laboratory and pay for additional samples and tests for Contractor's convenience.

1.10 DEPARTMENTAL INSPECTION SERVICES

- A. REQUEST AND PAYMENT
 - 1. Contractor shall request and when applicable pay for services provided by the Department to perform specified inspection and testing.
 - 2. Inspection by the Department or its agents shall in no way relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- B. QUALITY ASSURANCE
 - 1. Comply with requirements of all referenced standards.
 - 2. Department shall retain a registered Engineer and/or Architect on staff to provide review services in those areas of their immediate expertise.
 - 3. Testing equipment shall be calibrated at reasonable intervals with devices of an accuracy traceable to either NBS Standards or accepted values of natural physical constants.
- C. DEPARTMENT RESPONSIBILITIES
 - 1. Review schedules and request for inspections as submitted by Contractor for timeliness and conformance.
 - 2. Provide qualified personnel at site after due notice; cooperate with Contractor in performance of services.
 - 3. Perform specified inspection, inventorying, and testing of products in accordance with specified standards.
 - 4. Ascertain compliance of materials and equipment with requirements of Contract Documents.
 - 5. Promptly notify Contractor of observed irregularities or non-conformance of Work or products.
 - 6. Perform additional inspections and re-tests required by the Contract Documents.
 - 7. When applicable provide to the Contractor a written description of Department's costs attributed to the inspection.
- D. DEPARTMENT REPORTS

1. After each inspection and/or test, promptly submit one copy of inspection report to Contractor.
Include: Date issued, Project title and Department Project number, name of inspector(s), date and time of inspection, identification of product and Specifications section, location in the Project, type of inspection or test, results of inspection or tests, and conformance with Contract Documents. When requested in writing by Contractor, provide interpretation of results.

E. LIMITS ON AUTHORITY RESULTING FROM INSPECTIONS

1. Engineer may not release, revoke, alter, or enlarge on requirements of Contract Documents through the issuance of an inspection report.
2. Engineer may not approve or accept any portion of the Work through the issuance of an inspection report.
3. Engineer may not assume any duties of Contractor through the issuance of an inspection report.
4. Engineer has no authority to stop Work through the issuance of an inspection report.

F. CONTRACTOR RESPONSIBILITIES

1. Cooperate with Department personnel, and provide access to Work and when appropriate, to manufacturer's facilities.
2. Provide incidental labor and facilities to provide access to Work to be inspected, to obtain and furnish incidental supplies at the site or at source of products to be inspected, to facilitate tests and inspections, and for storage and curing of test samples when appropriate.
3. Notify Department as stated above in Contractor Submittals for operations requiring inspection, special inspection and testing services.
4. Pay costs of Department furnished services for all re-inspections as required by Contract Documents.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01400

SECTION 01500 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Electricity, Lighting
- B. Heat, Ventilation
- C. Telephone Service
- D. Water
- E. Sanitary Facilities
- F. Dust Control (Exterior)
- G. Dust Control
- H. Noise Control
- I. Construction Enclosures
- J. Barriers
- K. Barricades, Warnings, and Markings
- L. Protection of Installed Work
- M. Security
- N. Water Control
- O. Fencing and Security
- P. Materials Storage and Protection
- Q. Site and Off-Site Storage
- R. Owner Access
- S. Utility Locates
- T. Marking of Contractor Vehicles
- U. Parking
- V. Protection of Existing Facilities
- W. Protection of Existing Vegetation, Structures, Utilities, and Improvements
- X. Salvage
- Y. Temporary Enclosure and Space Heating
- Z. Environmental Requirements
- AA. Construction Cleaning
- BB. Removal
- CC. Waste Storage Equipment
- DD. Cleaning of the Project Area
- EE. Disposal

1.2 RELATED REQUIREMENTS

- A. Section 01010 - Summary of Work: Use of Premises.
- B. Section 01010 - Summary of Work: Shutoffs and Disruptions to Service.

- C. Section 01700 - Contract Closeout: Final cleaning.

1.3 ELECTRICITY, LIGHTING

- A. The Contractor may utilize power from existing facility. All tie-ins are the Contractor's responsibility and must be coordinated with the Engineer.
- B. Connect to existing service, provide branch wiring and distribution boxes located to allow service and lighting by means of construction-type power cords. Department will pay costs of energy used.
- C. Provide lighting for construction operations. The Contractor shall include in its bid the cost of providing, and shall provide, general construction area lighting wherever work is in progress and wherever lighting is required for the safety of any person employed on the site.
- D. Take precautions to conserve energy. Wasteful use of power will be back-charged to the Contractor.

1.4 HEAT, VENTILATION

- A. Not Applicable

1.5 TELEPHONE SERVICE

- A. Provide telephone service if required for construction operations. Use of telephones in existing facilities will not be allowed.

1.6 WATER

- A. The Contractor may utilize water from the Department's existing facility. All tie-ins are the Contractor's responsibility and must be coordinated with the Engineer.
- B. Provide service required for construction operations. Extend branch piping with outlets located so that water is available by use of hoses.
- C. The Using Agency will pay for water used.
- D. Hoses or temporary piping will not be permitted in public areas where a hazard to the public may be created.

1.7 SANITARY FACILITIES

- A. Existing facilities may not be used during construction operations unless specifically approved by the Engineer. The Contractor is responsible for providing adequate temporary sanitary facilities for his employees in accordance with all state and local regulation. The Contractor shall maintain all such temporary sanitary facilities in a clean sanitary condition.

1.8 DUST CONTROL (EXTERIOR)

- A. The Contractor shall be responsible for dust control on the project site. The Contractor shall include in its bid the cost of providing, and shall provide, all plant, labor and equipment necessary to fulfill his responsibilities under this Article.
- B. Execute Work by methods that minimize raising of dust or airborne debris from construction or demolition operations.
- C. Provide positive means to prevent airborne dust from dispersing or entering any portion of the building.

1.9 DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations.
- B. Provide active means to prevent airborne dust from dispersing into occupied areas.

- C. Water mist work surfaces to control dust while cutting.

1.10 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.

1.11 CONSTRUCTION ENCLOSURES

- A. Not Applicable

1.12 BARRIERS

- A. Provide as required to prevent public entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide barricades and covered walkways required by authorities having jurisdiction for public rights-of-way and for public access to existing facility.
- C. Maintain clear route to allow access of emergency vehicles to the facility and emergency entrances.

1.13 BARRICADES, WARNINGS, AND MARKINGS

- A. The Contractor shall furnish, erect, and maintain all barricades, warning signs and markings for hazards, as necessary to protect the employees from construction operations, and to protect the Work. All safeguards shall be constructed in conformance with local codes.
- B. For vehicular and pedestrian traffic, the Contractor shall furnish, erect, and maintain barricades, warning signs, lights and other traffic control devices in conformity with the Manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office), or as approved by the Engineer.

1.14 PROTECTION OF INSTALLED WORK

- A. Provide temporary protection for installed products. Control traffic in immediate area to minimize damage.

1.15 SECURITY

- A. Provide security program and facilities to protect Work from unauthorized entry, vandalism, and theft.
- B. The Contractor shall be responsible for security of any area of the site turned over to the Contractor for his exclusive use.

1.16 WATER CONTROL

- A. Protect the interior of facilities from water and/or moisture infiltration.

1.17 FENCING AND SECURITY

- A. The Department will not provide security of any kind and shall not be liable to anyone for, or for the lack of, security. Each subcontractor shall include in its bid the cost to provide, and shall provide, such fencing and security as may be necessary in addition to the requirements of this section.

1.18 MATERIALS STORAGE AND PROTECTION

- A. An area will be assigned to the Contractor for materials storage in the closest possible proximity to the project site. Providing protection and security for the area is the responsibility of the Contractor. Any materials stored outside of the buildings being worked on under this contract will be kept in an agreed upon storage area.

1.19 SITE AND OFF-SITE STORAGE

- A. The Contractor shall include in its bid the cost to provide, and shall provide, such special security work for which he is contractually responsible, the allocation of job-site storage space for temporary job-site facilities, and the furnishing of off-site storage space, if sufficient job-site storage is not available.

1.20 OWNER ACCESS

- A. Existing roads and parking areas shall be kept open at all times for the flow of traffic from existing facilities.

1.21 UTILITY LOCATES

- A. Contractor shall be responsible for obtaining all utility locates. Contractor shall arrange with utility locate services for locating utilities such as telephone and communications, video cable, water, sewer, electric, fuel lines, etc. Hand dig within two feet of all utilities to avoid damaging existing facilities.

1.22 MARKING OF CONTRACTOR VEHICLES

- A. All Contractor vehicles used on the job site shall be marked with Contractor's Name (as it appears on his business license) and telephone number. This may be a magnetic sign on the door, sign in window or other, providing it is visible and legible.

1.23 PARKING

- A. The Contractor and his employees may park their vehicles in parking areas designated by the Engineer. There will be no authorized parking in fire lanes and delivery lanes unless authorized by the Engineer and then only for loading and unloading materials for and debris from the project. Provide and maintain access to fire hydrants and control valves free of obstructions.

1.24 PROTECTION OF EXISTING FACILITIES

- A. The Contractor shall include in its bid the cost to provide, and shall provide, the locating and protecting of the existing facilities or any other public facilities whether or not such facilities be on the site of the work.
- B. The Contractor will be held responsible for all damages and/or claims resulting out of this contract.
- C. The Contractor will be held responsible for the repair of any damages to the existing facility as a result of this contract.
- D. The Contractor shall provide and maintain full safe access at existing exits at all times.
- E. The Contractor shall take all necessary precautions to protect the building occupants from any hazards created by the progress of this work.

1.25 PROTECTION OF EXISTING VEGETATION, STRUCTURES, UTILITIES, AND IMPROVEMENTS

- A. The Contractor will preserve and protect all existing vegetation such as trees, shrubs, and grass on or adjacent to the site of work which is not to be removed and which does not unreasonably interfere with the construction work. Care will be taken in removing trees authorized for removal to avoid damage to vegetation to remain in place. Any lines or branches of trees broken during such operations or by the careless operation of equipment, or by workmen, shall be trimmed with a clean cut and painted with an approved tree pruning compound as directed by the Engineer.
- B. The Contractor will protect from damage all existing improvements or utilities at or near the site of the work, the location of which is made known to him, and will repair or restore any damage to such facilities

resulting from failure to comply with the requirements of this contract or the failure to exercise reasonable care in the performance of the work. If the Contractor fails or refuses to repair any such damages promptly, the Department may have the necessary work performed and charge the cost thereof to the Contractor.

1.26 SALVAGE

- A. All materials excavated and any other materials on the site at the time of award are the property of the Department. The Contractor shall provide in its bid the cost to dispose of, and shall dispose of, salvage materials and/or materials which may be surplus to the requirements of the work, provided that the Department, at its sole option, may direct that salvage and/or surplus materials shall be delivered to, unloaded, and stored at place of storage on the Department's property. Such place of storage will be within one mile and a half of the project site.
- B. All items or materials removed from the project shall be made available for the Department's inspection. The Department retains the option to claim any item or material. The Contractor shall deliver any claimed item or material in good condition to the place designated by the Department. All items not claimed become the property of the Contractor and shall be removed from the site by the Contractor.
- C. Salvage materials shall not include trash, lumber or concrete debris, or debris of any nature. Trash and debris shall be disposed of off-site in accordance with federal, state, and local statutes.

1.27 TEMPORARY ENCLOSURE AND SPACE HEATING

- A. The Contractor shall include in its bid the cost to provide, and shall provide, such temporary insulated weather-tight enclosures of the work and such space heating as may be required to protect the work from damage due to freezing temperatures, snow and rain, and to allow orderly coordinated progress of all work.

1.28 ENVIRONMENTAL REQUIREMENTS

- A. General. The Contractor shall include in its bid the cost of complying, and shall comply, and shall require each of its subcontractors to comply, with this section and also each local, state, and federal Environmental Law and Regulation.
- B. Provide methods, means, and facilities to prevent contamination of soil, water, and air from discharge of noxious, toxic substances and pollutants produced by construction operations.
- C. Dust Prevention. Should the site produce visible dust, the Contractor shall, when directed by the Department, forthwith, apply a palliative which prevents the dust from drifting or being wind-driven off the site.

1.29 CONSTRUCTION CLEANING

- A. In accordance with Part 3 of this specification.

1.30 REMOVAL

- A. Remove temporary utilities, materials, equipment, facilities, services, and construction prior to Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities.

- C. Restore existing facilities used during construction to specified, or to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 WASTE STORAGE EQUIPMENT

- A. Provide covered containers for collection of waste materials, debris, and rubbish; and for the transportation of same from point of generation to point of disposal. Containers shall be adequately secured to prevent release of waste materials.

3.2 CLEANING OF THE PROJECT AREA

- A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations and anti-pollution laws.
- B. Use only those cleaning materials which will not create hazards to health or property and will not damage surfaces.
- C. Control accumulation of waste materials and rubbish; dispose of daily off-site. Maintain areas under Contractor's control free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- D. Clean periodically to keep the Work, the site, and adjacent properties free from accumulations of waste materials, rubbish, and wind-blown debris resulting from construction operations.
- E. Remove debris, rubbish, and combustible material from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to closing the space.
- F. Immediately clean interior areas after completion of work to provide suitable conditions for building occupants. All occupied areas and areas used by the general public require cleanup at the end of each shift.
- G. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning on an as needed basis.
- H. Control cleaning operations so that dust and other contaminants will not adhere to wet or newly-coated surfaces.
- I. Maintain manpower and equipment, including dust mops, wet mops, brooms, buckets, and clean wiping rags for cleaning fine dust from floors in adjacent occupied areas.
- J. Adhesive mats or carpets at barricade entrances and in anterooms shall be kept clean and changed daily, or as necessary, to prevent accumulation of dust.
- K. Dust tracked outside of temporary partitions shall be removed immediately. Cleaning outside of barriers to be by HEPA-filtered vacuum or damp mop.
- L. All vacuuming outside areas not under negative pressure shall be with a certified HEPA-filtered vacuum.

3.3 DISPOSAL

- A. Promptly remove waste materials, debris, and rubbish from the site periodically and dispose of off the site in accordance with all federal, state and local regulations.

- B. Tightly covered containers shall be used to remove debris from the facility through all occupied areas to minimize dust and contamination from demolition materials. Facility waste containers and dumpsters shall not be used by the Contractor.
- C. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids. If conditions dictate, chute and containers shall be sprayed with water to maintain dust control. Chute opening shall be closed when not in use.

END OF SECTION 01500

SECTION 01600 - MATERIALS AND EQUIPMENT

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Products
- B. Transportation and Handling
- C. Storage and Protection
- D. Product Options
- E. Products List
- F. Substitutions
- G. Systems Demonstration

1.2 RELATED REQUIREMENTS

- A. Section 01010 - Summary of Work.
- B. Section 01300 - Submittals
- C. Section 01400 - Quality Control: Manufacturers' Certificates.
- D. Section 01700 - Contract Closeout: Closeout Procedures, Spare Parts and Maintenance Materials.
- E. Section 01730 - Operation and Maintenance Data,
- F. Section 01740 - Warranties and Bonds.

1.3 PRODUCTS

- A. Products include material, equipment, and systems.
- B. Comply with Specifications and referenced standards as minimum requirements.
- C. Components required to be supplied in quantity within a Specification section shall be the same, and shall be interchangeable.
- D. Do not use materials and equipment removed from existing structure, except as specifically required, or allowed, by Contract Documents.
- E. The Contractor shall be held responsible for any and all products to be installed under this contract. The Contractor shall be required to make good at his own cost any injury or damage which said materials or equipment may sustain from any source or cause whatsoever prior to substantial completion and using agency occupancy of that specific portion of the work.
- F. Reuse of Existing Materials
 - 1. The Contractor shall not reuse any materials or equipment which are not specifically noted to be reused without written permission of the Engineer. In cases where existing materials are found to be in usable condition, but not indicated to be reused by the contract documents, the contractor shall upon written approval of the Engineer, incorporate these items into the project and an appropriate change order to the contract will be written.
- G. All products will be delivered, unloaded inside the appropriate building and completely installed by the Contractor, or his authorized agent.

1.4 TRANSPORTATION AND HANDLING

- A. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.
- B. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
- C. Immediately on delivery, inspect shipment to ensure:
 - 1. Product complies with requirements of Contract Documents and reviewed submittals.
 - 2. Quantities are correct.
 - 3. Accessories and installation hardware are correct.
 - 4. Containers and packages are intact and labels legible.
 - 5. Products are protected and undamaged.

1.5 STORAGE AND PROTECTION

- A. Handle and store materials for construction, products of demolition, and other items to avoid damage to existing property and facilities.
- B. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.
- C. Arrange storage to provide access for inspection. Periodically inspect to ensure products are undamaged, and are maintained under required conditions.
- D. Provide Material Safety Data Sheets (MSDS) for all products which may produce unpleasant or noxious odors. Contractor shall provide for adequate venting if needed.
- E. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- F. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter. Cover such material to prevent material from being blown onto the site.

1.6 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards.
- B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions by meeting product description: Submit a request for substitution for any manufacturer not specifically named that meets the product description specifications.
- C. Products Specified by Naming Only One Manufacturer with No Provision for Substitutions: No options, no substitutions allowed.
- D. Products Specified by Naming One or More Manufacturers followed by the term "No Substitutions": Use only specified manufacturers, no substitutions allowed.

1.7 PRODUCTS LIST

- A. Within 21 days after date of Notice to Proceed, transmit four copies of a list of products, which are proposed for installation, including name of manufacturer.
- B. Tabulate products by Specifications section number, title, and Article number.

- C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
- D. Department will reply in writing within five days stating whether there is reasonable objection to listed items. Failure to object to a listed item shall not constitute a waiver of requirements of Contract Documents.

1.8 SUBSTITUTIONS

A. SUBSTITUTION SUBMITTAL PERIOD

- 1. Product substitution requests will be considered only within 14 days after date established in Notice to Proceed. Subsequent requests will be considered only in case of product unavailability or other conditions beyond control of Contractor. (Submit on Substitution Request Form "B")

B. LIMITATIONS ON SUBSTITUTIONS

- 1. Only one request for substitution will be considered for each product from each Contractor. When substitution is not accepted, Contractor shall provide specified product.
- 2. Substitutions will not be considered when indicated on Shop Drawings or product data submittals.
- 3. Substitute products shall not be ordered or installed without written acceptance.
- 4. Department will determine acceptability of substitutions.

C. REQUESTS FOR SUBSTITUTIONS

- 1. Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.
- 2. Identify product by Specification section and Article numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List fabricators and Suppliers as appropriate.
- 3. Attach product data as specified in Section 01300.
- 4. List similar projects using product, dates of installation, and names of design Consultant(s) and Owner.
- 5. Give itemized comparison of proposed substitution with specified product, listing variations, and reference to Specification sections and Article numbers.
- 6. Give quality and performance comparison between proposed substitution and the specified product.
- 7. Give cost data comparing proposed substitution with specified product, and amount of net change to Contract Price.
- 8. List availability of maintenance services and replacement materials.
- 9. State effect of substitution on construction schedule, and changes required in other Work or products.

D. CONTRACTOR REPRESENTATION

- 1. Request for substitution constitutes a representation that Contractor has investigated proposed product and has determined that it is equal to or superior in all respects to specified product.
- 2. Contractor will provide same warranty for substitution as for specified product.
- 3. Contractor will coordinate installation of accepted substitute, making such changes as may be required for Work to be complete in all respects.

4. Contractor certifies that cost data presented is complete and includes all related costs under this Contract.
5. Contractor waives claims for additional costs related to substitution which may later become apparent.

E. SUBMITTAL PROCEDURES

1. Submit two copies of complete request for Substitution Request Form. Request to include complete product information and data, color swatch board, and certification that proposed product meets or exceeds all requirements for the specified product.
2. Engineer will review Contractor's requests for substitutions within 14 days of receipt.
3. After receipt of submittal, Engineer will notify Contractor, in writing, of decision to accept or reject requested substitution within 14 days.
4. For accepted products, submit Shop Drawings, product data, and samples under provisions of Section 01300.

1.9 SYSTEMS DEMONSTRATION

- A. Prior to final inspection, demonstrate operation of each system to Engineer and Owner.
- B. Instruct Department's personnel in operation, adjustment and maintenance of equipment and systems, using the operation and maintenance data as the base of instruction.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 EXECUTION

- A. The Contractor shall not unreasonably encumber the site with materials and equipment.
- B. The Contractor is responsible for protection and safekeeping of products stored on the premises, and shall move any stored products which interfere with operations of the Department.
- C. The Contractor is responsible for any and all associated materials and labor necessary to provide a finished appearance.

END OF SECTION 01600

SECTION 01700 - CONTRACT CLOSEOUT

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Closeout Procedures
- B. Final Cleaning
- C. Project Record Documents
- D. Operation and Maintenance Data
- E. Warranties
- F. Spare Parts and Maintenance Materials
- G. Maintenance Service

1.2 RELATED REQUIREMENTS

- A. Section 00700 - General Conditions: Fiscal provisions, legal submittals, and other administrative requirements.
- B. Section 01010 - Summary of Work: Using Agency occupancy.
- C. Section 01400 – Quality Control: Departmental Inspection Services.
- D. Section 01500 - Construction Facilities and Temporary Controls: Cleaning during construction.
- E. Section 01720 – Project Record Documents
- F. Section 01730 – Operation and Maintenance Data
- G. Section 01740 – Warranties and Bonds

1.3 CONTRACT CLOSEOUT PROCEDURES

A. SUBSTANTIAL COMPLETION

1. Submit the following prior to requesting a Substantial Completion inspection:
 - a. Evidence of Compliance with Requirements of Governing Authorities:
 - 1) Certificate of Occupancy.
 - 2) Required Certificates of Inspection.
 - b. Project Record Documents in accordance with Section 01720
 - c. Operation and Maintenance Data in accordance with Section 01730
 - d. Warranties and Bonds in accordance with Section 01740
 - d. Spare Parts and Maintenance Materials in accordance with Section 01700-1.08
2. Substantial Completion shall be considered by the Engineer when:
 - a. Written notice is provided 10 days in advance of inspection date.
 - b. List of items to be completed or corrected is submitted.
 - c. Operation and Maintenance Manuals are submitted and approved by the Engineer.
 - d. Equipment and systems have been tested, adjusted, balanced and are fully operational.
 - e. Automated and manual controls are fully operational.
 - e. Operation of system has been demonstrated to Department personnel.
 - f. Certificate of Occupancy is submitted.

- g. Certificates of Inspection for required inspections have been submitted.
- h. Project Record Documents for the Work or the portion of the Work being accepted are submitted and approved.
- i. Spare parts and maintenance materials are turned over to the Department.
- j. All keys are turned over to the Department.
- 3. Should Department inspection find Work is not substantially complete, the Engineer will promptly notify Contractor in writing, listing observed deficiencies.
- 4. The Contractor shall remedy deficiencies and send a second written notice of Substantial Completion.
- 5. When the Department finds Work is substantially complete, the Engineer will prepare a Certificate of Substantial Completion in accordance with provisions of General Conditions.
- 6. Department will occupy existing facilities for the conduct of business, under provisions stated in Certificate of Substantial Completion

B. FINAL COMPLETION

- 1. When Contractor considers Work is complete, submit written certification that:
 - a. Contract Documents have been reviewed.
 - b. Work has been inspected for compliance with Contract Documents.
 - c. Equipment and systems have been tested, adjusted and are fully operational.
 - d. Operation of systems has been demonstrated to Department's personnel.
 - e. Work has been completed in accordance with Contract Documents, and deficiencies listed with Certificate of Substantial Completion have been corrected.
 - f. Work is complete and ready for final inspection.
- 2. Should the Department inspection find Work incomplete, Engineer will promptly notify Contractor in writing listing observed deficiencies.
- 3. Contractor shall remedy deficiencies and send a second certification of Final Completion.
- 4. When Department finds Work is complete, Engineer will consider closeout submittals.

C. REINSPECTION FEES

- 1. Should status of completion of Work require more than one re-inspection by the Department due to failure of Work to comply with Contractor's responsibility, the Engineer will deduct the cost of re-inspection from final payment to Contractor as provided in the Contract Documents.
- 2. Re-inspection fees shall not exceed \$5,000 for any one re-inspection.

D. CLOSEOUT SUBMITTALS

- 1. Warranties and Bonds in accordance with Section 01740 Warranties and Bonds.
- 2. Evidence of Payment in accordance with Conditions of the Contract.
- 3. Consent of Surety to Final Payment.
- 4. Certificates of Insurance for Products and Completed Operations in accordance with Supplementary Conditions.
- 5. Certificate of Release.

E. APPLICATION FOR FINAL PAYMENT

1. Submit application for final payment in accordance with provisions of the General Conditions of the Contract.
2. Engineer will issue a final Change Order reflecting all remaining adjustments to Contract Price not previously made by Change Orders.
3. The full amount of the Schedule of Values line item labeled "Contract Closeout" will be withheld as a portion of the final payment.
4. Final payment will not be executed until the Engineer has fully reviewed the Project records and found them to be in compliance with the Contract Documents.

1.4 FINAL CLEANING

- A. Execute final cleaning prior to Substantial Completion inspection.
- B. Remove grease, adhesives, dust, dirt, fingerprints, temporary labels, stains, and other foreign substances from interior and exterior surfaces exposed to view. Clean roofs, gutters, downspouts, and drainage systems.
- C. Remove waste, debris, and surplus materials from the site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep clean. Rake clean other exterior surfaces.

1.5 PROJECT RECORD DOCUMENTS

- A. In accordance with Section 01720 Project Record Documents.

1.6 OPERATION AND MAINTENANCE INSTRUCTIONS

- A. In accordance with Section 01730 Operation and Maintenance Data.

1.7 WARRANTIES

- A. In accordance with Section 01740 Warranties and Bonds.

1.8 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual Specification Sections.
- B. Deliver to project site and place in location as directed, obtain receipt prior to final payment.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01700

SECTION 01720 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Maintenance of Record Documents.
- B. Submittal of Record Documents.

1.2 RELATED REQUIREMENTS

- A. Document 00700 - General Conditions.
- B. Section 01300 - Submittals: Shop drawings, product data.
- C. Section 01700 - Contract Closeout.
- D. Individual Specifications Sections: Manufacturer's certificates and certificates of inspection.

1.3 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. In addition to requirements in General Conditions, maintain at the site or designated location, for the Engineer one record copy of:
 - 1. Contract Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed shop drawings, product data, and samples.
 - 6. Field test records.
 - 7. Inspection certificates.
 - 8. Manufacturer's certificates.
- B. Prior to Substantial Completion, provide original or legible copies of each item maintained by the Contractor as listed in Section 01720, 1.3A above.
- C. Delegate responsibility for maintenance of Record Documents to one person on the Contractor's staff as approved in advance by the Engineer.
- D. Promptly following award of contract, secure from Engineer, at no charge to Contractor, one complete set of all documents comprising the Contract.
- E. Immediately upon receipt of job set, described above, stamp each document with title "RECORD DOCUMENTS - JOB SET."
- F. Store Record Documents apart from documents used for construction. Provide secure storage for Record Documents.
- G. Label and file Record Documents in accordance with Section number listings in Table of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
- H. Maintain Record Documents in a clean, dry and legible condition. Do not use Record Documents for construction purposes.

- I. Use all means necessary to maintain job set of Record Documents completely protected from deterioration and from loss and damage until completion of Work and transfer of recorded data to Engineer.
- J. Keep Record Documents and samples available for inspection by Engineer.
- K. Engineer's approval of current status of Record Documents will be prerequisite to Engineer's approval of and request for final payment.
 - 1. Prior to submitting request for final payment, submit final Record Documents to Engineer and secure his approval.
- L. Do not use job set for any purpose except entry of new data and for review and copying by Engineer.

1.4 RECORDING

- A. Record information on a set of black line or opaque Drawings, and in a copy of a Project Manual, provided by Engineer.
- B. Using colored felt tip marking pens or colored pencil, maintaining separate colors for each major system, clearly describe changes by note and by graphic line, as required. Date all entries. Call attention to entry by a "cloud" around area or areas affected.
- C. Thoroughly coordinate all changes within Record Documents, making adequate and proper entries on each Specification Section and each sheet of Drawings and other Documents where such entry is required to properly show change or selection. Accuracy of records shall be such that future search for items shown in Contract Documents may reasonably rely on information obtained from approved Record Documents.
- D. Record all entries within 24 hours of receipt of information and concurrently with construction progress. Do not conceal any Work until required information is recorded.
- E. Contract Drawings and Shop Drawings: Legibly mark each item to record actual construction, including:
 - 1. Use all means necessary, including proper tools for measurement, to determine actual location of installed items.
 - 2. Field changes of dimension and detail.
 - 3. Changes made by Modifications.
 - 4. Details not on original Contract Drawings.
 - 5. References to related shop drawings and Modifications.
 - 6. Where changes are caused by Contractor-originated proposals approved by Engineer, including inadvertent errors by Contractor which have been accepted by Engineer, clearly indicate change by note.
 - 7. Show on job set Record Drawings, by dimension accurate within one inch (1"), centerline of each run of items described in sub-paragraphs 3 and 4 above. Identify item by accurate note such as "Intercom Control Unit", etc. Show by symbol or note, vertical location of item (in ceiling plenum", "exposed", etc.). Make all identification sufficiently descriptive that it may be related reliably to Specifications.
- F. Specifications: Legibly mark each item to record actual construction, including:

1. Manufacturer, trade name, and catalog number of each product actually installed, particularly optional items and substitute items.
2. Changes made by Addenda and Modifications.

1.5 SUBMITTALS

- A. Upon submittal of completed total set of Record Documents to Engineer, participate in review meeting(s) as required by Engineer, make required changes in Record Documents, and promptly deliver final Record documents to Engineer and samples under provisions of Section 01700.
- B. Transmit with cover letter in duplicate, listing:
 1. Date.
 2. Project title and number.
 3. Contractor's name, address, and telephone number.
 4. Number and title of each Record Document.
 5. Signature of Contractor or authorized representative.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01720

SECTION 01730 - OPERATION AND MAINTENANCE DATA

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Format and content of manuals.
- B. Instruction of Department personnel.
- C. Schedule of submittals.

1.2 RELATED REQUIREMENTS

- A. Section 01300 - Submittals: Submittals procedures.
- B. Section 01300 - Submittals: Shop drawings, product data, and samples.
- C. Section 01700 - Contract Closeout.
- D. Section 01720 - Project Record Documents.
- E. Section 01740 - Warranties and Bonds.
- F. Individual Specifications Sections: Specific requirements for operation and maintenance data.

1.3 QUALITY ASSURANCE

- A. Prepare instructions and data by personnel experienced in maintenance and operations of described products.

1.4 FORMAT

- A. Prepare data in the form of an instructional manual.
- B. Binders: Commercial quality, 8-1/2 x three-ring binders with hardback, cleanable, plastic covers; one inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- C. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; list title of Project; identify subject matter of contents.
- D. Arrange content by systems, under section numbers and sequence of Table of Contents of this Project Manual.
- E. Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- F. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.
- G. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

1.5 CONTENTS, EACH VOLUME

- A. Table of Contents: Provide Department's Project title; Department's Project number; names, addresses, and telephone numbers of Consultant(s) and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
- B. For Each Product or System: List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.

- D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control diagrams. Do not use Project Record Documents as maintenance drawings.
- E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- F. Warranties and Bonds: Bind in copy of each.

1.6 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Give function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
- B. Include as-installed color coded wiring diagrams.
- C. Operating Procedures: Include start-up and routine normal operating instructions and sequences. Include control, shut-down, and emergency instructions. Include any special operating instructions.
- D. Maintenance Requirements: Include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- E. Provide servicing schedule.
- F. Include manufacturer's printed operation and maintenance instructions.
- G. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- H. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- I. Additional Requirements: As specified in individual Specifications sections.

1.7 INSTRUCTION OF OWNER PERSONNEL

- A. Before final inspection, instruct Department designated personnel in operation, adjustment, and maintenance of products, equipment, and systems, at agreed upon times.
- B. Use operation and maintenance manuals as basis of instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- C. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

1.8 SUBMITTALS

- A. For equipment, or component parts of equipment put into service during construction and operated by Department, submit documents within ten days after acceptance.
- B. Submit one copy of completed volumes in final form 15 days prior to final inspection. Copy will be returned after final inspection, with Engineer comments. Revise content of documents as required prior to final submittal.
- C. Submit two copies of revised volumes of data in final form within ten days after final inspection.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01730

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SECTION 01740 - WARRANTIES AND BONDS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Format and content of manuals.
- B. Schedule of submittals.

1.2 RELATED REQUIREMENTS

- A. Section 00700 – General Conditions.
- B. Section 01700 - Contract Closeout.
- C. Section 01730 – Operation and Maintenance Data.
- D. Individual Specifications Sections: Specific requirements for operation and maintenance data.

1.3 FORM OF SUBMITTALS

- A. Bind in commercial quality, 8-1/2 x 11 inch three-ring binders with hardback, cleanable, plastic covers.
- B. Label cover of each binder with typed or printed title "WARRANTIES AND BONDS"; with title of Project and Department Project number; name, address and telephone number of Contractor; and name of responsible principal.
- C. Table of Contents: Neatly typed, in the sequence of the table of contents of the Project manual, with each item identified with the number and title of the Specification section in which specified, and the name of product or Work item.
- D. Separate each warranty or bond with index tab sheets keyed to the table of contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, Supplier, and manufacturer, with name, address, and telephone number of responsible principle.

1.4 PREPARATION OF SUBMITTALS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, Suppliers, and manufacturers, within ten days after completion of the applicable item of Work. Except for items put into use with Engineer permission, leave date of beginning of time of warranty until the date of Final Completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Retain warranties and bonds until time specified for submittal.

1.5 TIME OF SUBMITTALS

- A. Warranty period for equipment begins at Substantial Completion, unless otherwise approved by Engineer.
- B. For equipment or component parts of equipment put into service during construction with Engineer permission, submit documents within ten days after acceptance.
- C. Make other submittals within ten days after date of Final Completion, prior to final Application for Payment.
- D. For items of Work when acceptance is delayed beyond date of Final Completion, submit within ten days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01740

SECTION 07591

REROOFING PREPARATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Pre-Construction meeting agenda.
 - 2. Temporary roofing membrane.

1.3 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 and NRCA's online Technical Glossary (<http://www.nrca.net/Technical/Search/Glossary>) for definition of terms related to roofing work in this Section.
- B. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and reinstalled.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.5 QUALITY ASSURANCE

- A. Reroofing Conference: Conduct conference at Project site to comply with requirements in Division 1. Review methods and procedures related to roofing system including, but not limited to, the following:
 - 1. Meet with Owner; Architect, Roofing Installer including Superintendent, and Foreman.
 - 2. Review methods and procedures related to reroofing preparation, including roofing system manufacturer's written instructions.
 - 3. Review temporary protection requirements related to reroofing operations.
 - 4. Review roof drainage during each stage of reroofing.
 - 5. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 6. Review procedures to determine condition and acceptance of existing deck substrate for reuse.
 - 7. Review structural loading limitations of deck during reroofing.
 - 8. Review special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that will affect reroofing.
 - 9. Review HVAC shutdown and sealing of air intakes.

10. Review shutdown of fire-suppression, -protection, and -alarm and -detection systems.
11. Review procedures for unexpected discovery of asbestos-containing materials.
12. Review existing conditions that may require notification of Architect before proceeding.

1.6 PROJECT CONDITIONS

- A. Existing Roofing System: Metal Panels.
- B. Owner will occupy portions of building immediately below reroofing area. Conduct reroofing so Owner's operations will not be disrupted. Provide Owner with not less than 72 hours notice of activities that may affect Owner's operations.
 1. Coordinate work activities daily with Owner. Contractor to place protective dust or water leakage covers (6-mil polyethylene) over sensitive equipment or furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below the work area if desired.
 2. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below the affected area. Verify that occupants below the work area have been evacuated prior to proceeding with work over the impaired deck area.
- C. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- D. Maintain access to existing walkways, doorways, corridors, and other adjacent occupied or used facilities.
- E. Owner assumes no responsibility for condition of areas to be reroofed.
- F. Limit construction loads on roof to 100 lbs/wheel for rooftop equipment wheel loads and 60 lbs/sq. ft. for uniformly distributed, temporary loads.
- G. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering into existing roofing system or building.
- H. Hazardous Materials: It is not expected that hazardous materials, such as asbestos-containing materials, will be encountered in the Work other than that noted on the Title and Information Sheet.
 1. If materials other than those noted are suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Unexpected hazardous materials will be removed by Owner under a separate contract.

PART 2 PRODUCTS

2.1 TEMPORARY ROOFING MATERIALS

- A. EPDM membrane.

2.2 AUXILIARY REROOFING MATERIALS

- A. General: Auxiliary reroofing preparation materials recommended by roofing system manufacturer for intended use and compatible with components of new roofing system.

PART 3 EXECUTION

3.1 PREPARATION

- A. Protect existing roofing system, where work or traffic will occur and could damage roof system.
- B. Coordinate with Owner to shut down air intake equipment in the vicinity of the Work. Cover air intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.
- C. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- D. Verify that rooftop utilities and service piping have been shut off before commencing Work.

3.2 DISPOSAL

- A. Collect and place demolished materials in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
 - 1. Storage or sale of demolished items or materials on-site will not be permitted.
- B. Transport demolished materials off of Owner's property and legally dispose of them.

END OF SECTION 07591

Repair Palmer Hangar Roof
Project No. 35038-1

Appendix A
Asphalt Shingle Warranty Requirements

1.1 ASPHALT SHINGLE ROOF SYSTEM WARRANTIES

- A. Special Manufacturer's Warranty: Manufacturer's standard form, without monetary limitation, in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.
 - 1. Special warranty includes roofing membrane, base flashings, roofing membrane accessories, vapor retarder, and other components of roofing system above the steel deck.
 - 2. Material Warranty Period: 50 years from date of Substantial Completion, prorated, with first five years nonprorated.
 - 3. Wind Warranty: Resistance up to and including 110 MPH (3-second gust speed) per the 2009 IBC.
- B. Special Project Warranty: Submit roofing Installer's warranty on warranty form below, signed by Installer, covering Work of this Section, including all components of roofing system such as roofing membrane, base flashing, fasteners, for the following warranty period:

Warranty Period: Two years from date of Substantial Completion.

1.2 ROOFING INSTALLER'S WARRANTY

- A. WHEREAS <NAME> of <ADDRESS>, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:
- 1.
 2. Owner: _____
 3. Address: _____
 4. Building Name: _____
 5. Address: _____
 6. Area of Work: Roof
 7. Acceptance Date: _____
 8. Warranty Period: 2 years
 9. Expiration Date: _____
- B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,
- C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.
- D. This Warranty is made subject to the following terms and conditions:
1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
 - a. lightning;
 - b. fire;
 - c. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
 - d. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work, unless constructed by roofing installer;
 - e. vapor condensation on bottom of roofing; and
 - f. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
 2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof has been paid by Owner or by another responsible party so designated.

3. The Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents, resulting from leaks or faults or defects of work.
4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void, unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
6. The Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this ____day of _____, 2015.

1. Authorized Signature: _____
2. Name: _____
3. Title: _____

End

Repair Palmer Hangar Roof
Project No. 35038-1

Appendix B
Plans

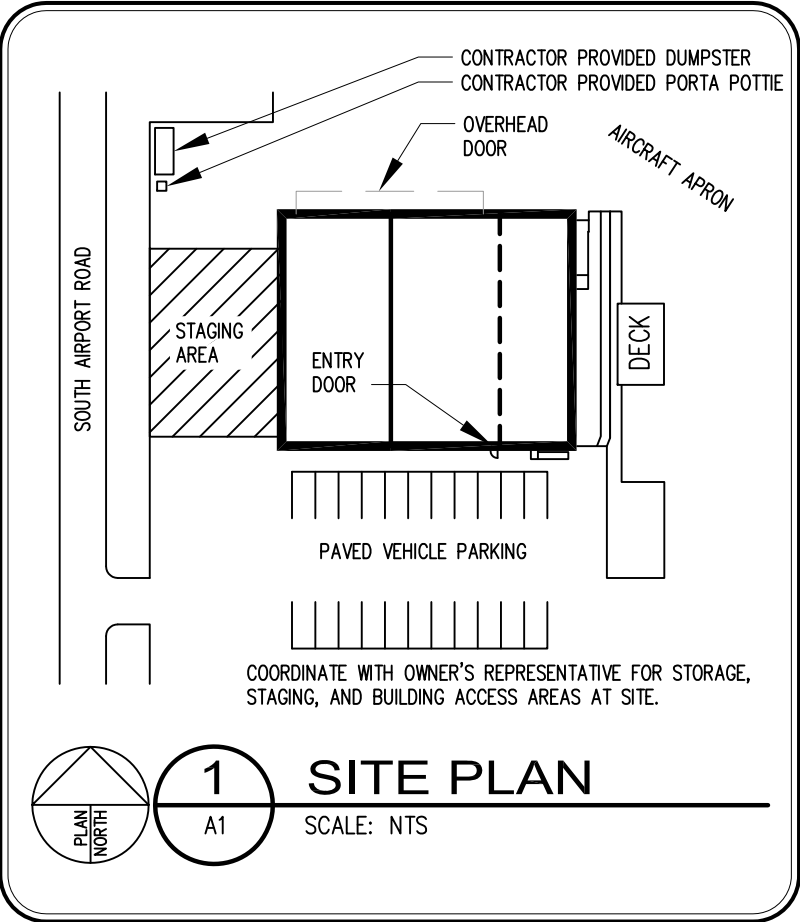
REPAIR PALMER HANGAR ROOF

GENERAL NOTES

- THE "NATIONAL ROOFING CONTRACTOR'S ASSOCIATION (NRCA) ROOFING MANUAL" AND THE "ARCHITECTURAL SHEET METAL MANUAL" (BY SMACNA) ARE TO BE USED AS THE BASIS FOR THIS DESIGN AND ARE TO BE USED BY THE CONTRACTOR AS A BASIS FOR CONSTRUCTION, UNLESS OTHERWISE NOTED.
- EXISTING CONDITIONS ARE SHOWN AS ACCURATELY AS POSSIBLE. SITE VERIFY ALL INFORMATION NOTED IN THESE CONTRACT DOCUMENTS.
- ALL DETAILS ARE TO BE CONSIDERED TYPICAL. SIMILAR DETAILS OCCUR AT SIMILAR LOCATIONS.
- NO SILICONE SEALANT IS TO BE USED. USE APPROVED POLYURETHANE SEALANT.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES, ELECTRICAL EQUIPMENT AND WIRING BEFORE PROCEEDING WITH ANY WORK.
- ALL NEW ROOFING AND BUILDING MATERIALS ARE TO BE KEPT DRY.
- CONTRACTOR TO WORK ON ONLY THE PORTION OF THE ROOFING THAT CAN BE WATERPROOFED THAT DAY.
- CLEANING DURING CONSTRUCTION: CONTROL ACCUMULATION OF WASTE MATERIALS AND RUBBISH. DISPOSE OF WASTE IMMEDIATELY TO DUMPSTER, SECURED LOCATION, OR OFFSITE. KEEP AREAS FREE OF HAZARDS AND RUBBISH.
- BUILDING IS TO BE OCCUPIED DURING REROOF WORK. COORDINATE ALL WORK SO AS TO NOT INTERRUPT OCCUPANCY REQUIREMENTS.
- CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE SITE AND BUILDING FROM PROJECT RELATED DAMAGE.
- TAKE SPECIAL CARE TO SECURE ALL CONSTRUCTION AND DEMOLITION MATERIALS FROM WIND DISPLACEMENT. "ZERO" MATERIALS ARE TO BE ON THE GROUND OR RUNWAY.
- COORDINATE WITH OWNER'S REPRESENTATIVE TO ACCOMMODATE ANY SPECIAL REASONABLE NEEDS.
- MAINTAIN ALL SITE ACCESS AND BUILDING OCCUPANT AND VEHICLE ENTRIES FREE FROM OBSTRUCTIONS AT ALL TIMES.
- STAGING AREAS, BUILDING ACCESS AND CONSTRUCTION ACTIVITIES TO BE COORDINATED WITH OWNER'S REPRESENTATIVE.
- CONTRACTOR TO BE RESPONSIBLE FOR TEMPORARY FENCING AND MATERIAL STORED ON SITE.
- CONTRACTOR MAY UTILIZE POWER AND WATER AT THE SITE AT NO COST.
- CONTRACTOR TO PROVIDE PORTABLE TOILETS.
- COORDINATE ANY BUILDING EQUIPMENT SHUTDOWNS WITH THE OWNER'S REPRESENTATIVE.
- COMPLY WITH APPLICABLE CODES IN PLACE AT TIME OF CONSTRUCTION.
- ANY WORK THAT BLOCKS THE HANGAR DOOR OR UTILIZES AIRCRAFT ACCESSIBLE RAMP AREA REQUIRES COORDINATION WITH THE DOF PROJECT ENGINEER 24 HOURS IN ADVANCE.
- CONTRACTOR SHALL PROVIDE OWN DUMPSTER.

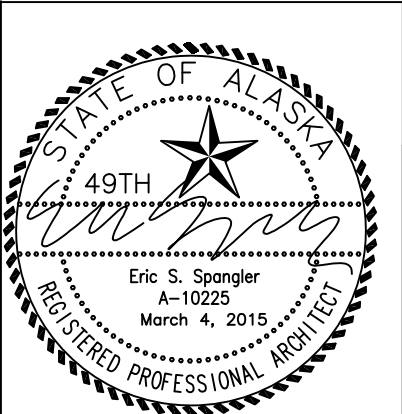
PRODUCT LIST

- LUMBER:
DIMENSIONAL LUMBER TO BE HEM-FIR No. 2 OR BETTER
- EPS:
EXPANDED POLYSTYRENE FOAM ASTM C 578 TYPE II, 1.35-lb/cu. ft. MINIMUM DENSITY. PROVIDED BY INSULFOAM OR APPROVED EQUAL.
- SHEATHING:
ROOF SHEATHING TO BE 1/2" APA RATED PLYWOOD, EXPOSURE 1, MINIMUM 3-PLIES AND 24/16 RATING. TO BE FASTENED TO THE EXISTING FACILITY WITH ITW BUILDEX WOOD TO METAL TEKS, #12 x 3", #4 POINT (FASTENAL #32086) PER PATTERN CALLED OUT ON 2/A2.
- FASTENERS:
PRE-MANUFACTURED HARDWARE TO BE SIMPSON OR APPROVED EQUAL. NAILS TO BE COMMON WIRE NAILS, UON. NAILING SHALL CONFORM TO TABLE 2304.9.1 OF THE IBC. SEE ITEM 3 AND DETAILS FOR SPECIFIC FASTENERS.
- SELF ADHERED MEMBRANE (SAM):
ICE AND WATER SHIELD BY WR GRACE OR CARLISLE 725TR.
- ASPHALT SHINGLES:
ASTM D 3462, SBS MODIFIED LAMINATED. "LEGACY" BY MALARKEY OR APPROVED EQUAL. SHINGLES TO BE HAND TABBED WITH MANUFACTURER APPROVED SEALANT PER DETAIL 1/A6. COLOR TO BE SELECTED FROM STANDARD COLORS BY ARCHITECT.
- SHEET METAL TRIM:
ALUMINUM-ZINC ALLOY-COATED STEEL SHEET: ASTM A 792. SMOOTH FLAT SURFACE. TWO-COAT FLUOROPOLYMER FINISH, 24 GAUGE. COLOR TO BE SELECTED FROM STANDARD COLORS BY ARCHITECT. SUBMIT SHOP DRAWINGS, PRODUCT DATA AND METAL COLOR SAMPLES.
- ALUMINUM GUTTERS, DOWNSPOUTS AND ACCESSORIES:
SEE DRAWINGS. COLOR TO BE SELECTED FROM MANUFACTURERS STANDARD COLORS BY ARCHITECT.
- SEALANT:
POLYURETHANE SEALANT BY SIKA 15LM OR APPROVED EQUAL.
- HEAT TRACE:
SEE NOTES ON SHEET A6.
- WARRANTIES:
SEE ATTACHED WORKMANSHIP AND MANUFACTURERS WARRANTY SAMPLES. SUBMIT DRAFT AND FINAL.
- SUBMITTALS:
PROVIDE 8 1/2" x 11" SUBMITTAL PACKAGE TO THE OWNER AND THE OWNER'S REPRESENTATIVE LISTING THE PRODUCTS INTENDED TO BE USED WITH SHOP DRAWINGS AND PRODUCT DATA. APPROVAL REQUIRED.
- INSTALLATION OF PRODUCTS TO BE PER MANUFACTURERS WRITTEN INSTRUCTIONS.



SHEET INDEX

A1	INFORMATION SHEET	C1	DRYWELL PLAN
A2	ROOF PLAN	C2	DRYWELL DETAILS
A3	BUILDING ELEVATIONS		
A4	ROOF DETAILS	S1	GENERAL NOTES
A5	ROOF DETAILS	S2	STRUCTURAL PLAN & DETAILS
A6	ROOF DETAILS	S3	STRUCTURAL DETAILS
A7	ROOF DETAILS		
A8	ROOF DETAILS		

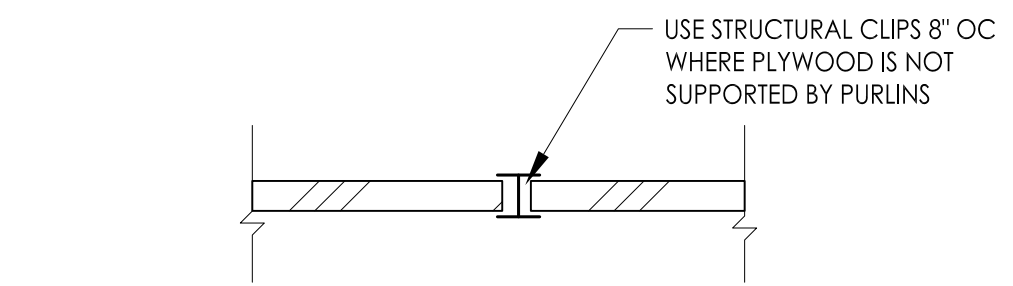
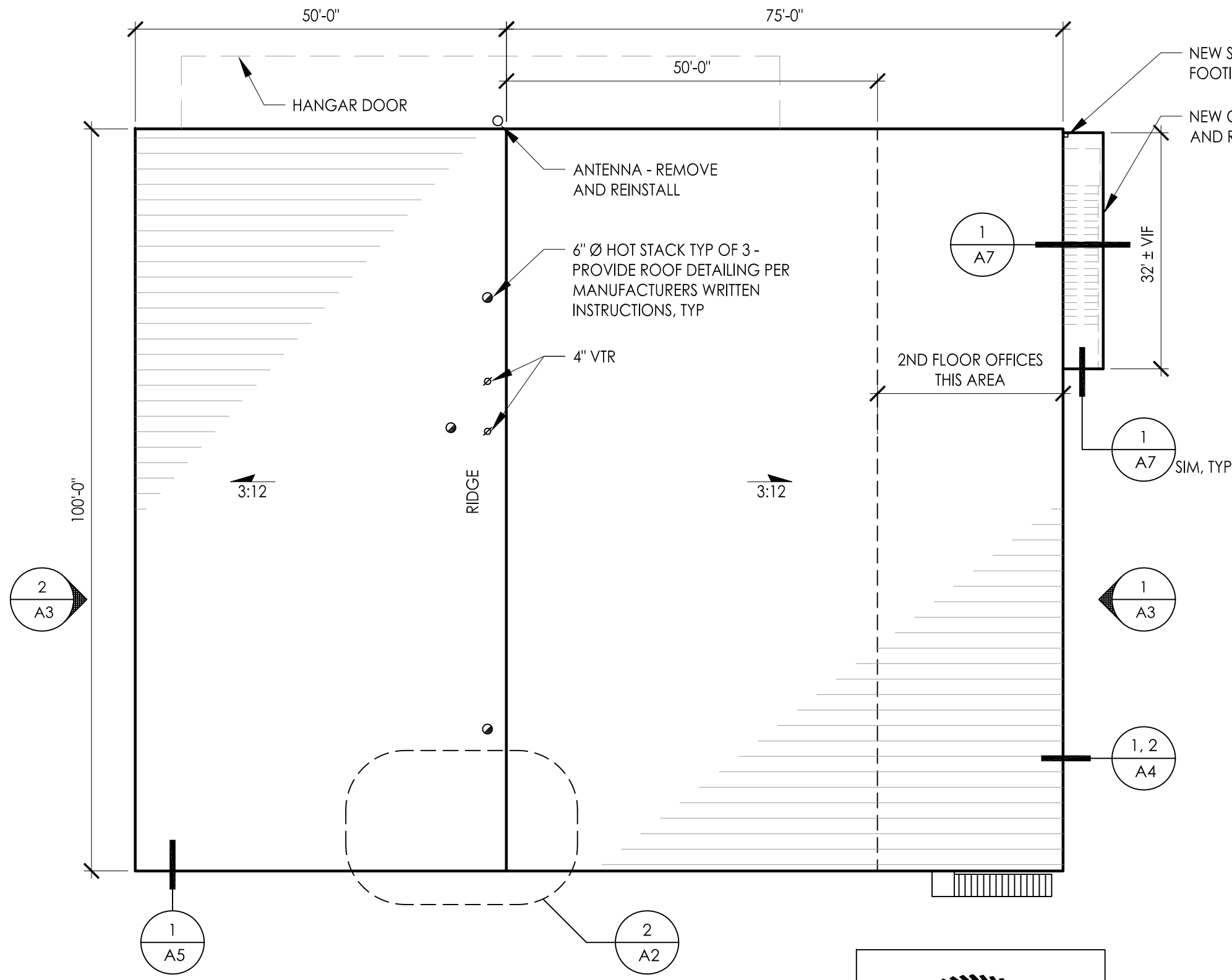


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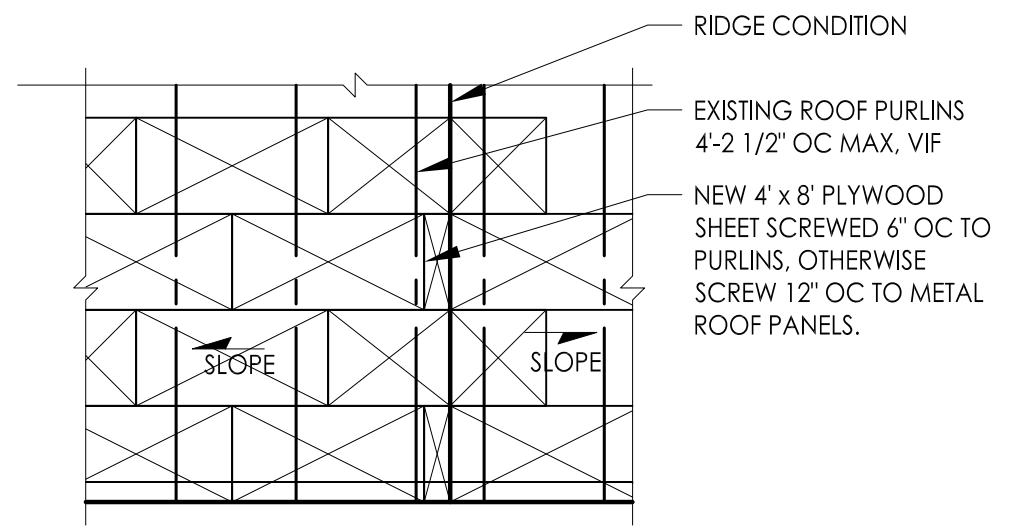
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DIVISION OF FORESTRY
**REPAIR PALMER
HANGAR ROOF**
PALMER, ALASKA

INFORMATION SHEET
DATE: MARCH 4, 2015

A1

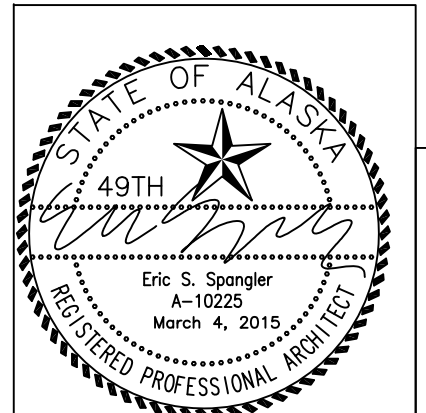


3 PLYWOOD JOINT, TYP
3" = 1'-0"



2 PLYWOOD LAYOUT
SCALE: NTS PARTIAL PLAN

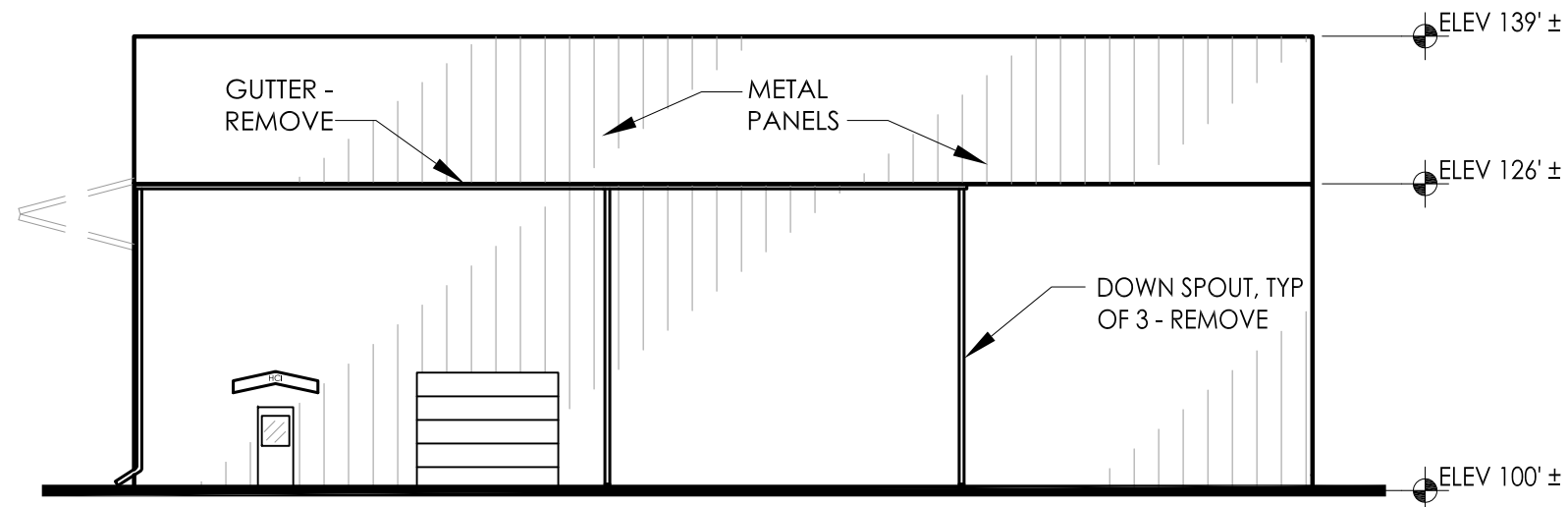
1 ROOF PLAN
1/16" = 1'-0"



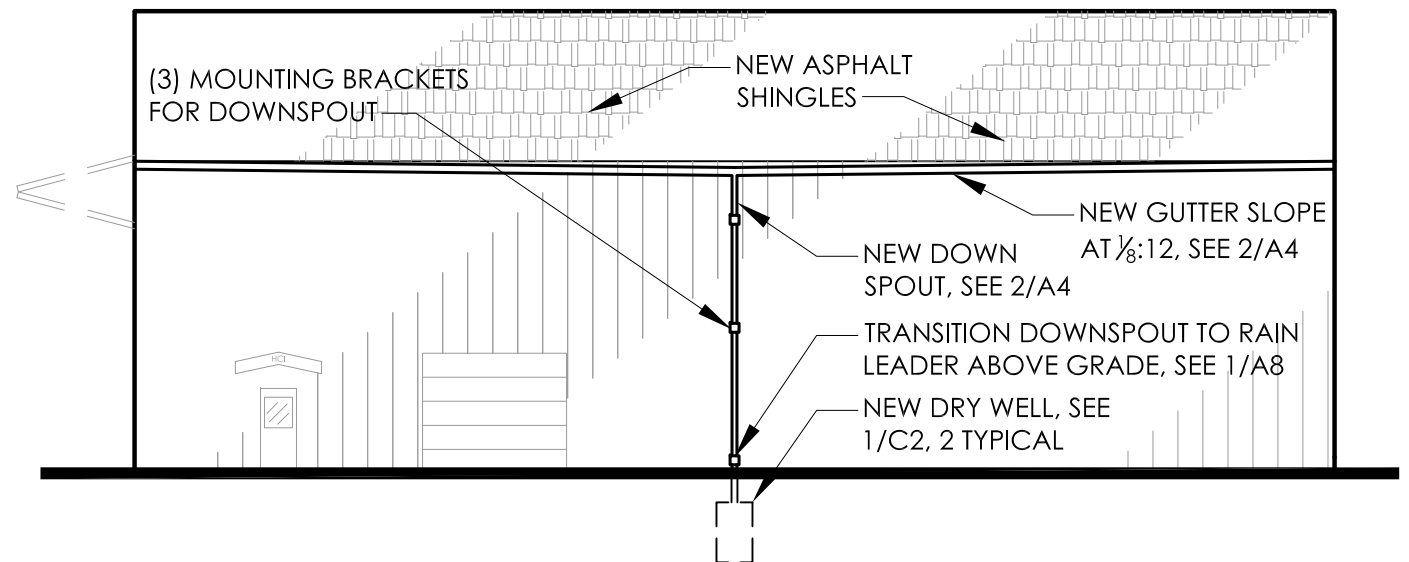
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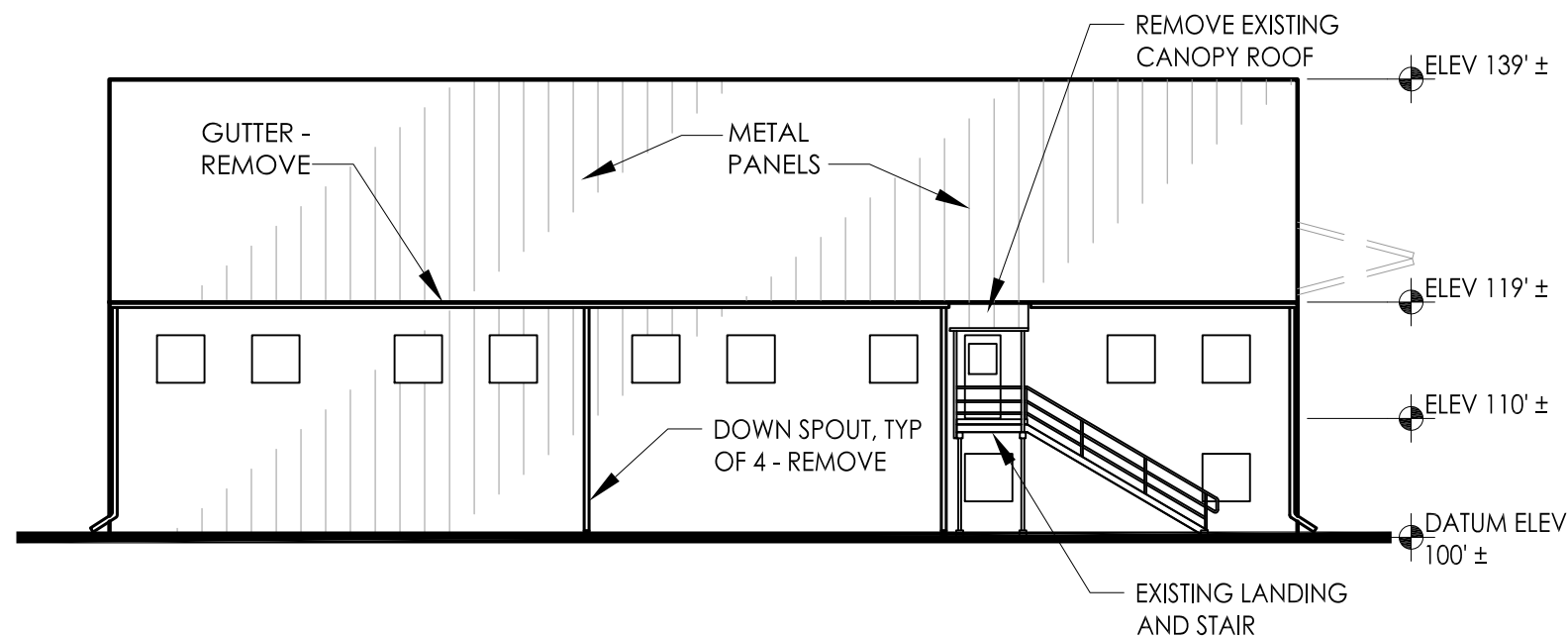
ROOF PLAN
DATE: MARCH 4, 2015
A2



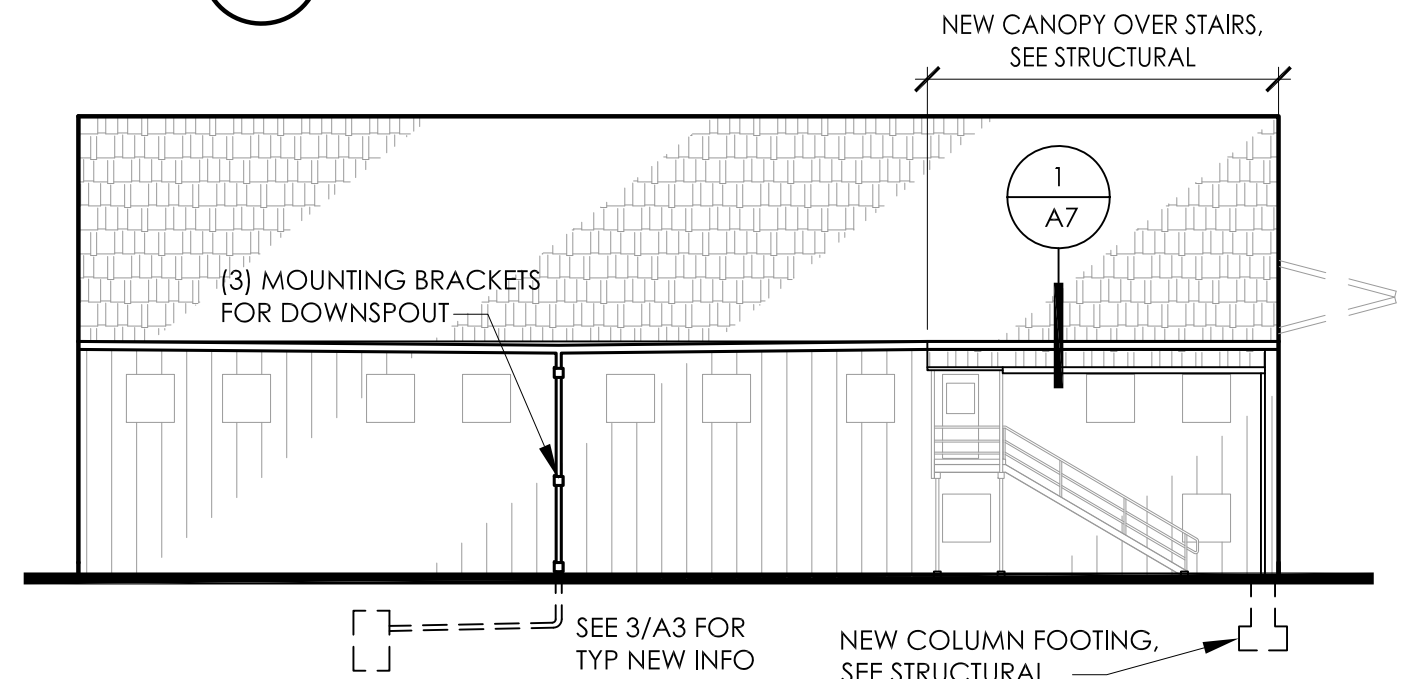
2 EXISTING WEST BUILDING ELEVATION
A3 1/16" = 1'-0"



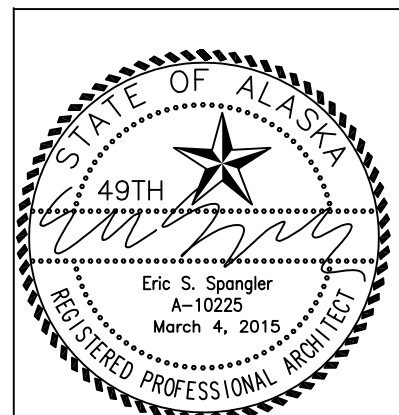
3 NEW WEST BUILDING ELEVATION
A3 1/16" = 1'-0"



1 EXISTING EAST BUILDING ELEVATION
A3 1/16" = 1'-0"



4 NEW EAST BUILDING ELEVATION
A3 1/16" = 1'-0"

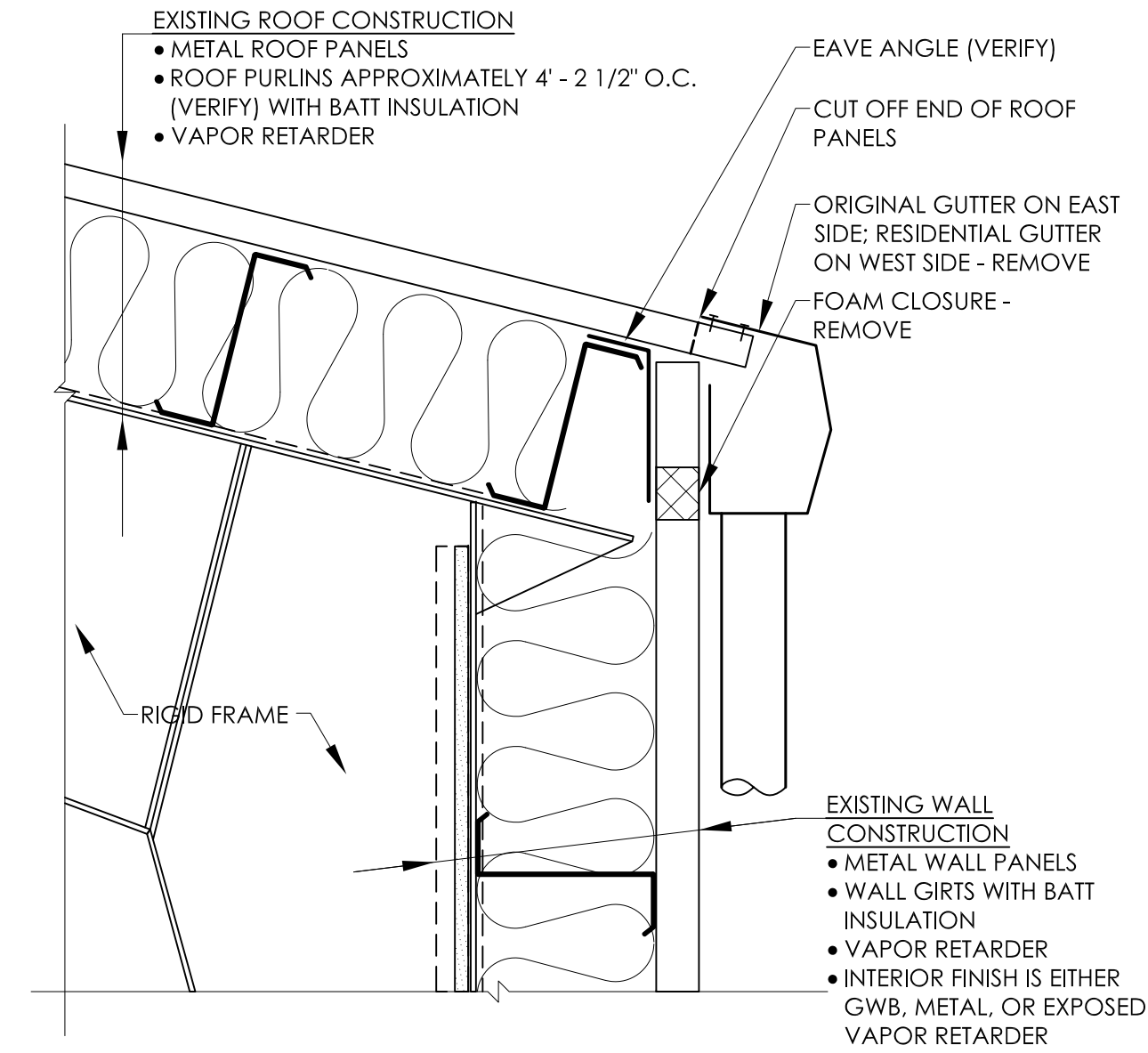


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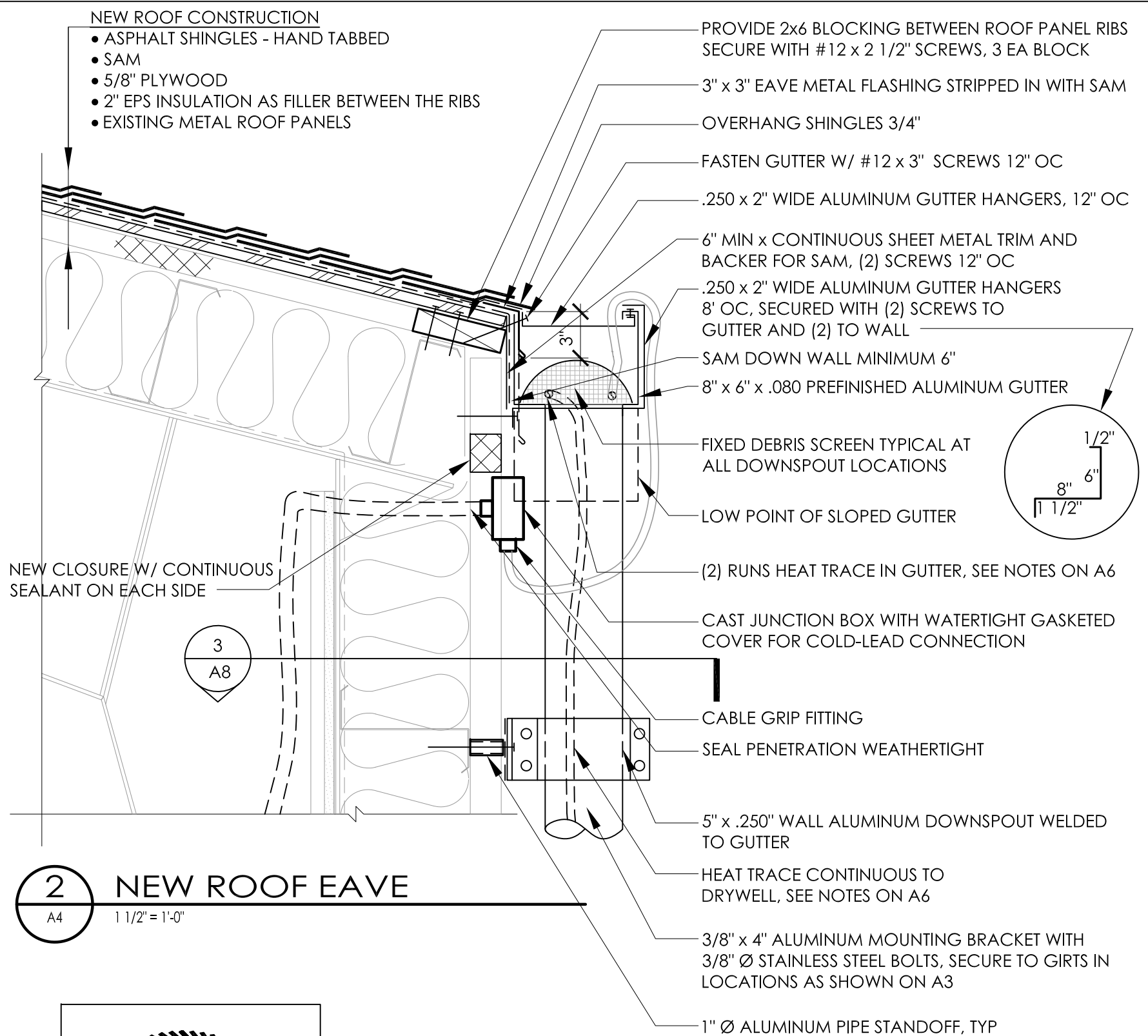
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BUILDING ELEVATIONS
DATE: MARCH 4, 2015

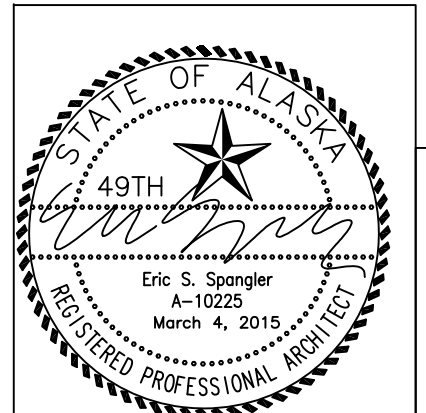
A3



1 EXISTING ROOF EAVE
A4 1 1/2" = 1'-0"



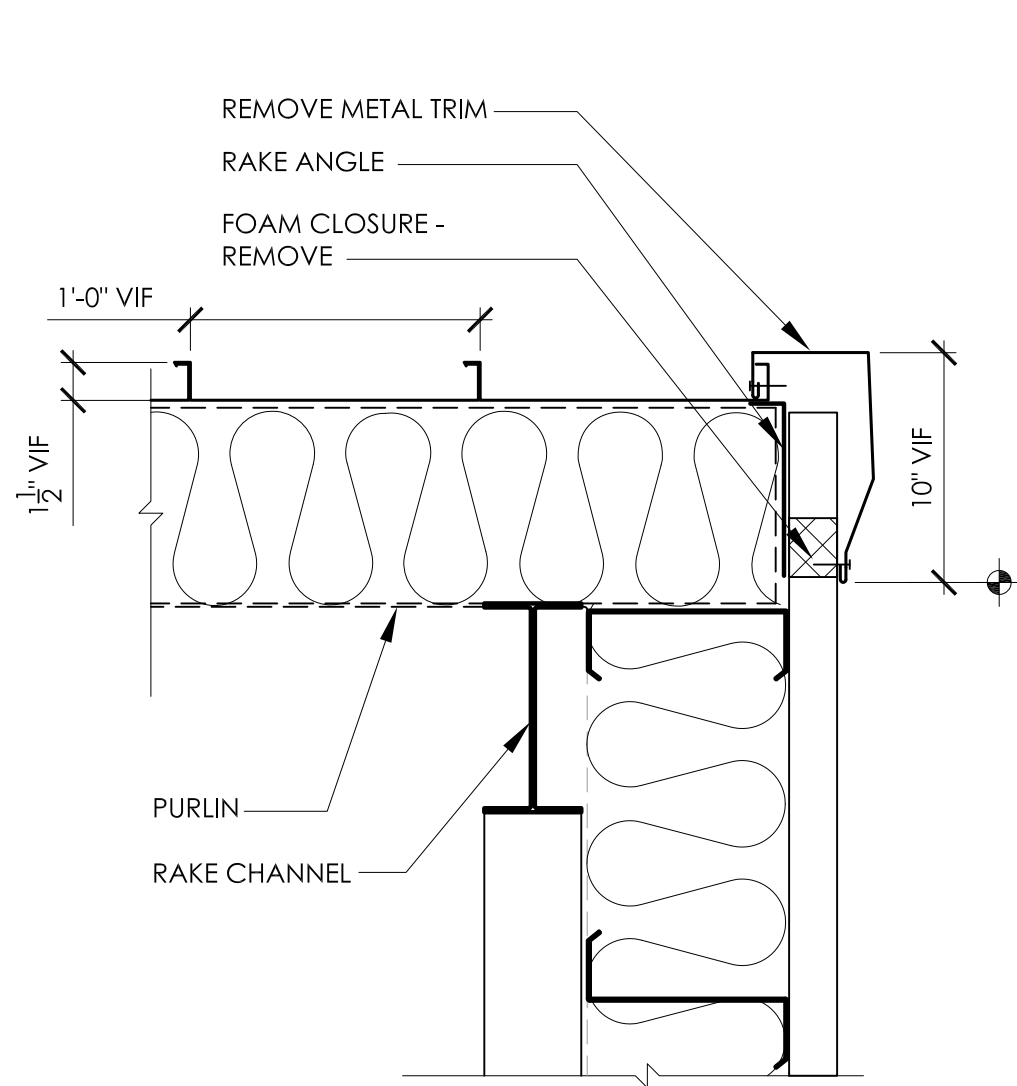
2 NEW ROOF EAVE
A4 1 1/2" = 1'-0"



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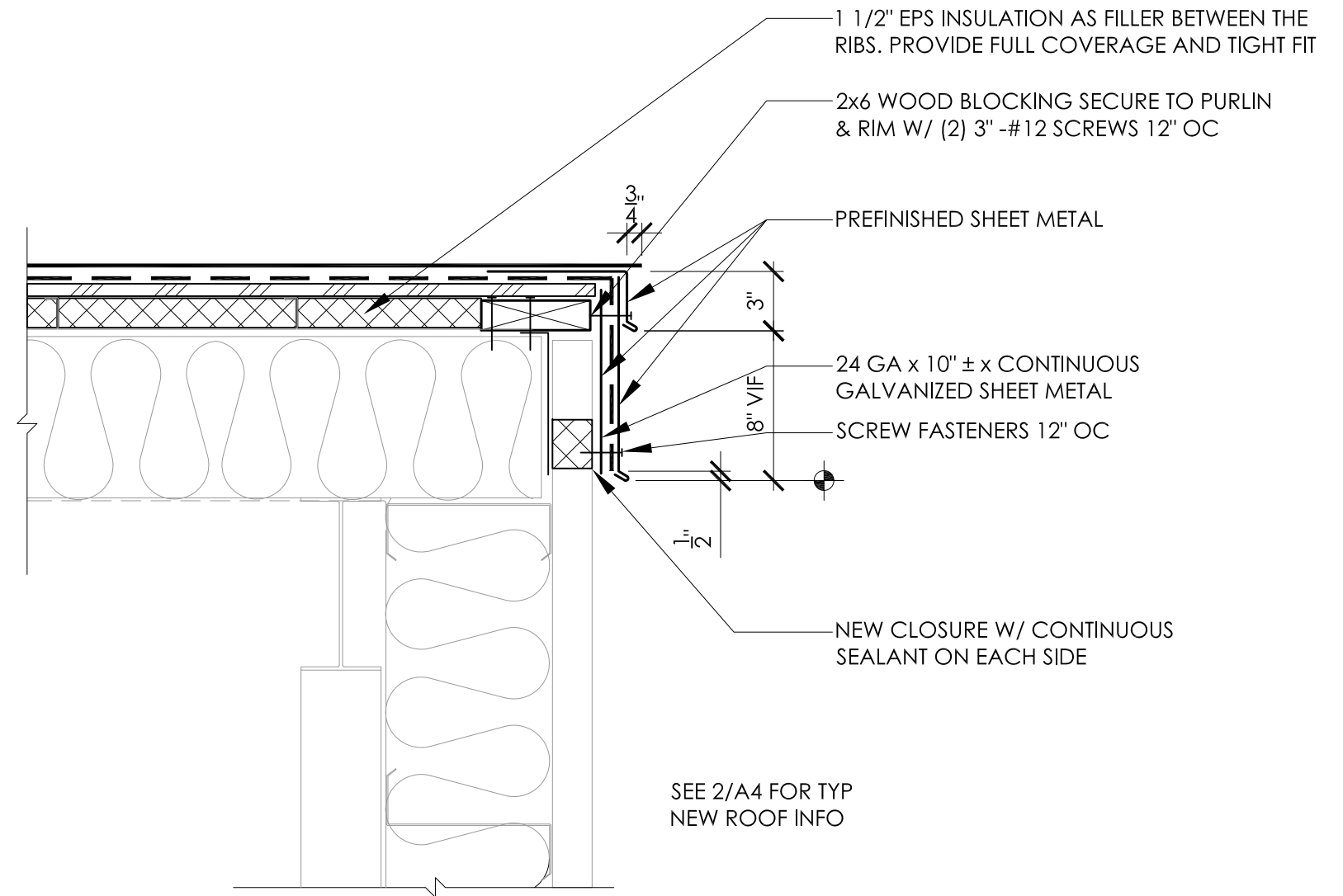
ROOF DETAILS
DATE: MARCH 4, 2015
A4



SEE 1/A4 FOR TYP INFO

1 EXISTING RAKE

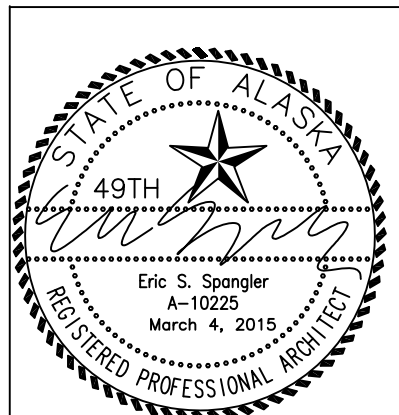
A5 1 1/2" = 1'-0"



SEE 2/A4 FOR TYP
NEW ROOF INFO

2 NEW RAKE

A5 1 1/2" = 1'-0"

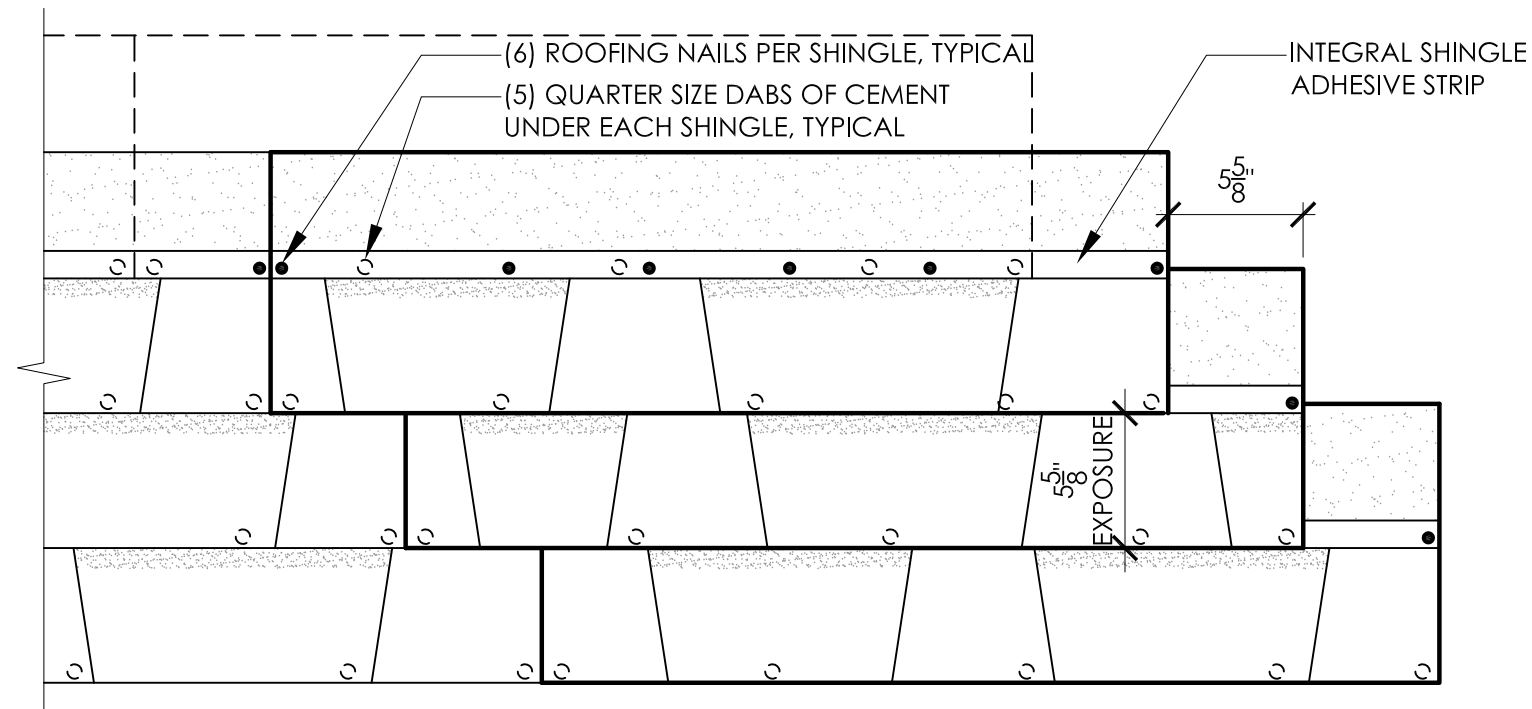


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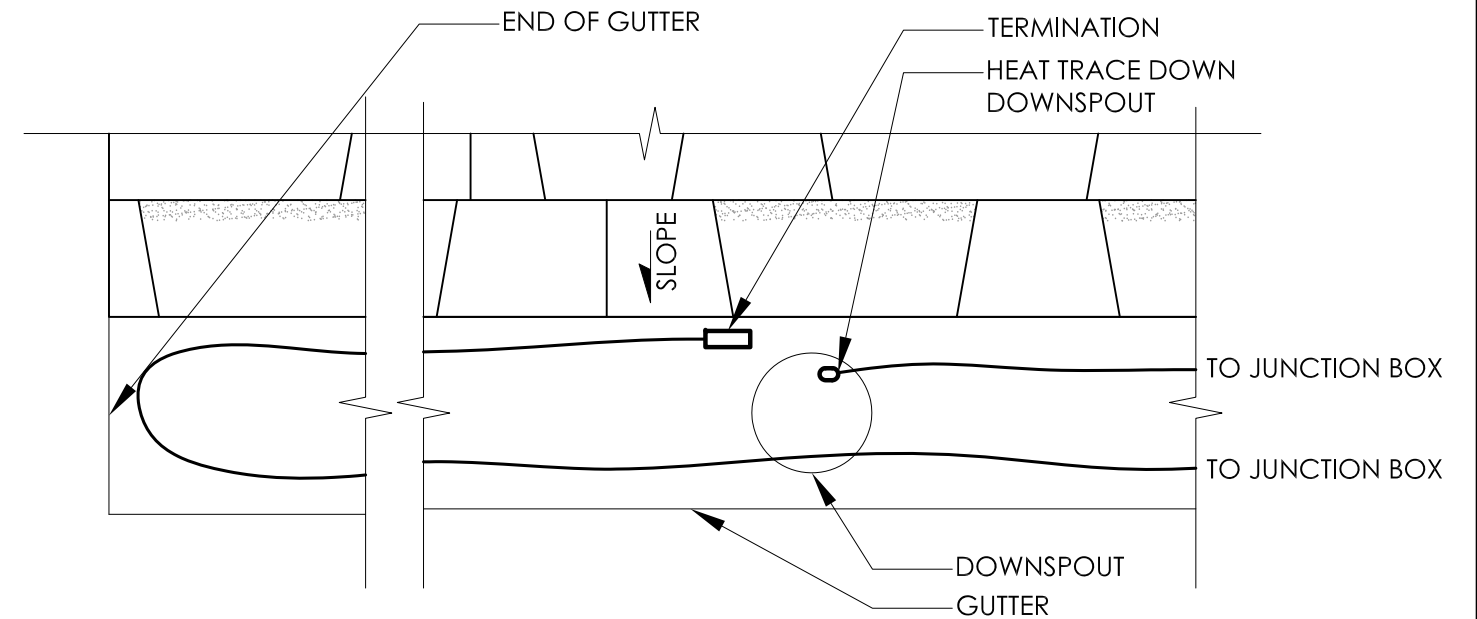
ROOF DETAILS
DATE: MARCH 4, 2015

A5



NOTES:

- FASTENERS MUST BE PLACED IN THE NAILING AREA, END FASTENERS SET $\frac{3}{4}$ " TO $1\frac{1}{4}$ " FROM EACH EDGE OF THE SHINGLE. WITH A $5\frac{5}{8}$ " OFFSET, THE REMAINING FOUR FASTENERS SHOULD BE PLACED AS SHOWN ON THE SAME LINE AS THE END FASTENERS.
- HAND TABBING SEALANT TO BE APPROVED BY SHINGLE MANUFACTURER AND ARCHITECT.



HEAT TRACE NOTES:

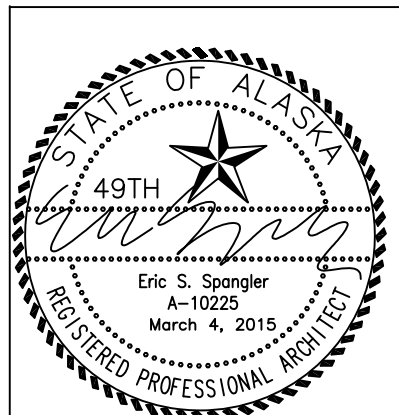
- WHERE HEAT TRACE TERMINATES IN GUTTER, INSTALL MANUFACTURER'S WATERPROOF TERMINATION KIT AND SECURE UP OFF BOTTOM OF GUTTER.
- HEAT TRACE TO BE SELF-REGULATING, 120V, RATED AT 5W/LF NOMINAL AT 0-DEGREES F, WITH WATERPROOF JACKET. PROVIDE WITH MANUFACTURER'S TERMINATION KITS AS REQUIRED.
- CONTRACTOR'S OPTION: SERVE FROM A DEDICATED 30mA GFI-EPD CIRCUIT BREAKER IN THE EXISTING PANELBOARD, INSTEAD OF FROM A RECEPTACLE CIRCUIT WITH GROUND-FAULT MODULE.
- CONDUIT IS TO BE EMT WITH STEEL COMPRESSION FITTINGS. LIQUID-TIGHT FLEXIBLE METAL CONDUIT MAY BE USED IF REQUIRED FOR EXTENDING THROUGH INACCESSIBLE AREAS, MINIMIZE LENGTH, FIELD VERIFY ROUTING.
- CONDUCTORS TO BE COPPER, 12AWG MINIMUM, WITH TYPE THHN-THWN OR XHHW INSULATION.

1 SHINGLE NAILING AND TABBING PATTERN

A6 1 1/2" = 1'-0"

2 DOWNSPOUT HEAT TRACE DETAIL

A6 1 1/2" = 1'-0"

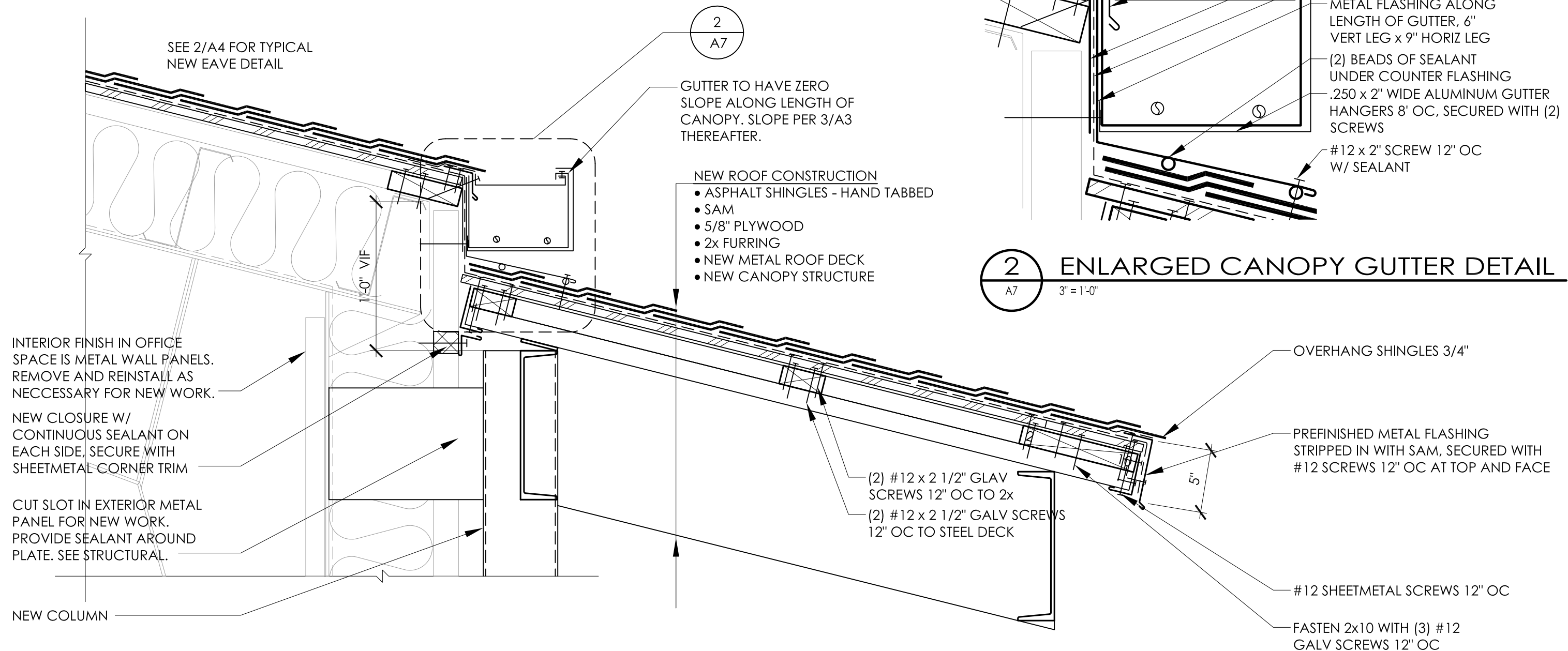


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A6



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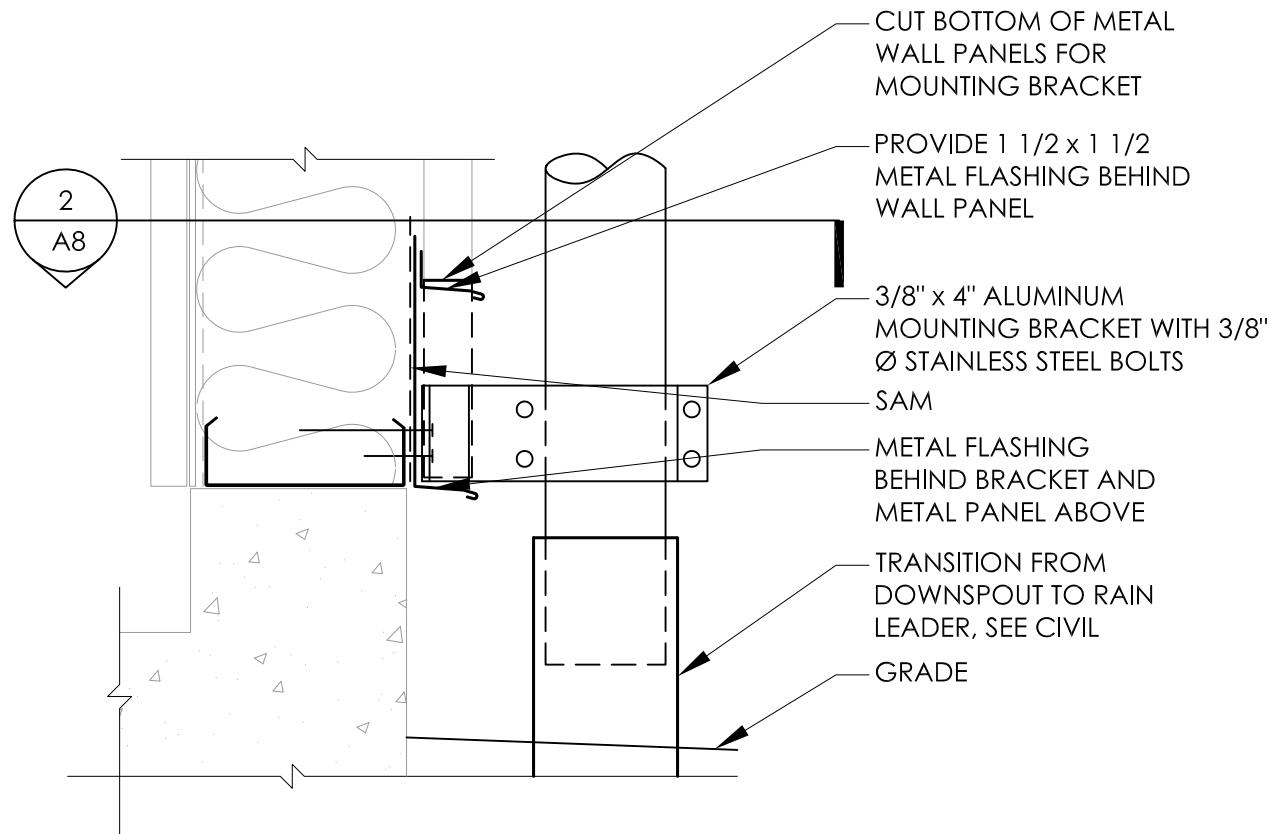
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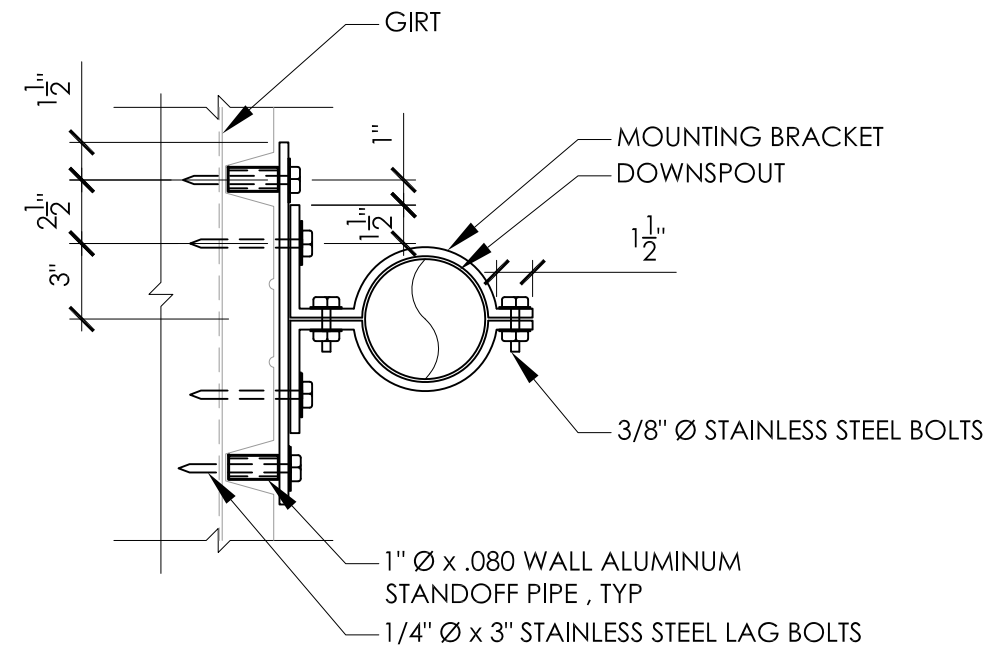
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ROOF DETAILS
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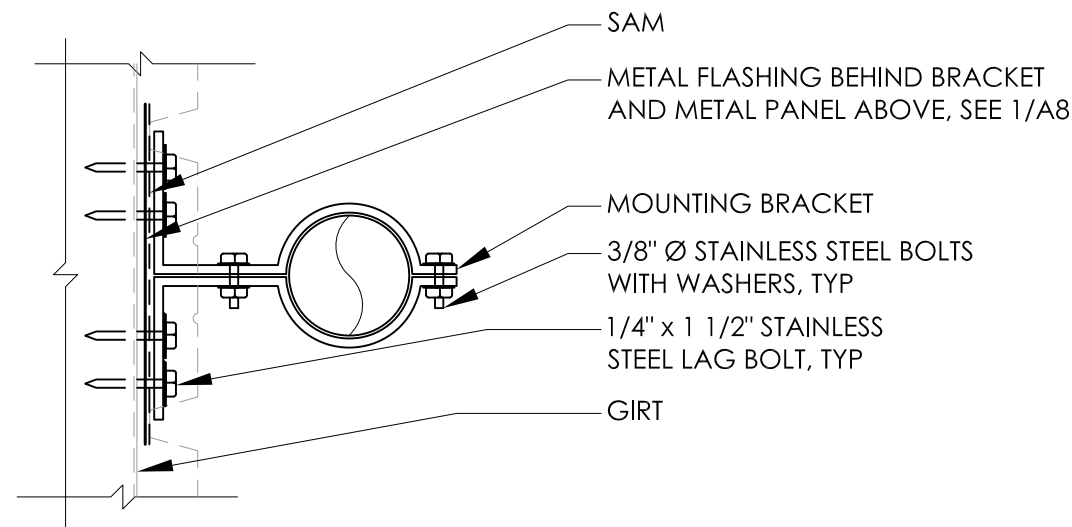
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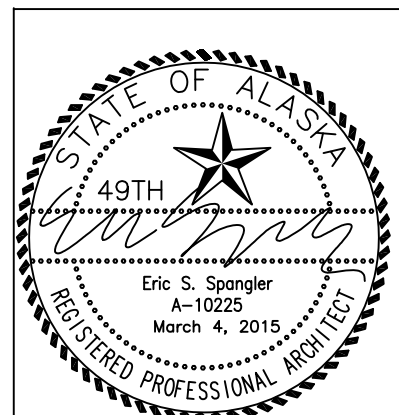
1 BOTTOM DOWNSPOUT SUPPORT
A8 1 1/2" = 1'-0" SECTION



3 TOP AND MIDDLE DOWNSPOUT
A8 1 1/2" = 1'-0" PLAN VIEW



2 BOTTOM DOWNSPOUT SUPPORT
A8 1 1/2" = 1'-0" PLAN VIEW

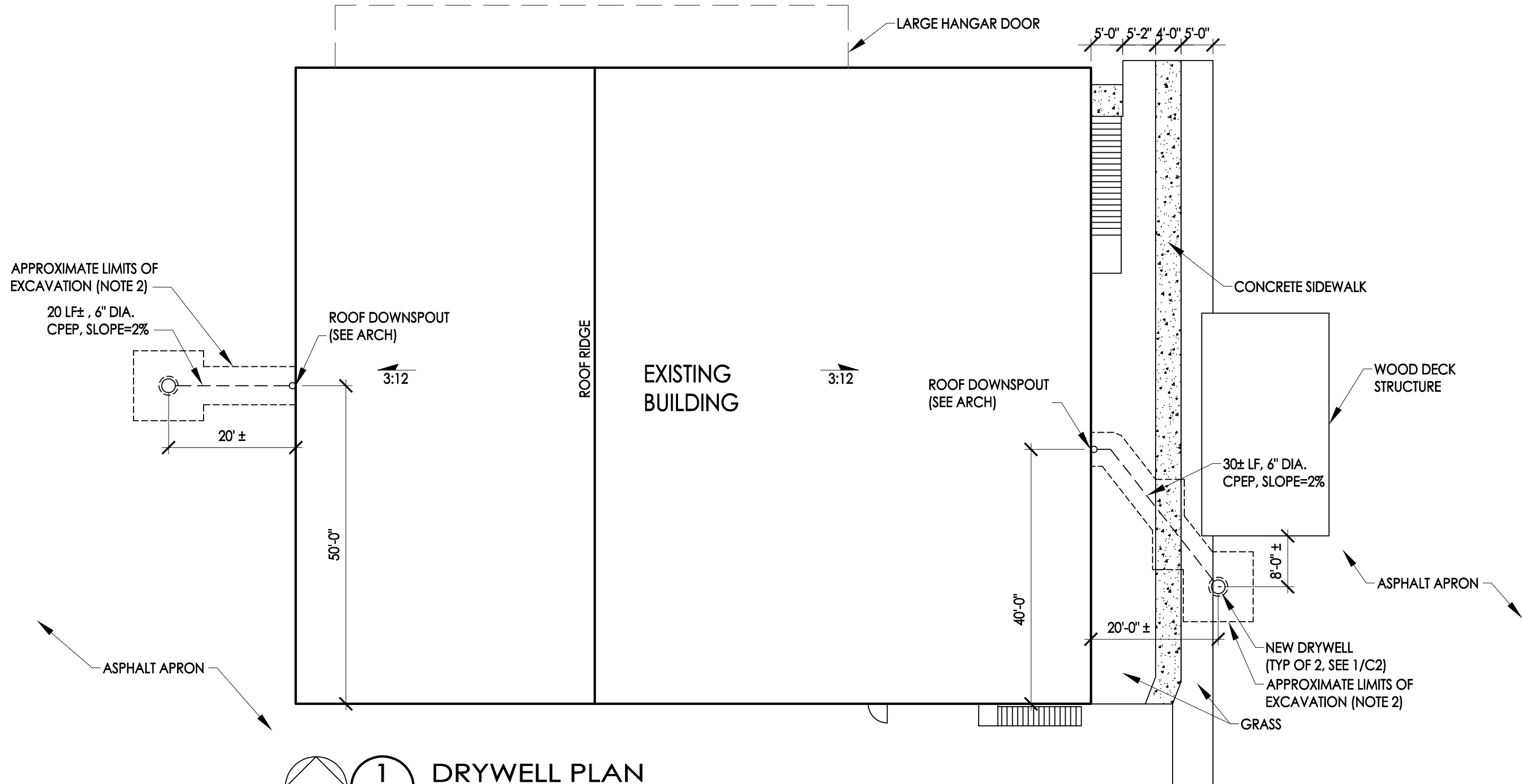


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ROOF DETAILS
DATE: MARCH 4, 2015

A8



1 DRYWELL PLAN
C1 1/16" = 1'-0"

- NOTES:
- FOR SOILS INFORMATION SEE GEOTECHNICAL INVESTIGATION: FORESTRY CONSOLIDATION FACILITY PAVEMENT UPGRADES, BY MARK HANSEN, DATED FEB. 2000.
 - SAWCUT, REMOVE AND DISPOSE OF EXISTING ASPHALT AND CONCRETE AS REQUIRED FOR NEW SITE IMPROVEMENTS.

ENTERPRISE
ENGINEERING, INC.

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FREEPORT, ME 04032
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FAX (207) 869-8015

2525 GAMBELL STREET
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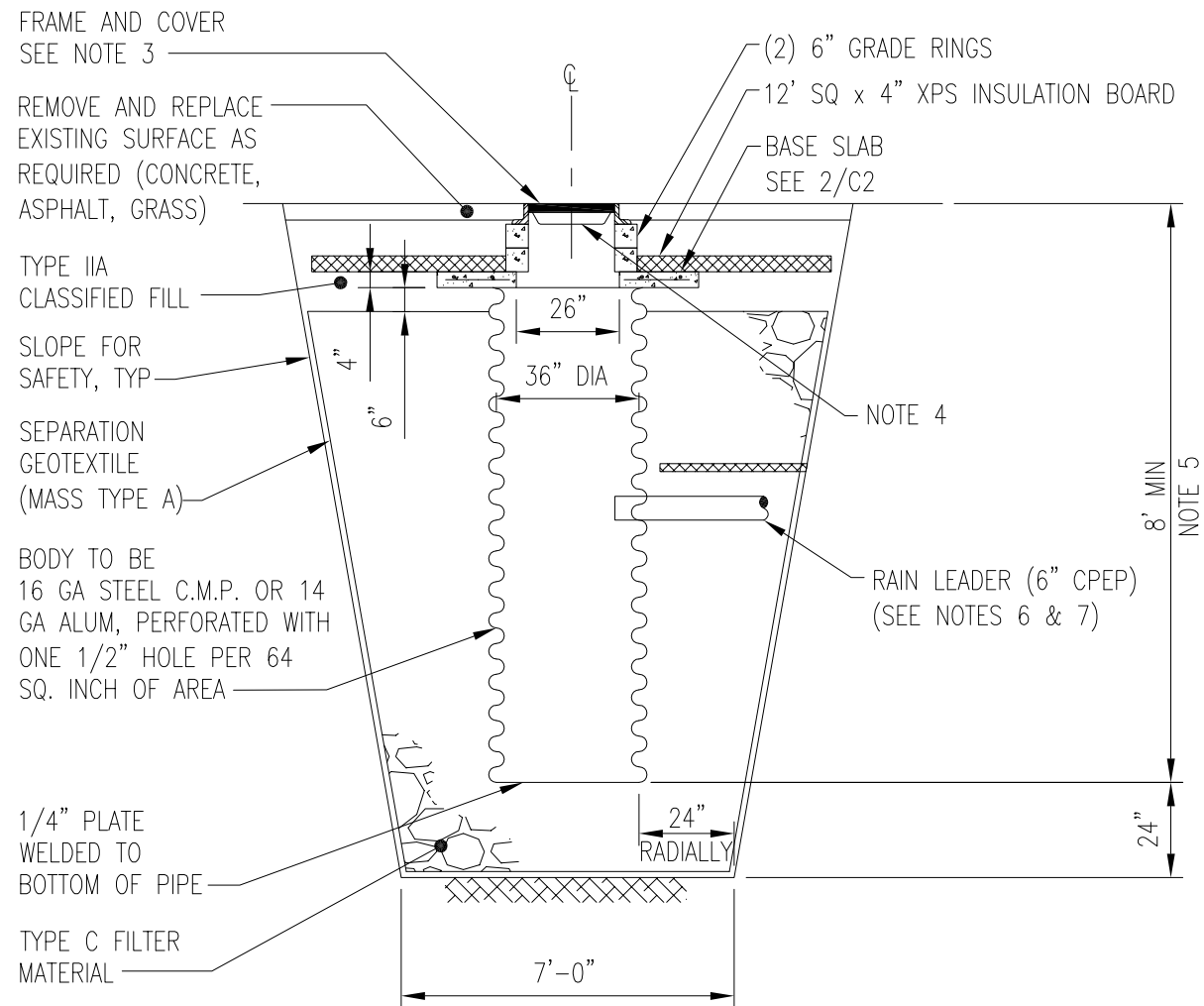
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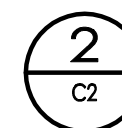
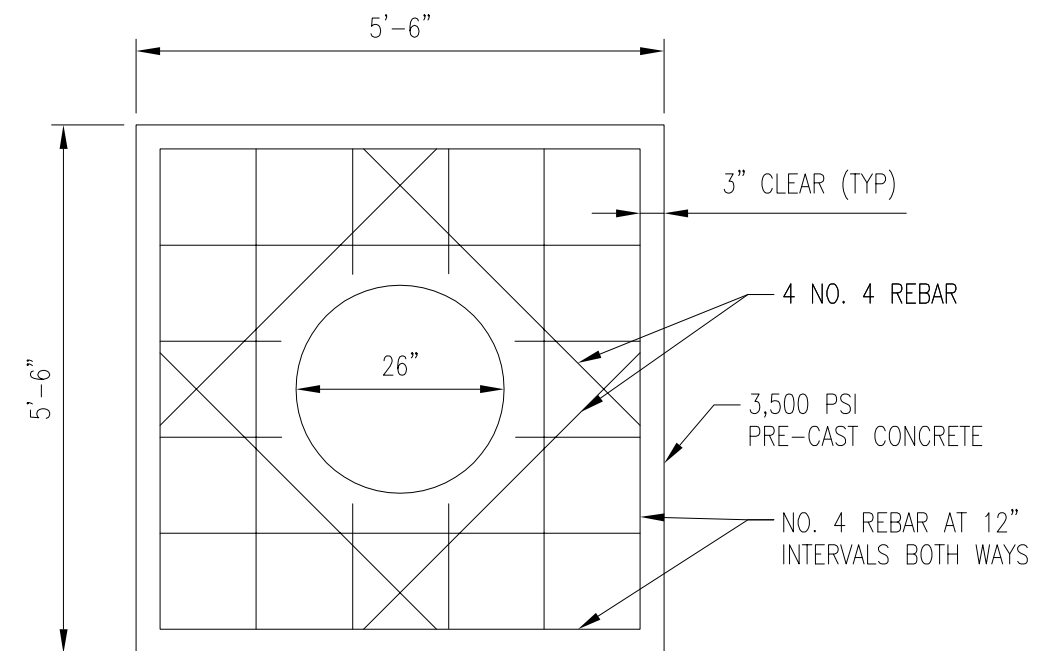
DRYWELL PLAN
DATE: FEBRUARY 27, 2015

C1



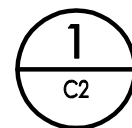
NOTES

1. DRYWELL AND DRAIN LEADER CONSTRUCTION AND MATERIALS SHALL MEET MUNICIPALITY OF ANCHORAGE STANDARD SPECIFICATIONS (MASS), CURRENT EDITION..
2. REMOVE AND REPLACE EXISTING SURFACE (CONCRETE, PAVEMENT, GRASS) AND STRUCTURAL SECTION BELOW (BASE COURSE) AS REQUIRED FOR PIPE AND DRYWELL INSTALLATION.
3. FRAME SHALL BE PER DETAIL 50-9. COVER SHALL BE PER DETAIL 55-7 (OMIT "DRAINS TO WATERWAYS").
4. PROVIDE DUST PAN. PLACE 3" THICK FOAM URETHANE IN PAN.
5. BOTTOM OF DRYWELL SHALL EXTEND INTO THE NATIVE SANDY GRAVEL SOILS (GP OR SP), ESTIMATED BETWEEN 6-8 FT BELOW GRADE.
6. PROVIDE 4 FT OF COVER, MEASURED FROM THE GROUND SURFACE TO TOP OF RAIN LEADER. RAIN LEADER SHALL BE CORRUGATED POLYETHYLENE PIPE (CPEP) DUAL WALLED (MASS TYPE S). PROVIDE 2" XPS INSULATION BOARD, 4' WIDE CENTERED 6"-12" OVER RAIN LEADER.
7. PROVIDE 6 INCHES OF CLASS "E" BEDDING MATERIAL BELOW PIPE. BACKFILL TRENCH WITH TYPE IV MATERIAL IN LANDSCAPED AREAS AND TYPE IIA IN SIDEWALK AND PAVEMENT AREAS TO MATCH EXISTING. COMPACT TO 95% OF MAXIMUM DENSITY.



BASE SLAB DETAIL

1/2" = 1'-0"



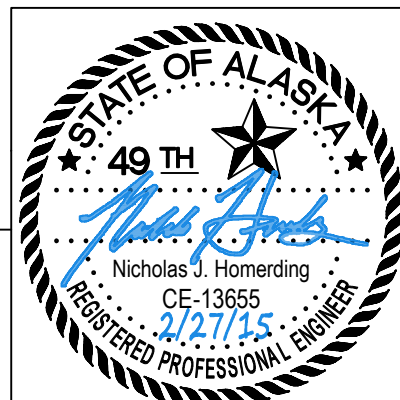
DRYWELL SECTION

1/4" = 1'-0"

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ALASKA DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF FORESTRY

**REPAIR PALMER
HANGAR ROOF**

PALMER, ALASKA

DRYWELL DETAILS
DATE: FEBRUARY 27, 2015

C2

GENERAL
THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS AMONG THE DRAWINGS BEFORE STARTING ANY WORK OR FABRICATION. IN CASE OF DISCREPANCIES BETWEEN DRAWINGS, SPECIFICATIONS, REFERENCE STANDARDS, SITE CONDITIONS OR GOVERNING CODE, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. CONTRACTOR SHALL NOTIFY THE ENGINEER OF DISCREPANCIES AND OBTAIN DIRECTION PRIOR TO PROCEEDING. NOTES ON INDIVIDUAL STRUCTURAL DRAWINGS SHALL TAKE PRIORITY OVER GENERAL STRUCTURAL NOTES. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED ON THE PLANS, BUT SHALL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS.

ALL CONSTRUCTION SHALL COMPLY WITH THE 2009 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED AND ADOPTED BY THE CITY OF PALMER.

SAFETY – THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL FEDERAL, STATE AND LOCAL SAFETY STANDARDS. THE CONTRACTOR IS IN CHARGE OF ALL SAFETY MATTERS ON AND AROUND THE JOB SITE.

STRUCTURAL DESIGN DATA
STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE IBC AS AMENDED AND ADOPTED BY THE CITY OF PALMER. OCCUPANCY CATEGORY IS II IN ACCORDANCE WITH IBC SECTION 1604.5.

THE STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING OPERATIONAL LOADS ON THE COMPLETED STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SHORING AND BRACING DURING CONSTRUCTION.

ROOF SNOW: 40 PSF BASIC + DRIFT
S_s=1.0, P_g=50 PSF, C_t=1.2, C_e=0.9

WIND LOADS: BASIC WIND SPEED (3–SECOND GUST, VASD)=110 MPH, EXPOSURE C, W_r=1.0

SEISMIC LOADS: SITE CLASS D, DESIGN CATEGORY D,
S_s=1.521, S_e=0.733, S_{ps}=1.014, S_{d1}=0.733, k=1.0, (ORDINARY STEEL MOMENT FRAMES), Ω_o=3, C_d=3, R=3.5
ρ=1.0, C_s=0.290
NORTH/SOUTH: (ORDINARY STEEL CONCENTRICALLY BRACED FRAMES)
R=3.25, Ω_o=2, C_θ=3.25, ρ=1.0, C_s=0.312

LATERAL ANALYSIS IS LINEAR STATIC. LATERAL FORCES ARE CARRIED BY FLEXIBLE ROOF DIAPHRAGMS TO THE LATERAL SYSTEM IDENTIFIED ABOVE. MOMENTS, SHEARS, AND ROTATIONAL FORCES ARE DELIVERED TO THE FOUNDATION BY THE LATERAL SYSTEM IDENTIFIED ABOVE IN PROPORTION TO THEIR TRIBUTARY AREA.

COMPONENT AND CLADDING WIND PRESSURES (PSF)		
ZONE (PER ASCE 7–05 6.5.12.4)	10 SQ FT	100 SQ FT
1 – MAIN ROOF	–30	–27
2 – EDGE ROOF	–52	–38
3 – CORNER ROOF	–76	–60
4 – MAIN WALL	–35	–30
5 – EDGE WALL	–43	–34
2A – ROOF EDGE OVERHANG	–61	–61
3A – ROOF CORNER OVERHANG	–102	–69

FOUNDATIONS
FOUNDATIONS ARE DESIGNED FOR A MAXIMUM SOIL BEARING PRESSURE OF 2000 PSF UNDER SUSTAINED LOADING AND 2670 PSF UNDER SHORT TERM LOADING IN ACCORDANCE WITH TABLE 1806.2 OF THE 2009 IBC.

FOUNDATION SOILS SHALL BE PREPARED IN ACCORDANCE WITH THE IBC.

WARM FOOTINGS SHALL BE FOUNDED AT LEAST 42–INCHES BELOW LOWEST ADJACENT EXTERIOR FINISHED GRADE. FOOTING DEPTHS AND ELEVATIONS SHOWN ARE MINIMUM AND FOR GUIDANCE ONLY; CONTRACTOR SHALL ESTABLISH ACTUAL ELEVATIONS IN FIELD.

ALL ORGANIC, FROZEN, OR OTHER UNSUITABLE MATERIALS SHALL BE REMOVED FROM SUB–GRADE AND REPLACED WITH COMPACTED GRANULAR NON–FROST SUSCEPTIBLE (NFS) FILL. ALL FOOTINGS SHALL BE FOUNDED UPON UNDISTURBED, NATURAL SUB–GRADE OR COMPACTED NFS FILL WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF.

SUB–GRADES BENEATH FOOTINGS AND SLABS SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS MEASURED BY ASTM D1557. BACKFILL AROUND AND ABOVE ALL FOUNDATION ELEMENTS SHALL BE COMPACTED TO A MINIMUM OF 90 PERCENT OF MAXIMUM DRY DENSITY.

EXISTING CONDITIONS
CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES, AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED. EXISTING CONDITIONS SHOWN ON DRAWINGS ARE BASED EITHER ON SITE OBSERVATIONS, ORIGINAL DRAWINGS, OR WERE ASSUMED BASED ON EXPECTED CONDITIONS. IF EXISTING CONDITIONS DO NOT CLOSELY MATCH CONDITIONS SHOWN ON DRAWINGS, OR IF EXISTING MATERIALS ARE OF QUESTIONABLE OR SUBSTANDARD QUALITY, NOTIFY ENGINEER PRIOR TO COMMENCING ANY WORK.

SUBMITTALS
THE CONTRACTOR SHALL REVIEW, STAMP WITH HIS APPROVAL, DATE AND SIGN ALL SHOP DRAWINGS AND SUBMITTALS REQUIRED BY THE CONTRACT DRAWINGS PRIOR TO SUBMITTAL TO THE ENGINEER. AT THE TIME OF SUBMISSION, THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY DEVIATION IN THE SHOP DRAWINGS FROM THE REQUIREMENTS OF THE CONTRACT DRAWINGS. DIMENSIONS AND QUANTITIES ARE CONTRACTOR’S RESPONSIBILITY AND WILL NOT BE REVIEWED.

STRUCTURAL CONCRETE
ALL CAST–IN–PLACE CONCRETE SHALL HAVE MINIMUM 28–DAY COMPRESSIVE STRENGTH OF 2,500 PSI.

PORTLAND CEMENT SHALL CONFORM TO ASTM C150. MAXIMUM AGGREGATE SIZE SHALL BE 3/4 INCH. ALL AGGREGATE SHALL BE NORMAL WEIGHT MATERIAL CONFORMING TO ASTM C33. WATER SHALL MEET ASTM C94, SECTION 4.1.3.

CONCRETE SHALL BE PROPORTIONED TO ACHIEVE A WORKABLE MIX THAT CAN BE PLACED WITHOUT SEGREGATION OR EXCESS FREE SURFACE WATER. COMPLY WITH IBC SECTION 1905. ALL CONCRETE MAY CONTAIN A WATER REDUCING ADMIXTURE MEETING ASTM C494, TYPE A. BEFORE THE ADDITION OF THE WATER REDUCING ADMIXTURE, THE MAXIMUM SLUMP SHALL BE 3–INCHES. MAXIMUM WATER CEMENT RATIO SHALL BE 0.50.

ALL CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 301, STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE. CONCRETE PLACED DURING COLD WEATHER SHALL CONFORM TO ACI 306. ALL COLD WEATHER CONCRETE AND CONCRETE EXPOSED TO WEATHER SHALL CONTAIN AIR ENTRAINMENT PER ACI 318 TABLE 4.2.1.

THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT FOR CAST–IN–PLACE CONCRETE:

- | | | |
|----|--|----------|
| A. | CONCRETE CAST AGAINST EARTH | 3–INCHES |
| B. | CONCRETE EXPOSED TO EARTH OR WEATHER | 2–INCHES |
| C. | CONCRETE NOT EXPOSED TO EARTH OR WEATHER | 3/4–INCH |

ALL CONCRETE REINFORCING SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 315, ACI 318, CRSI MSP–1 AND ACI SP–66. DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING.

TYPICAL REINFORCING BARS SHALL BE ASTM A615, GRADE 60. LAP SPLICES SHALL BE CLASS B LAPS PER ACI (63 X BAR DIAMETER).

CHECKED SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, SPACING AND PLACEMENT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.

STRUCTURAL STEEL
MATERIALS:
STRUCTURAL STEEL TUBES (HSS): ASTM A500, GRADE B
ALL OTHER SHAPES & PLATE: ASTM A36
BOLTS, WASHERS & NUTS: ASTM A325, F436 & A563
HARDENED WASHERS: ASTM F436
ANCHOR RODS: ASTM F1554, GRADE 36

ALL DETAILING, FABRICATION AND ERECTIONS SHALL CONFORM TO AISC SPECIFICATIONS AND CODES, LATEST EDITION. SPECIAL INSPECTIONS MUST BE PROVIDED IN THE FABRICATION SHOP.

ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS AND SHALL CONFORM TO THE AWS D1.1 AND D1.8, LATEST EDITIONS. ALL WELDING ELECTRODES SHALL BE PROPERLY CONDITIONED 70 KSI MINIMUM TENSILE STRENGTH, WITH DIFFUSED HYDROGEN LEVELS OF 16ML/G (H16) OR LESS IN ACCORDANCE WITH AWS A4.3.

WELDS NOT SPECIFIED SHALL BE SHOP–PERFORMED CONTINUOUS OR ALL–AROUND 3/16” FILLET WELDS.

STEEL DECK AND COLD–FORMED STEEL MAY BE WELDED WITH E60 ELECTRODES. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.3, “SPECIFICATION FOR THE WELDING OF SHEET STEEL IN STRUCTURES”.

THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

ALL CONNECTIONS SHALL BE SIMPLE, SINGLE PLATE SHEAR CONNECTIONS USING HIGH–STRENGTH BEARING TYPE BOLTS WITH THREADS INCLUDED IN THE SHEAR PLANE, A325–N, UON. NUTS SHALL BE SNUG–TIGHT, UON. ONE PLY OF THE CONNECTION SHALL USE SHORT–SLOTTED HOLES ORIENTED HORIZONTALLY.

BOLTS AND NUTS USED IN THE PRIMARY LATERAL FORCE RESISTING SYSTEM SUCH AS BRACED FRAMES SHALL BE PRETENSIONED AND ALL PLIES OF THE JOINT SHALL BE PREPARED AS CLASS ‘A’ FAYING SURFACES PER AISC 360 SECTION J3.8.

ALL BEAMS, JOISTS AND TRUSSES SHALL BE FABRICATED WITH THE NATURAL CAMBER UP. PROVIDE CAMBERS AS INDICATED ON THE DRAWINGS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES.

STEEL EXPOSED TO WEATHER OR INDICATED AS GALV SHALL BE HOT–DIP GALVANIZED PER ASTM A123. TOUCH–UP AND REPAIR GALVANIZATION SHALL CONFORM TO ASTM A780. FASTENERS SHALL COMPLY WITH ASTM A153.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. THESE DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR BEFORE SUBMITTAL AND SHALL SHOW SHOP FABRICATION DETAILS, FIELD ASSEMBLY DETAILS, AND ERECTION DIAGRAMMS FOR ALL STRUCTURAL STEEL. ALSO SUBMIT WELDERS QUALIFICATIONS.

STRUCTURAL STEEL DECK
ALL STEEL DECKING SHALL MEET ASTM A 653–SS, GRADE 33, WITH A MINIMUM YIELD STRENGTH OF 38 KSI. ALL DECKING SHALL BE GALVANIZED PER ASTM A653–G60.

MINIMUM DECK GAGES ARE SHOWN ON PLANS. HEAVIER DECK MAY BE REQUIRED FOR OTHER CONDITIONS, DEPENDING ON THE MANUFACTURER’S AND CONTRACTOR’S LAYOUT. ALL DECK SHALL SATISFY AISI, “SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS”.

FASTEN STEEL DECKING PER SCHEDULE:

ROOF DECK, Q–DESIGN(ASD)=100 PLF:
SUPPORTING STEEL: Q4 PATTERN, 7/8–INCH DIAMETER VISUAL (1/2–INCH EFFECTIVE) PUDDLE WELDS AT 12–INCHES ON CENTER.
SIDE LAPS: BUTTON PUNCH Ø 24 MAXIMUM ON CENTER.

“PUNCHLOK” OR “DELTA–GRIP” OR OTHER ENHANCED PUNCHING CONNECTION SYSTEM MAY BE SUBSTITUTED FOR ROOF SIDE LAPS, AND MECHANICAL “PAF” FASTENERS MAY BE SUBSTITUTED FOR SUPPORTING STEEL CONNECTIONS. CONTRACTOR SHALL SUBMIT CALCULATIONS TO SHOW UNIT SHEAR CAPACITIES OF ALTERNATE FASTENER LAYOUT EXCEEDS THE “Q–DESIGN” INDICATED ABOVE.

THE DECK SUPPLIER SHALL CONFIRM THE DECK SIZE FOR THE ACTUAL LAYOUT AND PROVIDE THE ENGINEER WITH ENGINEERING CALCULATIONS OR PUBLISHED MANUFACTURER’S DATA VERIFYING THE SPECIFIED DECK REQUIREMENTS.

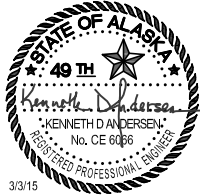
PROVIDE ENGINEERED AND CHECKED SHOP DRAWINGS INDICATING LOCATION, GAGE, AND SIZE OF EACH PIECE OF DECKING. THE DRAWINGS SHALL CLEARLY SHOW WELDING DETAILS TO STRUCTURAL FRAMING AND SIDE LAP CONNECTIONS DETAILS.

ABBREVIATIONS

⊗	AT
AB	ANCHOR BOLT
BOC	BACK OF CHANNEL
℄	CENTERLINE
COL	COLUMN
∅	DIAMETER
EA	EACH
(E)	EXISTING
FOF	FACE OF FOUNDATION
GA	GAUGE
MIN	MINIMUM
MTL	METAL
(N)	NEW
OC	ON CENTER
PLCS	PLACES
℄	PLATE
REQ'D	REQUIRED
SIM	SIMILAR
SP	SPACING
SQ	SQUARE
TOS	TOP OF STEEL
TYP	TYPICAL
VERT	VERTICAL
w/	WITH
WP	WORKING POINT

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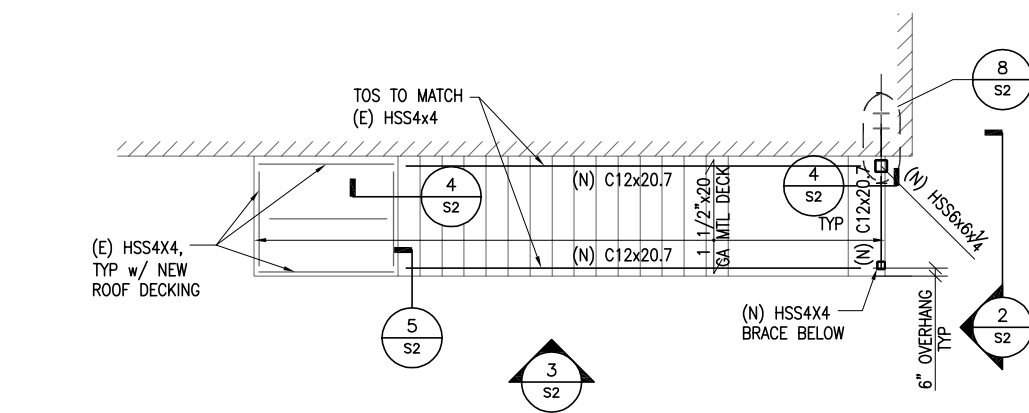
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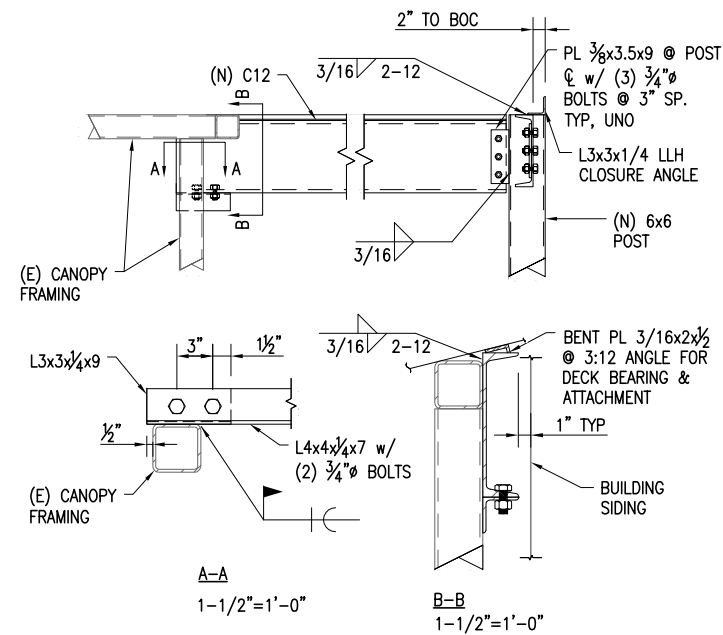
ALASKA DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF FORESTRY
REPAIR PALMER
HANGAR ROOF
PALMER, ALASKA

GENERAL NOTES
DATE: MARCH 3, 2015

S1

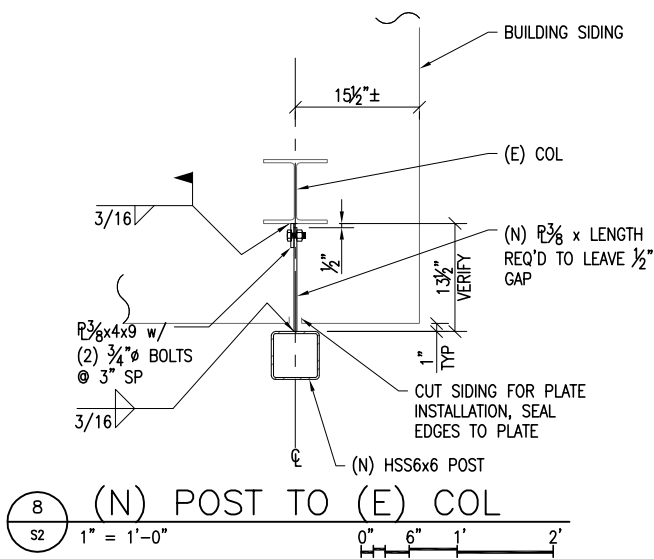


1 ROOF FRAMING PLAN
1/4" = 1'-0"

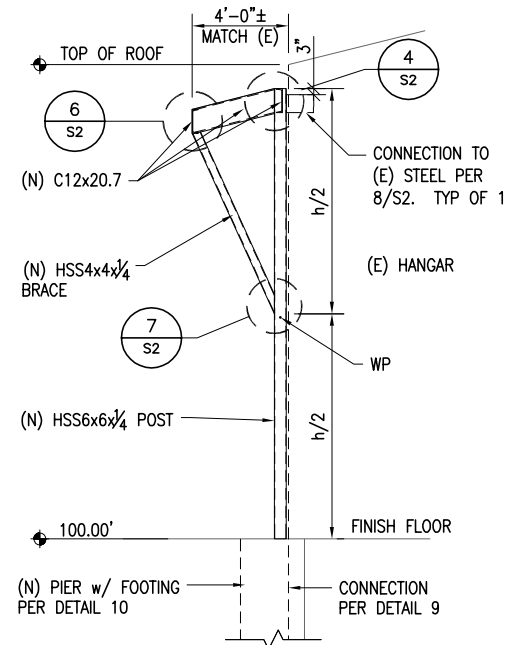


4 POST TO CHANNEL CONN
3/4" = 1'-0"

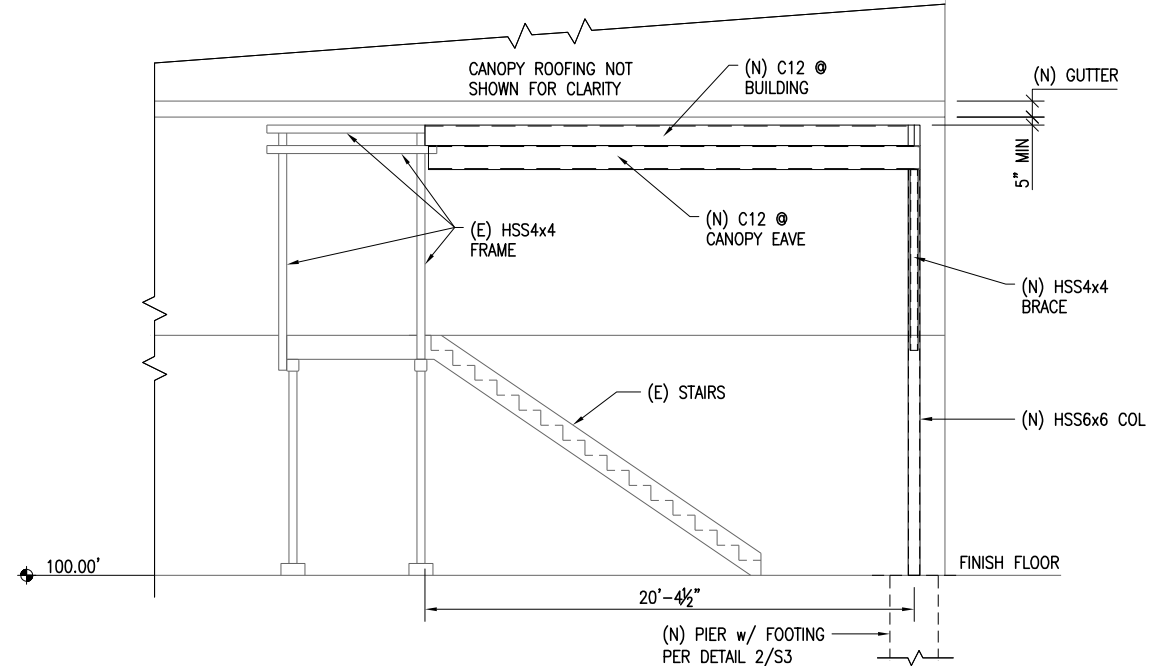
5 CHANNEL TO (E) FRAMING
3/4" = 1'-0"



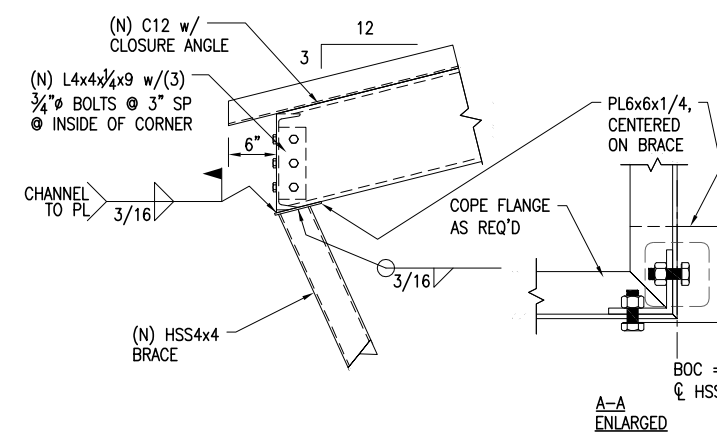
8 (N) POST TO (E) COL
1" = 1'-0"



2 SECTION
1/4" = 1'-0"



3 ELEVATION
1/4" = 1'-0"



6 CHANNEL TO BRACE
1" = 1'-0"

7 POST TO BRACE
3/4" = 1'-0"

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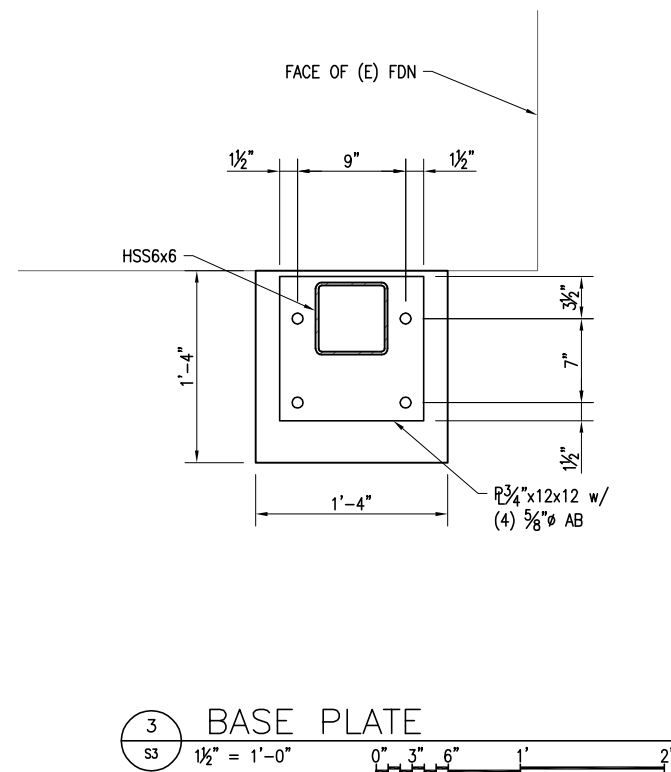
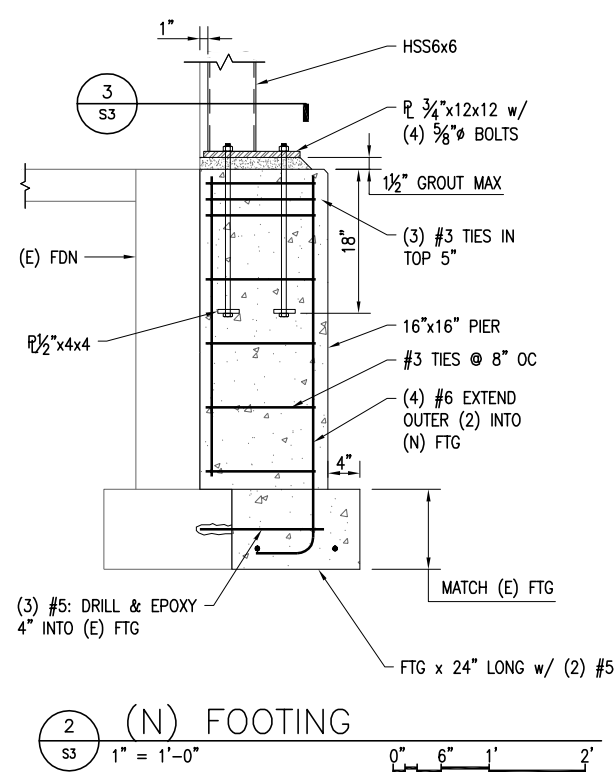
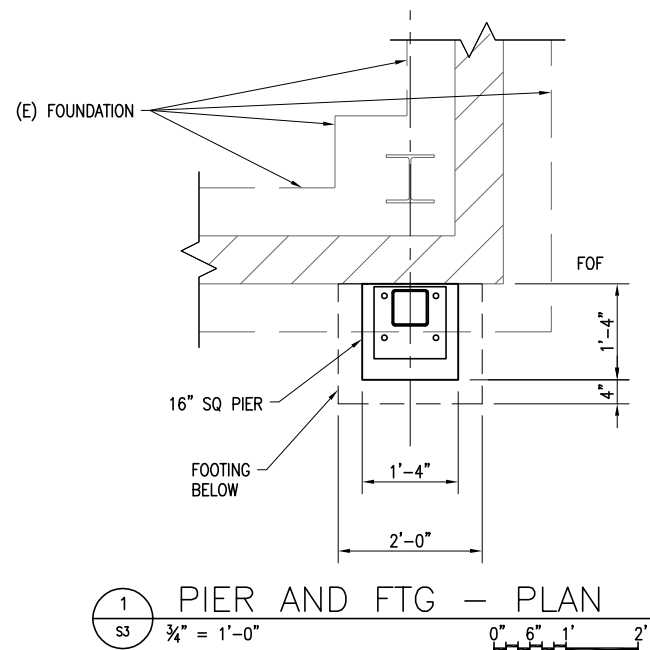


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ALASKA DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF FORESTRY
**REPAIR PALMER
HANGAR ROOF**
PALMER, ALASKA

STRUCTURAL PLAN & DETAILS
DATE: MARCH 3, 2015

S2



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3/3/15

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ALASKA DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF FORESTRY
**REPAIR PALMER
HANGAR ROOF**
PALMER, ALASKA

STRUCTURAL DETAILS
DATE: MARCH 3, 2015

S3

Repair Palmer Hangar Roof
Project No. 35038-1

Appendix C
Project Photos



1. Building exterior facing southeast.

Note: all directions oriented from drawings plan north.



2. North exterior elevation.



3. Building exterior facing southwest. Note staircase to be modified and wood deck structure on left.



4. East exterior elevation.



5. Staircase canopy to be modified on northeast corner of building.



6. Staircase canopy to be modified.



7. Building exterior facing northwest.



8. View of eave condition.

Repair Palmer Hangar Roof
Project No. 35038-1

Appendix D
Geotechnical Investigation



MARK HANSEN P.E.

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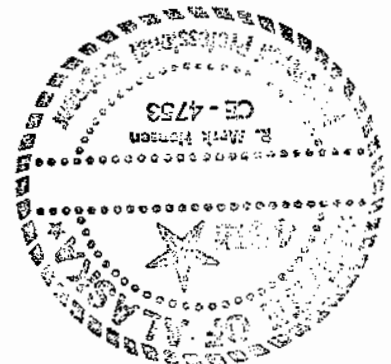
Forestry Consolidation Facility Pavement Upgrades

Geotechnical Investigation

Prepared for

LCMF Incorporated
139 East 51st Avenue
Anchorage, AK 99503

February 2000





MARK HANSEN P.E.

CONSULTING ENGINEERS TESTING LABORATORY

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FORESTRY CONSOLIDATION FACILITY PAVEMENT UPGRADES GEOTECHNICAL INVESTIGATION

Location

The proposed project is located at the Palmer, Alaska Airport. The site is bounded on the north by the Old Glenn Highway, on the west by Airport Road, on the east by the clear space for the runway, and on the south by a paved apron area.

Scope

The site presently includes three recently completed buildings. These are intended to support regional wildland firefighting, including airtanker support. The airtanker aircraft are critical for pavements because the aircraft used are heavier than the aircraft used for other firefighting and support activities.

Pavement is proposed for the existing gravel taxiway, and the apron area as shown on the attached sketch. Pavement is also proposed for the vehicle parking area. The heavy airtankers will not use the hangar or warehouse, but will use the taxiway, fire retardant fill station and fueling areas. This exploration is intended to investigate the suitability of the site for construction of the planned pavements. The recommendations contained herein are not necessarily applicable for changed locations or changed use such as different aircraft fleet.

Conclusions

1. The existing taxiway soils are sufficient to form the subgrade and subbase layers for a pavement meeting FAA strength criteria for the anticipated aircraft.
2. Soils at the apron area do not strictly meet the FAA subgrade and subbase requirements of the design aircraft, but with minor limitations should be capable of serving for the anticipated aircraft.
3. Bedrock was encountered in one test pit. Shallow bedrock of variable depth is present at and near the project site.
4. No ground water was encountered in the test pits.

Previous site use

The site is presently flat, with only little vertical relief over the entire site. The City of Palmer has recently used the site as a snow dump area. A gravel fill was placed on the site as shown in a 1988 record drawing. The 1988 drawing also shows some land leveling performed in the silt beneath the overlay. Prior to that the site was farmland. The USDA Soil Survey of the Matanuska Valley shows the area surficial soil in the 1950's as "Bodenburg Silt Loam". The map included with the USDA report shows a small steep ridge and some relief on the site. Apparently, cutting and filling of the native soil has occurred since then.

Climate Considerations

The average air-freezing index for a 30-year record of Palmer (Agricultural Experiment Station) weather is 2108 degree F days. The FAA design method uses a ten-year return period for freezing index. A ten-year freezing index of 2800 degree F days has been assumed. Prevailing wind during the winter is from the northeast. This tends to drift the snow off from large unobstructed areas such as the apron and cause drift accumulations on the south and west sides of structures. Average annual precipitation is 15.44 inches,

Depth of frost penetration depends not only on the freezing index, but also on the density, moisture and insulating characteristics of the soil. Estimated frost penetration, at 2800 degree F days freezing index, based on the FAA nomograph is as follows:

Taxiway (gravel subgrade, 140 pcf)	140"
Apron (silt loess subgrade, 80 pcf)	72"

Typical Soil Profile

Taxiway

The site can be characterized as four layers.

Layer #1 is a fill consisting of well to poorly graded gravel with sand. This layer is shown as "subbase" on the record drawings. Unified Classification is GW. Frost classification is NFS. This material was placed as part of an airport improvement project in approximately 1988. Observed thickness of the gravel fill varied from roughly two to three feet. There is presently a beginning of second growth vegetation along the edges of the taxiway.

Layer #2 is well graded gravel with sand (GW) and poorly graded gravel with sand (GP). Occasional pockets of slightly silty (GW-GM and GP-GM) materials

and sand (SP) are also present. This soil contains occasional cobbles and boulders, with occasional concentrations of these larger particles. This soil is well drained and provides excellent bearing capacity. Frost classification is NFS, and volume change due to freezing will be small.

Apron

Layer #1 is a fill consisting of well to poorly graded gravel with sand. This layer is shown as "subbase" on the record drawings. Unified Classification is GW. Frost classification is NFS. Observed thickness of the gravel fill varied from two to three feet. The "Record Drawings" for this material show 100% compaction in the taxiway, and 95% compaction for the apron. There is presently substantial second growth vegetation consisting of primarily cottonwood trees up to six feet tall in the apron area.

Layer #2 is a discontinuous layer of silt fill and silty fill. Unified Classification is ML. Frost classification is F4. Where the fill consists of silt, it is not easily distinguished from the native silt.

Layer #3 is the native undisturbed silt. This is loess, formed by wind deposits. Unified Classification is ML. Frost classification is F4. Being wind deposited, the silt loess has a low natural density. It has some stiffness and strength due to a weakly bonded grain structure. Once disturbed, the grain structure is broken down and the silt loess loses much of its strength. Moisture is typically about ten percentage points over optimum for compaction, which makes the silt impractical to compact. Traces of organic matter were observed in the silt.

Bedrock consisting of weathered metamorphic rock was observed in test pit #5. The bedrock is fractured and in the test pit could be excavated with the Cat 416 backhoe. Where observed elsewhere on the site during construction of the hangar, the bedrock was dense and not fractured, and could not be excavated. The top surface of the bedrock is irregular, and variable. The strength of the rock is also variable. It may be present near the surface, yet only a few feet away be at substantial depth.

EXPLORATION PROGRAM

Subsurface investigation was conducted November 5, 1999. Exploration consisted of seven test pits. These were excavated using a Cat 416 backhoe equipped with a frost bucket operated by Weldin Construction. Selected samples in coarse granular soils were bulk samples of about 50 pounds, excavated from the soils encountered. "Grab" samples of about five to ten pounds were taken where determination of the moisture content was desired. These were sealed in ziplock bags to retain the natural moisture.

A description of the samples is recorded on the field log. Also shown are properties such as larger gravel content, and cobble and boulder presence, which were observed in the field but not reflected in the samples. In the laboratory, the samples were visually classified as to frost and unified classification, and the moisture content of grab samples determined. Sieve analysis was performed on selected samples. .

On the boring log the moisture content when determined, the sampling location and method and the general soil type are shown graphically on the left side, while a detailed soil description and an indication of tests performed is shown on the right side.

Summary of Soil Conditions Encountered

Test Pit No	Proposed Use	Existing Depth of Subbase, Ft.	Depth to silt
1	Taxiway	1.8	None (GM and GP)
2	Taxiway	3.2	None (GM and GP)
3	Apron	2.8	2.8
4	Apron	2.5	None (Bedrock)
5	Apron	2.5	2.5
6	Apron	2.5	2.5
7	Vehicle Parking	2.2	2.2

Paving Section Recommendations

Assumptions for the pavement sections

The proposed use of the pavements is a filling and fueling area for fire retardant aircraft. The "fire season" is considered to be May 1 through July 31. The heaviest aircraft anticipated is the Boeing KC 97 with a maximum weight of 153,000 pounds. This aircraft is stationed in Fairbanks, but could conceivably be filled at Palmer should the need arise. Other aircraft may include the P3-A, DC7, C130 and a number of lighter aircraft. The table below shows the present airtanker fleet and the maximum weight for each aircraft. Actual number of operations of these aircraft will be very low. On a wet year with little fire activity, there may be no heavy aircraft operations. Even an active fire year would have well under 100 takeoffs per year. In order to present a conservative analysis, the affect of the aircraft on the pavement has been quantified by assuming ten loaded takeoffs per year of each aircraft in the airtanker fleet.

the surface due to frost heave in the subgrade. It usually requires a much thicker section than would be required if only strength, but not deformation is considered.

Taxiway

Recommended Section

Asphalt Concrete	3"
Crushed Aggregate Base	8"
Subbase	20" minimum
Subgrade F-1 or better	

The test pits show essentially full-depth non-frost susceptible soils existing at the taxiway. The existing subgrade and subbase are much stronger than required for the design aircraft, so the analysis for 1200 annual departures was used anyway. The taxiway design was checked using the "Reduced Subgrade Strength" method for F-1 soils. This method assumed a CBR of 9 in the subgrade during the spring breakup.

For the taxiway, remove the second growth vegetation. It is assumed no more than 4" of the existing subbase will be lost during the vegetation removal. The surface of the existing subbase will then be recompact to 100% of AASHTO T-180 density, to correct the disturbance caused by vegetation removal. Density requirement for the crushed aggregate base is 100%.

Apron

Two sections are presented for the apron. One will utilize the existing materials that are already in place, but may have some minor usage limitations. The other will meet the FAA frost penetration requirements, but may be impractical or uneconomic to construct.

Section #1, Limited section

Asphalt concrete	3"
Crushed aggregate base	8"
Subbase (existing)	26"
Silt loess subgrade	

Section #2, Full section

Asphalt concrete	3"
Crushed aggregate base	8"
Subbase	36"
Silt loess subgrade	

Forestry Airtanker Fleet

Aircraft	psi Tire Pressure	Max. Weight, Pounds	Weight per tire*	Assumed Takeoffs per year	Equivalent KC-97 Takeoffs
PB4Y-2	93	62,000	14,725	10	1.64
DC-4	76	63,600	15,105	10	1.73
DC-4 Super	78	65,400	15,533	10	1.83
SP-2H	92	67,000	15,913	10	1.92
P-2V Neptune	84	73,900	17,551	10	2.33
DC-8A	92	85,000	20,188	10	3.09
DC-7B	108	102,000	24,225	10	4.44
KC-97	117	153,000	36,338	10	10.00
P-3A	89	105,000	24,938	10	4.71
C-130A Herc.	70	120,000	28,500	10	6.15
Total				100	38

* Assumes dual wheels and 95% of weight on main gear

It can be seen that the equivalent takeoffs from the above aircraft mix is very low. Typical pavement design methods are based on equivalent takeoff numbers of 1200 and up per year, while this pavement will experience less than 800 total equivalent takeoffs over a 20-year design life.

The area will also host fire spotting and smokejumping activities, but these operations typically utilize light aircraft. The loads on the pavement from these aircraft will be insignificant compared to the airtankers.

The pavement analyses are based on FAA design method AC 150/5320-6D. The design method is intended for high volumes of heavy aircraft, with a minimum of 1200 takeoffs per year, and does not fit the situation at the Palmer forestry facility particularly well.

The FAA method of pavement analysis is usually based on California Bearing Ratio (CBR) of the subgrade soil. CBR is not applicable to this design because the designs are governed by either strength during spring breakup or frost heave deformation.

The FAA design method uses the "Reduced Subgrade Strength" analysis for F-1, F-2 and some F-3 subgrades. This design method accounts for reduced subgrade strength during the spring thaw and provides sufficient structural section to carry the anticipated loads over the thawing subgrade. It does not consider magnitude of surface deformation.

The FAA recommends design by the "Limited Subgrade Frost Penetration" method for F-4 subgrades. This method is intended to limit the deformation of

Section #1 is based on maximum practical utilization of the subbase already in place. Deformations of the pavement surface due to frost heave may be greater than for the full section. This section will provide sufficient strength to support the design aircraft, even during breakup, but during breakup, the deflection of the pavement under wheel loads of the heaviest aircraft may be sufficient to shorten the pavement life. Due to the projected low volume of heavy aircraft, the occasional use of heavy aircraft during breakup will probably not significantly affect the pavement life. Pavements with little or no traffic volume usually have a life limited to 15 to 20 years due oxidation and embrittlement of the asphalt binder.

Section #2 is based of the FAA "Limited Subgrade Frost Penetration" design method. For this method, the section thickness is 65% of the projected frost penetration. This method limits the amount of surface deformation due to frost heave, and typically provides more strength than needed when considering only strength of the section during breakup.

There are several reasons the thinner section should be sufficient.

1. Local experience shows the Palmer silt has substantial weakening during the spring thaw, but it is not noted for particularly high frost heaves. This may be due to the fact that moisture is usually well below saturation during the fall freezeup season.
2. Maximum deformation due to frost heave will occur in late winter and early spring. The "fire season" when the airtankers may be used is from May 1 to July 31. The pavement may be largely unused during the winter.
3. High speed will not be necessary or desirable for traffic on the apron. In the unlikely event that substantial heave and deformation of the surface occurs, the taxi speed can be reduced.

For typical airports, the full thickness "T" is used for areas of departing air traffic, 0.9T is used for areas of arriving traffic, and 0.7T is used for edge areas where paving is required, but there is little or no traffic and speed will be low. For the edge areas, the asphalt surfacing is thinned to 2". It could be argued that the design traffic for the apron pavement is no greater than the traffic on a pavement edge at a typical higher volume airport, therefore, the 0.7T design should be sufficient if the traffic volume is low enough.

Table 3-2 of the referenced FAA design method requires the following compaction of non-cohesive soil for dual wheeled aircraft of 150,000 pounds:

Depth, Inches	19	19-32	32 - 46	46 - 60
Compaction	100%	95%	90%	85%

An exception to this compaction level is recommended for the silt in the apron area. The silt is classified as "non-cohesive, but has some properties similar to cohesive soils.

The subgrade material is loess in origin. Loess has been wind deposited with particles in "loose" position, but has developed some "structure" that gives it a degree of strength. When undisturbed, it is stiff and can have much greater strength than the same soil when disturbed. This is similar to sensitive clay in this respect. Natural moisture content in the test samples ran 28% to 40%, while optimum by ASTM D 1557 is about 18%. Experience has shown it impractical to dry the silt loess sufficiently for compaction. Attempts to compact the silt when the moisture is too high will cause it to weaken and pump. For this reason, it is recommended that the base and subbase be compacted to the requirement for "non-cohesive" soil, and the subgrade be left undisturbed. Assuming major grade changes (except for addition of the base and asphalt concrete courses) do not occur in the apron area, the above degree of compaction can be achieved by compacting the exposed subbase surface to 100% after removal of the vegetation, then placing the base in two or more lifts, and compacting each to 100%. Compaction of the subbase and base should not be attempted in the spring while the silt subgrade is still thawing.

Hardstands

Aviation gasoline and jet fuel as well as hydraulic fluid and lubricants rapidly attack the binder in asphalt concrete, so hardstands of portland cement concrete are recommended for the fueling areas.

Based on Dual wheel aircraft of 150,000 pounds, subgrade "k" of 100 pci and 4500 psi compressive strength of concrete, the hardstand should be 12" thick. No base should be required under the hard stands, but a minimum of 12" subbase is recommended. Existing subbase should be of sufficient quality. Typical existing material will provide 24 to 28" of subbase if the grade is to match adjacent flexible pavement. The top 6" of subbase beneath the hardstands should be compacted to 100% density.

Vehicle Parking and Driveways

Municipality of Anchorage design method for vehicle pavements uses the "Limited Subgrade Frost Penetration Method" of thickness design for pavements over F-4 subgrade. This method limits the differential frost heave, and provides a

much greater thickness of classified fill than required for strength alone. The Alaska DOT/PF designs pavements on the basis of reduced subgrade strength. Since the silt under the vehicle parking area is uniform, the DOT/PF method was used for the pavement section. The existing well graded gravel with sand (GW) fill will serve as subbase.

The following section should provide for a a fatigue life of approximately 80,000 equivalent axle loads (EAL'S) over the life of the pavement:

Asphalt Concrete	2"
Crushed Aggregate Base	2"
Subbase	24"
Silt subgrade	

Materials Recommendations

Asphalt Concrete

FAA specifications require asphalt concrete designed for 1800-pound stability in a 75-blow Marshall test for heavy-duty aircraft pavements. Local asphalt mixes are available meeting Alaska DOT/PF Type IIA specifications, which meet this requirement. The IIA mix has better resistance to hot-weather deformation under load than the IIB or IIC mixes, but typically has a lower asphalt content and may have less resistance to weathering and oxidation than the more flexible IIB, IIC or City "C" mixes.

Crushed Aggregate

Crushed aggregate base should have less than 6% finer than the #200 sieve. Material meeting DOT/PF C-1 or D-1 specifications should be adequate.

Hardstand Concrete

Hardstands are usually designed on the basis on flexural strength, also known as the "modulus of rupture". Controlling the project by flexural field tests is expensive and difficult to administer. Compressive strength tests are recommended. The modulus of rupture may be estimated by the relationship:

$$M_r = k\sqrt{F_c}$$

Where:

M_r = Modulus of Rupture

k = Constant, (about 9.7 for local materials)

F_c = Actual Compressive Strength

The water-cement ratio should be 0.45 maximum. Reducing the water-cement ratio appreciably below 0.45 only increases flexural strength marginally, and can increase cost significantly. The largest available coarse aggregate, (probably 1½") should be used. The larger aggregate size will increase aggregate interlock should the section become cracked. Air content should be 4% - 6% for 1½" aggregate concrete or 5% - 7% for ¾" aggregate concrete.

Subbase

The intention is to use the existing fill (well graded gravel with sand) as subbase. If new material is required, the gradation below will provide the quality needed and still allow maximum utilization of locally available materials.

Sieve Size	Percent Passing
3"	100*
#4	20 - 65
#40	4 - 30
#200	0 - 6

* The subbase may contain up to 15% cobbles between 3" and 8" diameter. This size is typically not included in sieve analyses.

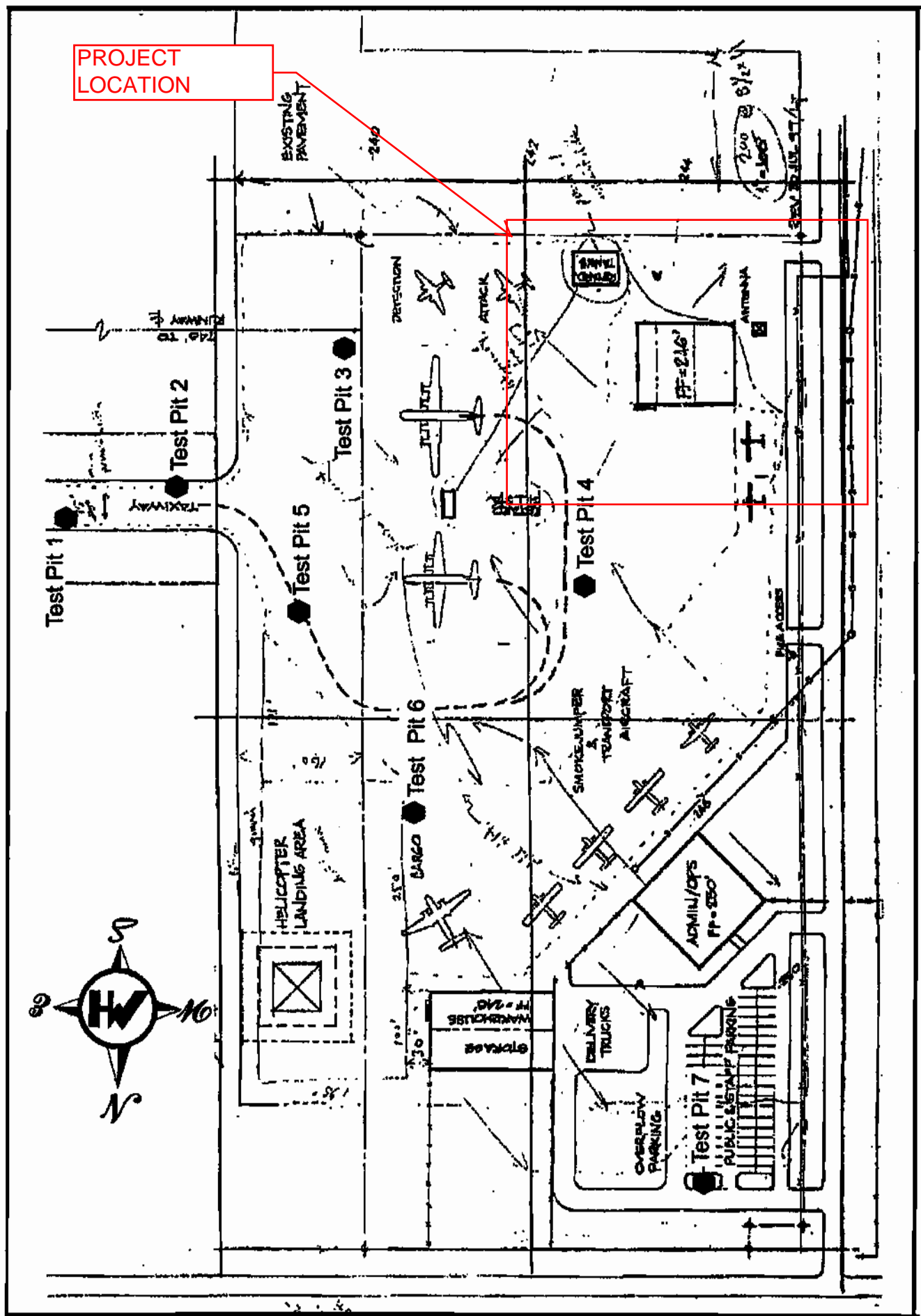
Compaction

Compaction standards for pavements are based on ASTM D 1557. For soils graded outside the limits for which ASTM D 1557 is applicable, use AASHTO T 180 with Alaska T-11 oversize correction.

Caution should be exercised so as not to disturb the silt subgrade with compaction operations.



Vicinity Map



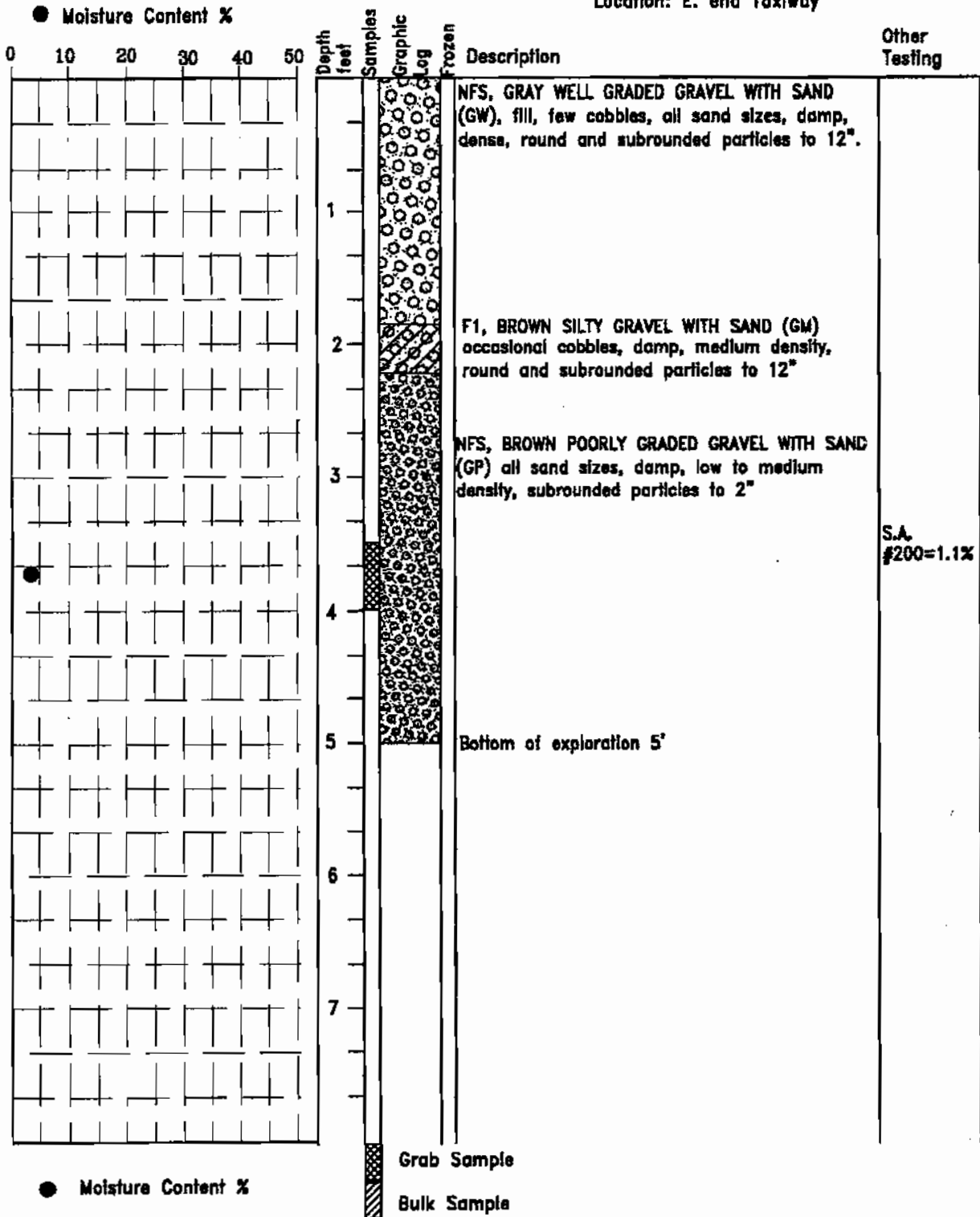
Test Pit Locations

Log of Test Pit 1

Excavated: November 5, 1999

Equipment 416/hand auger

Location: E. end Taxiway



Mark Hansen P.E.

Consulting Engineers Testing Laboratories
P.O. Box 4323, Palmer, AK 99645
(907) 745-4721 Fax (907) 746-4721

Job No.: 9990 Date: November 1999

Log of Test Pit 1

Airport Taxi way and Apron
Palmer Alaska
LCMF Inc.
139 East 51 St. Avenue,
Anchorage, AK 99503

Plate

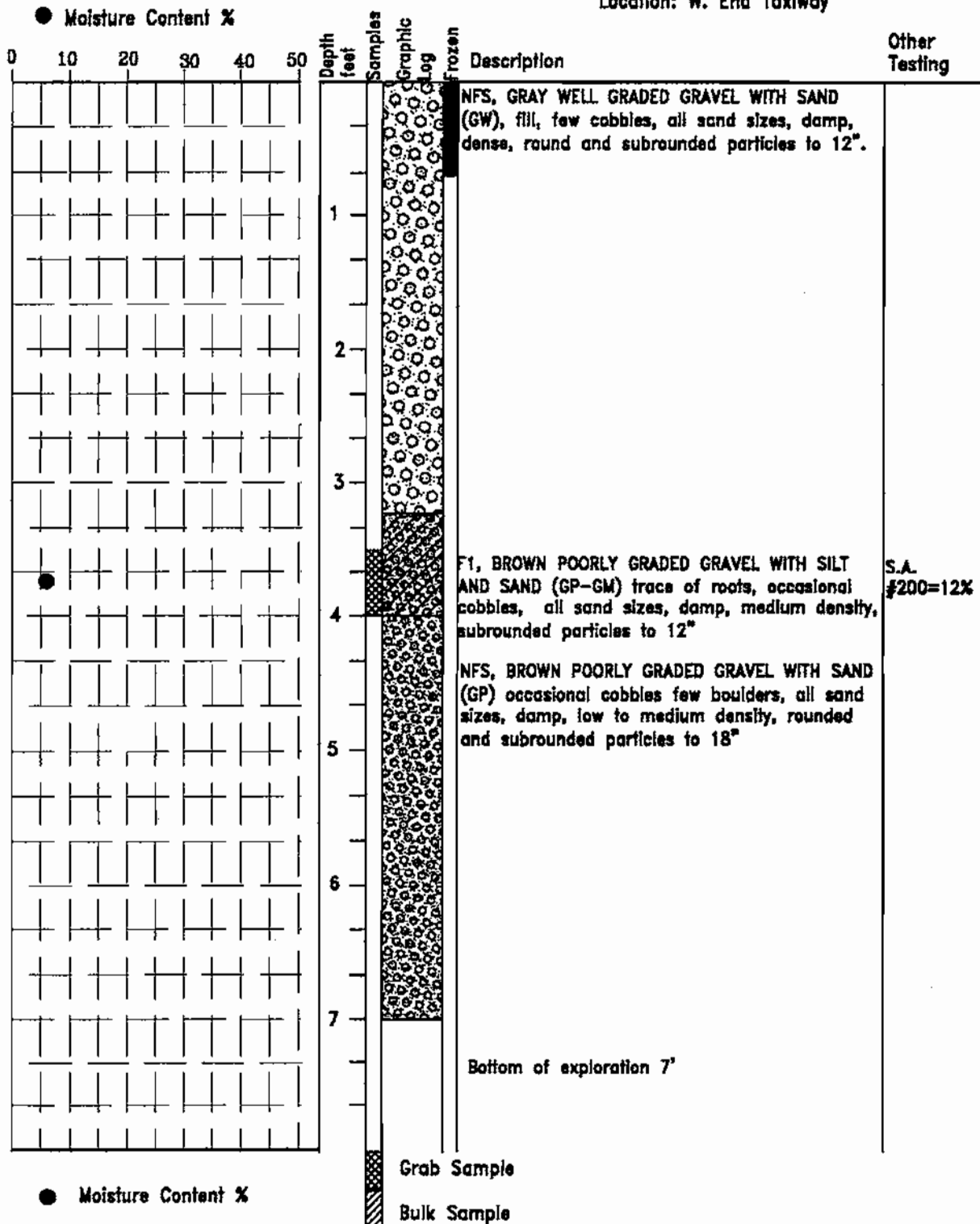
1

Log of Test Pit 2

Excavated: November 5, 1999

Equipment Cat 416

Location: W. End Taxiway



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Job No.: 9990

Date: November 1999

Log of Test Pit 2

Airport Taxi way and Apron
Palmer Alaska

LCMF Inc.

139 East 51 St. Avenue,
Anchorage, AK 99503

Plate

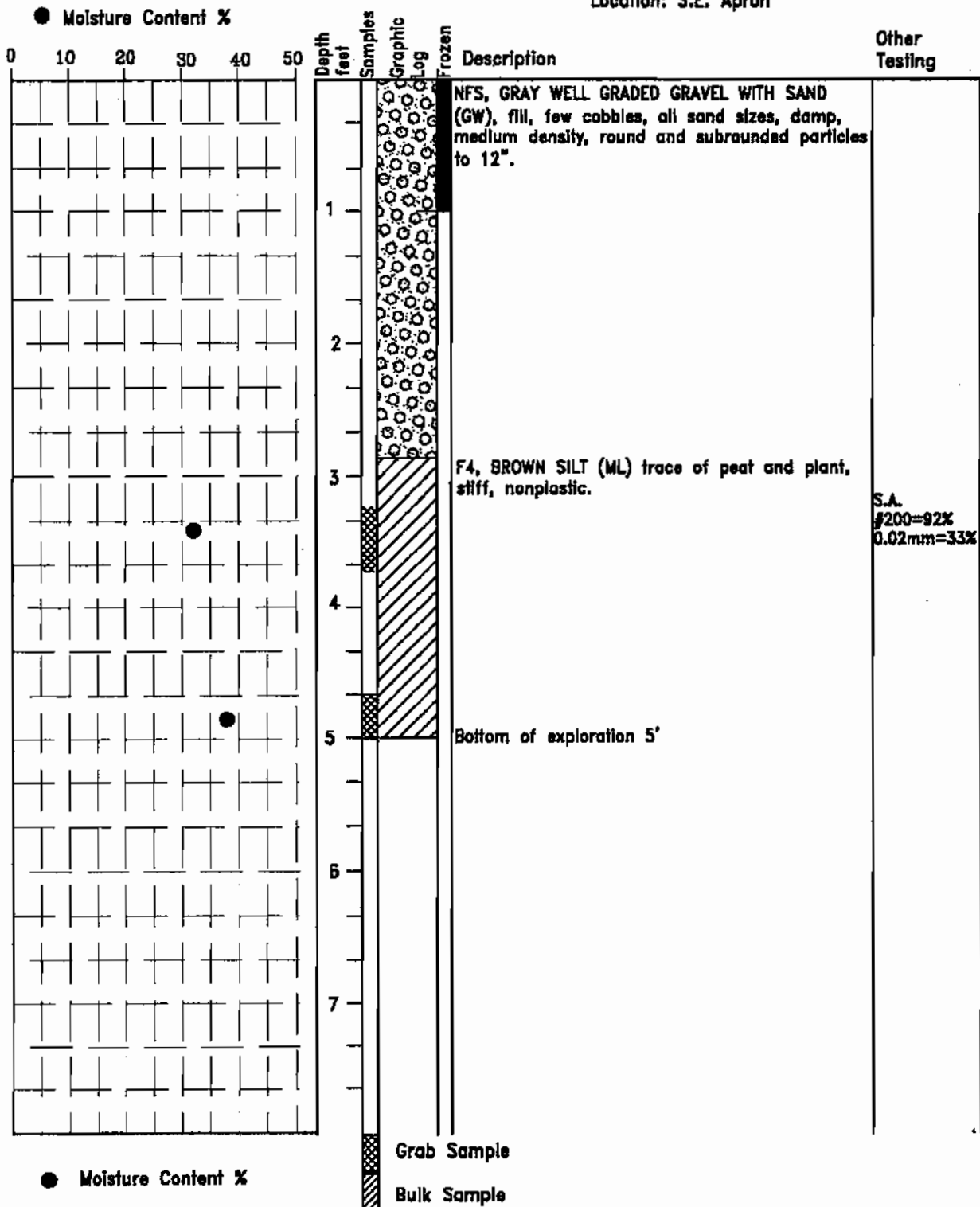
2

Log of Test Pit 3

Excavated: November 5, 1999

Equipment: Cat 416

Location: S.E. Apron



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Job No.: 9990 Date: November 1999

Log of Test Pit 3

Airport Taxi way and Apron
Palmer Alaska
LCMF Inc.
139 East 51 St. Avenue,
Anchorage, AK 99503

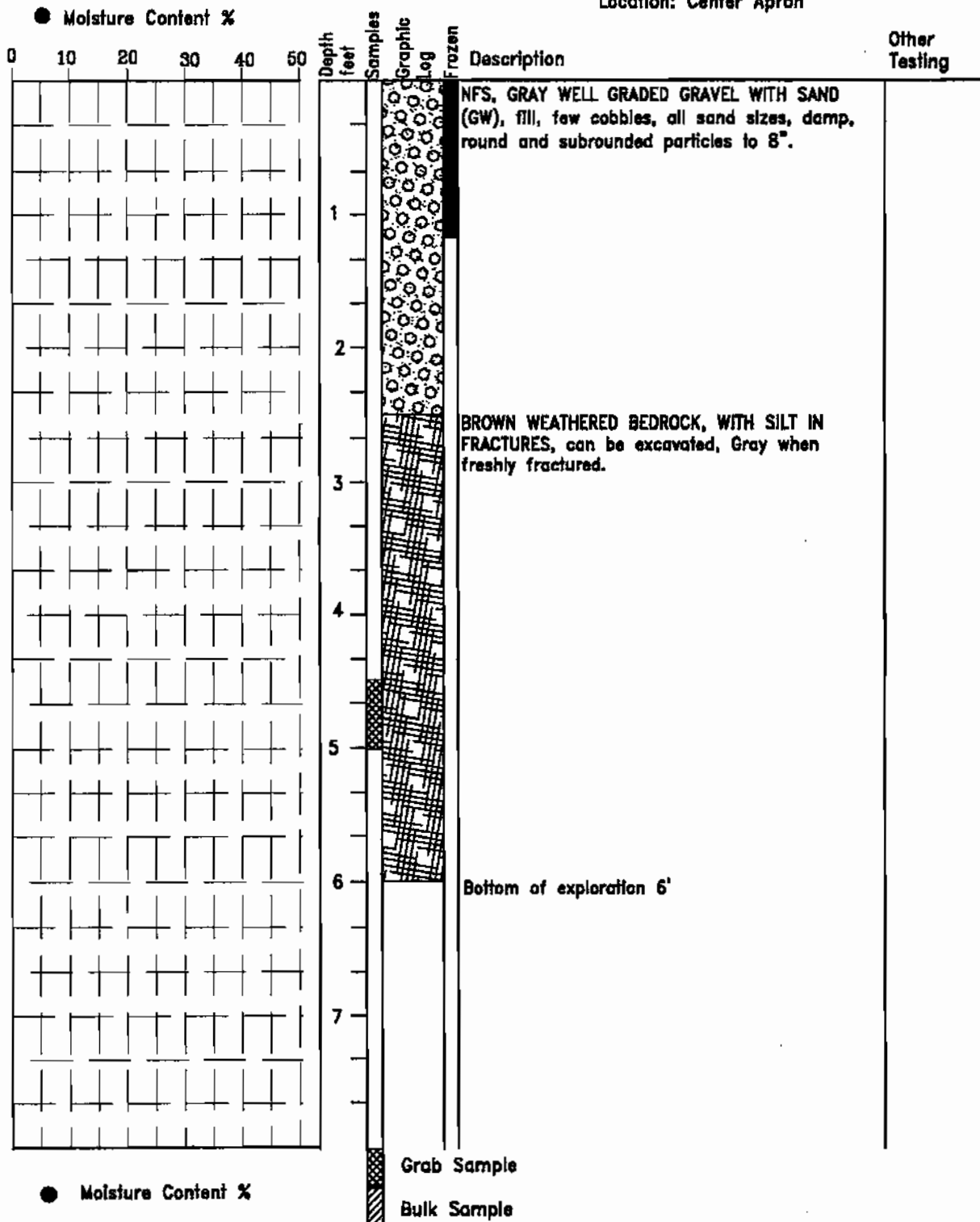
Plate
3

Log of Test Pit 4

Excavated: November 5, 1999

Equipment: Cat 416

Location: Center Apron



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Job No.: 9990

Date: November 1999

Log of Test Pit 4

Airport Taxi way and Apron
Palmer Alaska

LCMF Inc.
139 East 51 St. Avenue,
Anchorage, AK 99503

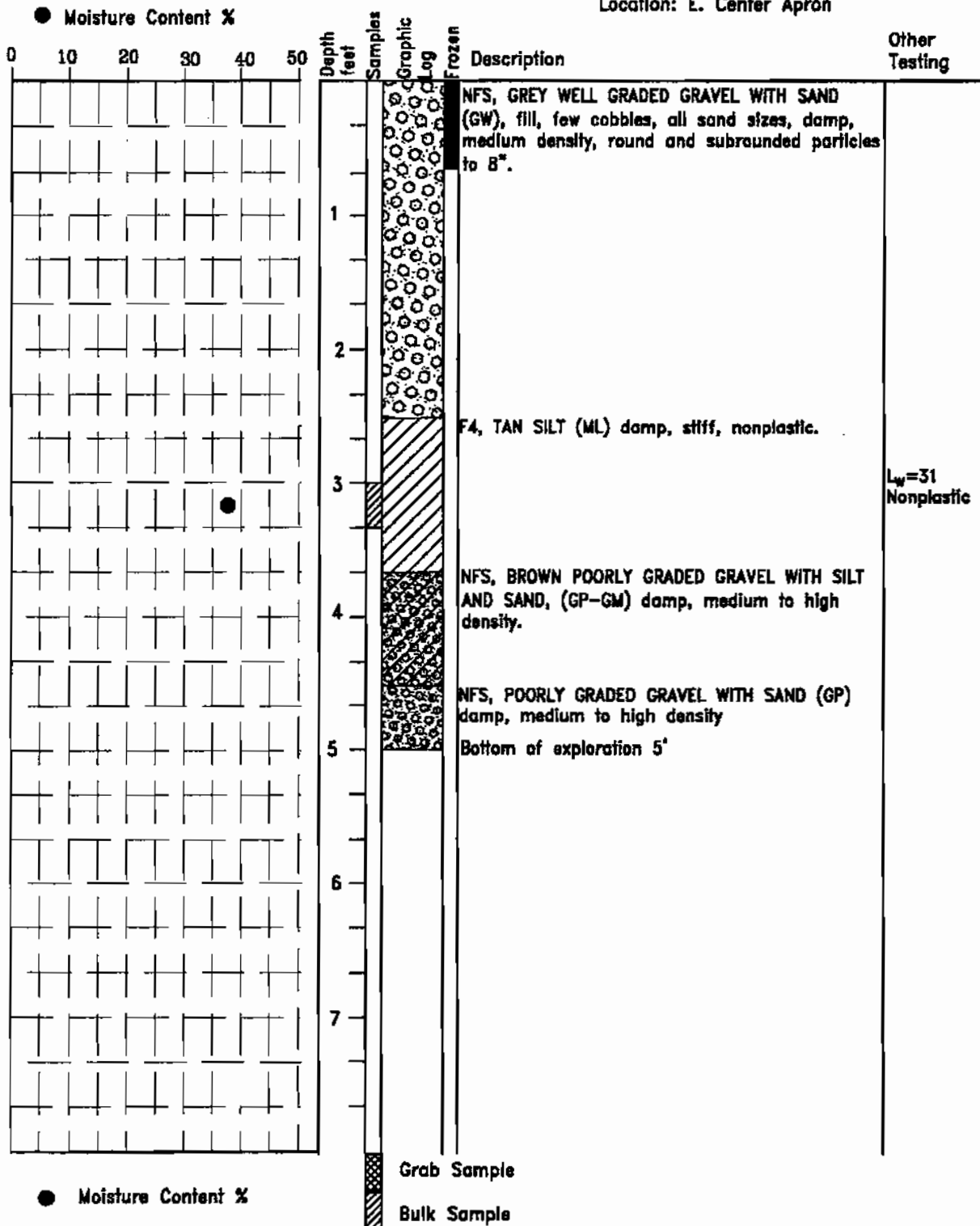
Plate
4

Log of Test Pit 5

Excavated: November 5, 1999

Equipment: Cat 416/hand auger

Location: E. Center Apron



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Date: November 1999

Log of Test Pit 5

Airport Taxi way and Apron
Palmer Alaska

LCMF Inc.

139 East 51 St. Avenue,
Anchorage, AK 99503

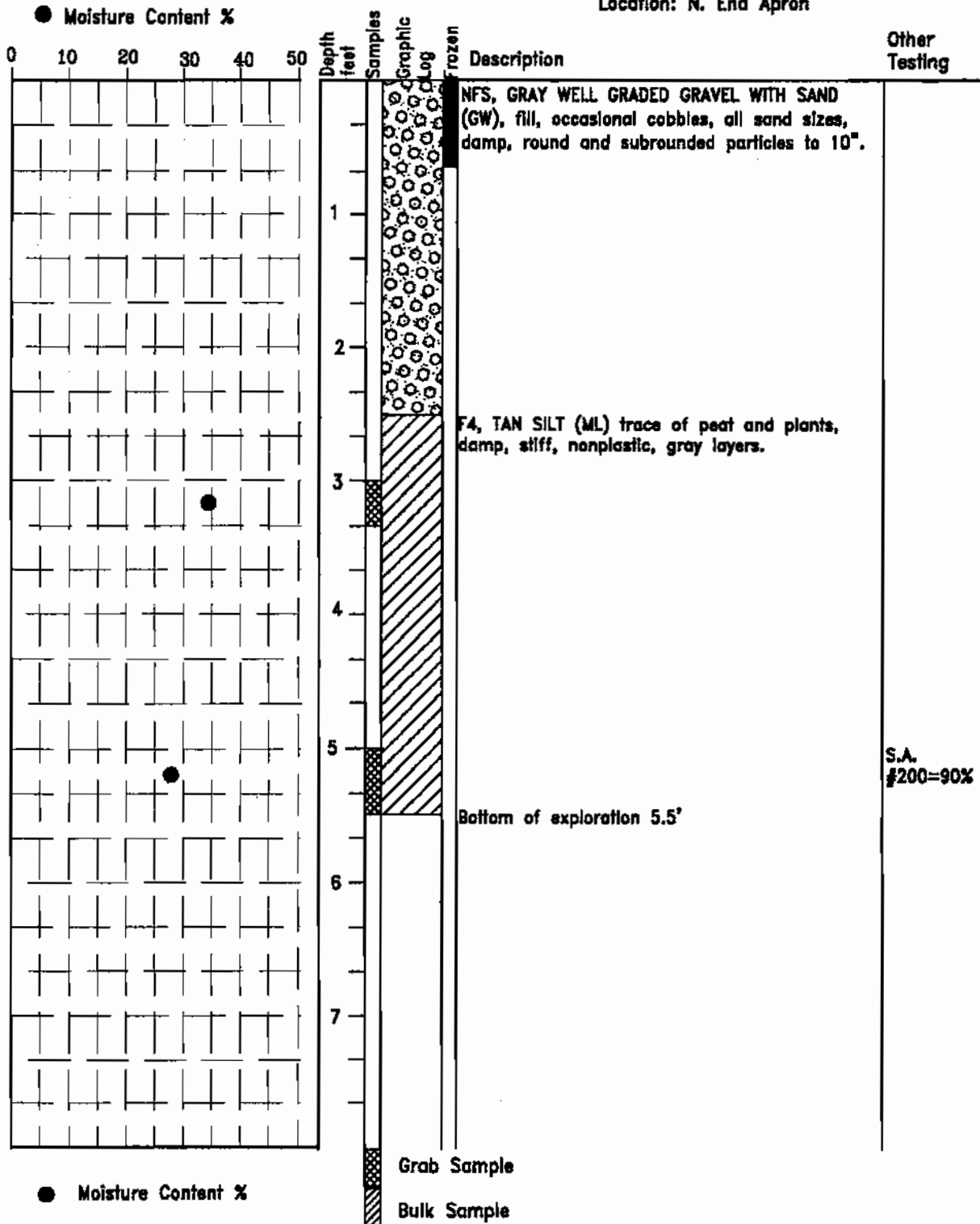
Plate
5

Log of Test Pit 6

Excavated: November 5, 1999

Equipment: Cat 416/hand auger

Location: N. End Apron



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Job No.: 9990

Date: November 1999

Log of Test Pit 6

Airport Taxi way and Apron
Palmer Alaska

LCMF Inc.
139 East 51 St. Avenue,
Anchorage, AK 99503

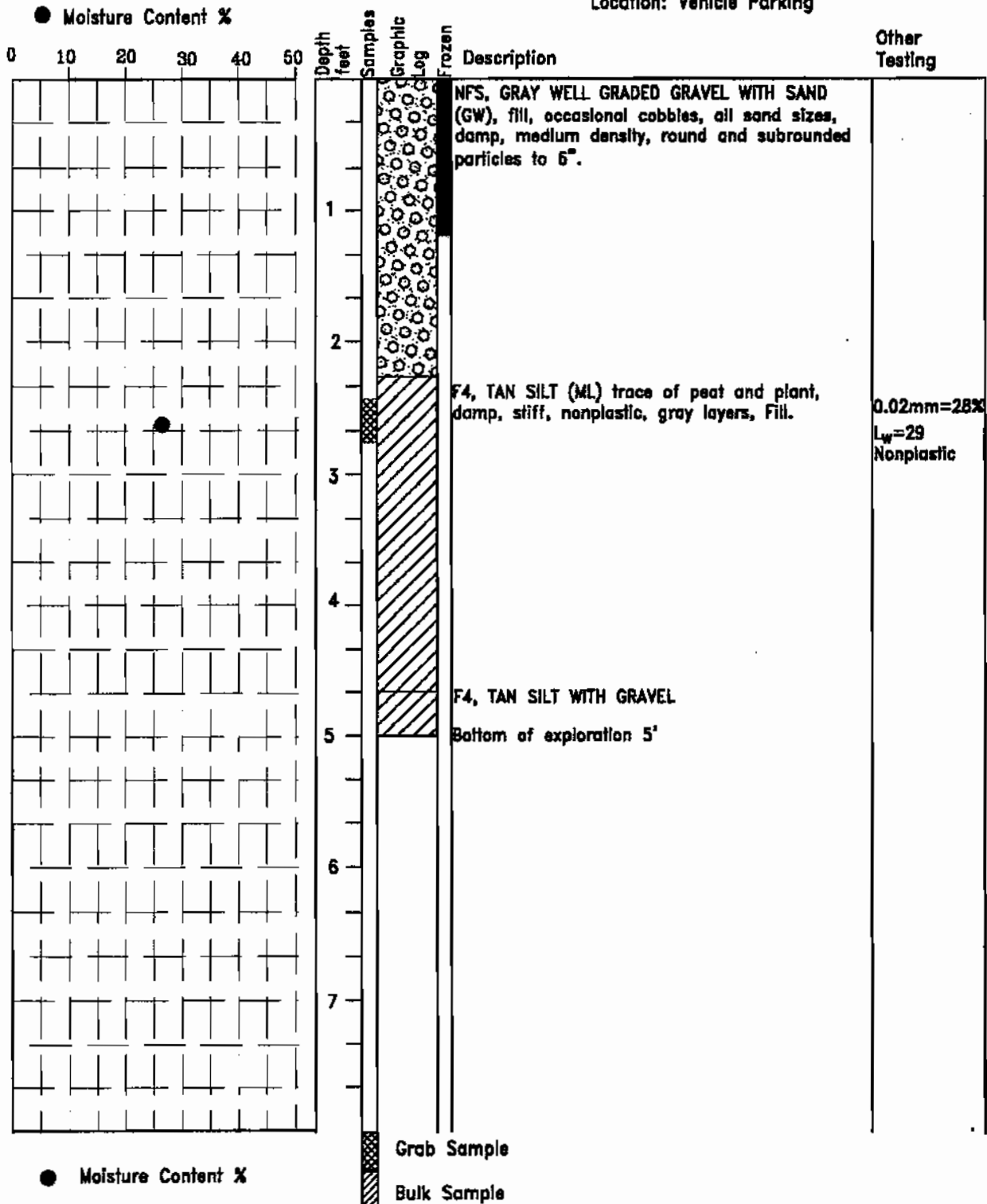
Plate
6

Log of Test Pit 7

Excavated: November 5, 1999

Equipment: Cat 416/hand auger

Location: Vehicle Parking



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Job No.: 9990


















Date: November 1999

Log of Test Pit 7

Airport Taxi way and Apron
Palmer Alaska
LCMF Inc.
139 East 51 St. Avenue,
Anchorage, AK 99503

Plate

7

GW		WELL GRADED GRAVEL, SANDY GRAVEL
GP		POORLY GRADED GRAVEL, SANDY GRAVEL
GM		SILTY GRAVELS, SILT SAND GRAVEL MIXTURES
GC		CLAYEY GRAVELS, CLAY SAND GRAVEL MIXTURES
SW		WELL GRADED SAND, GRAVELLY SAND
SP		POORLY GRADED SAND , GRAVELLY SAND
SM		SILTY SAND, SILT GRAVEL SAND MIXTURES
SC		CLAYEY SAND, CLAY GRAVEL SAND MIXTURES
ML		INORGANIC SILT, VERY FINE SAND, ROCK FLOUR
CL		INORGANIC SILT, GRAVELLY AND SANDY CLAY, SILTY CLAY
OL		ORGANIC SILT AND CLAY OF LOW PLASTICITY
MH		ORGANIC SILT
CH		INORGANIC CLAY, FLAT CLAY
OH		ORGANIC SILT, CLAY OF HIGH PLASTICITY
Pt		PEAT AND OTHER HIGHLY ORGANIC SOILS
		ASPHALT CONCRETE PAVEMENT
		ROCK



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TESTING SUMMARY

9990

Palmer Airport Forestry Pavements

Exploration Date 11/5/99

Hole	Depth Feet	Moisture	Visual Classifications		Sample Type	Percent Minus #200	Tests
			Frost Class	Unified Class			
1	3.5 - 4	3.2%	NFS	GP	Grab	1.1	
2	3.5 - 4	5.8%	F1	GP-GM	Grab	12	
3	3.5	32.3%	F4	ML	Grab	92	.02mm = 33%
3	5	37.1%	F4	ML	Grab		
5	3	37.3%	F4	ML	Grab		Lw = 31 Nonplastic
6	3	34.6%	F4	ML-OL	Grab		
6	5.5 - 6	27.5%	F4	ML	Grab	90	
7	2.8	26.7%	F4	ML	Grab		Lw = 29 Nonplastic .02mm = 28%

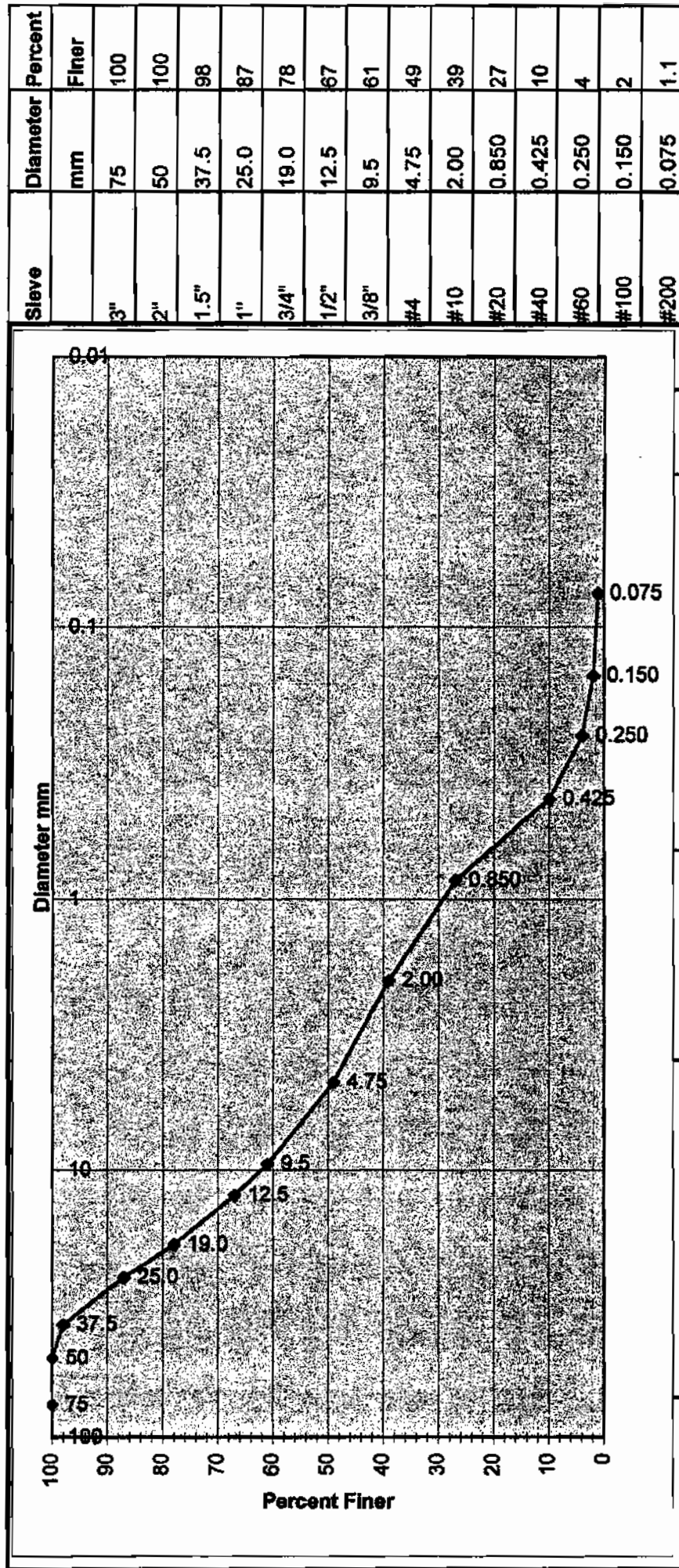


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Client: LCMF, Inc. Soil Description: Poorly graded Gravel with Sand

Project: Palmer Forestry Facility Pavements Unified Classification: GP

Sample Location: TP #1

Depth: 3.5 - 4.0

Date: 2/22/00

C_u = 21 Sample Date: 11/5/99

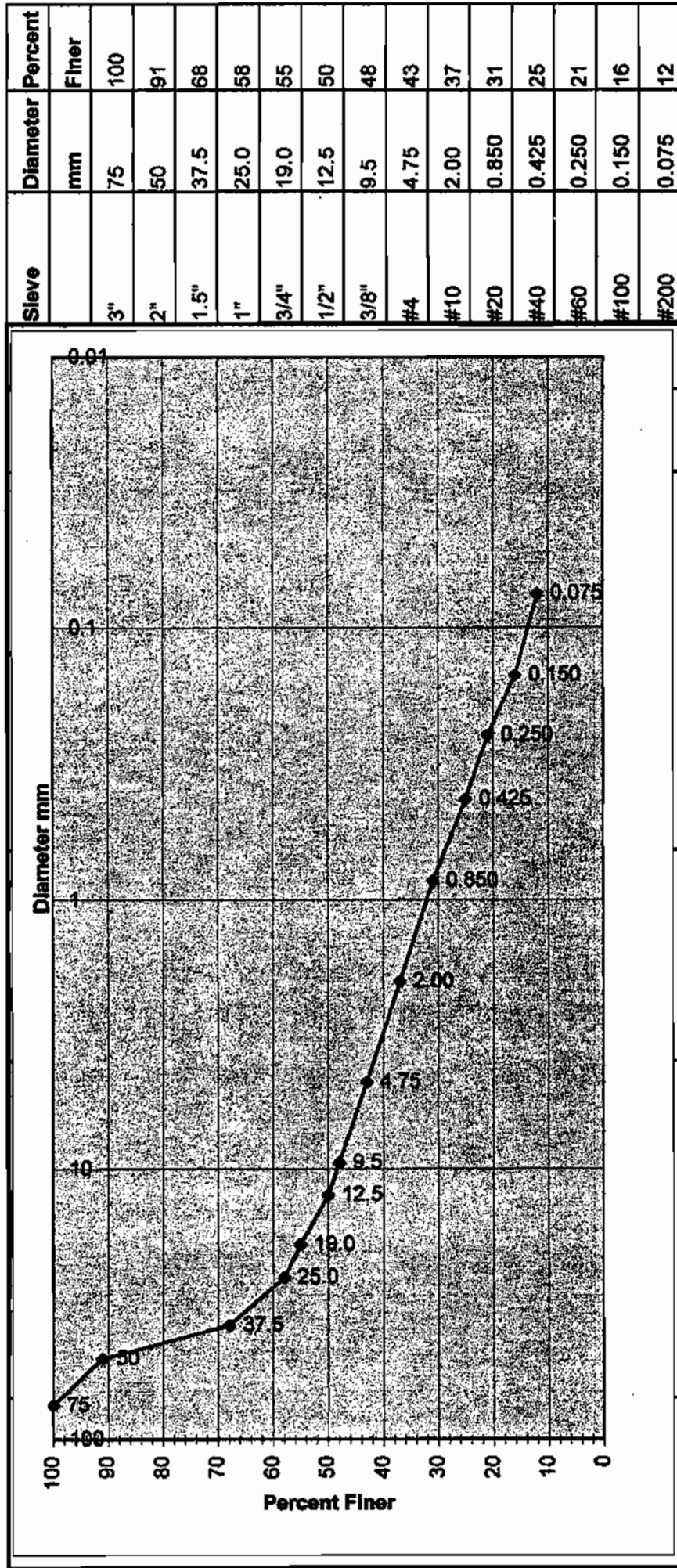
C_c = 0.3 Proj. no: 9990

NFS



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Client: LCMF, Inc. Soil Description: Poorly graded Gravel with silt and Sand

Project: Palmer Forestry Facility Pavements Unified Classification: GP-GM

Sample Location: TP #2

Sample has 10% cobbles over 3"

C_u = 483 Sample Date 11/5/99

Depth: 3.5 - 4.0

F1

C_c = 0.4 Proj. no: 9990

Date 2/22/00

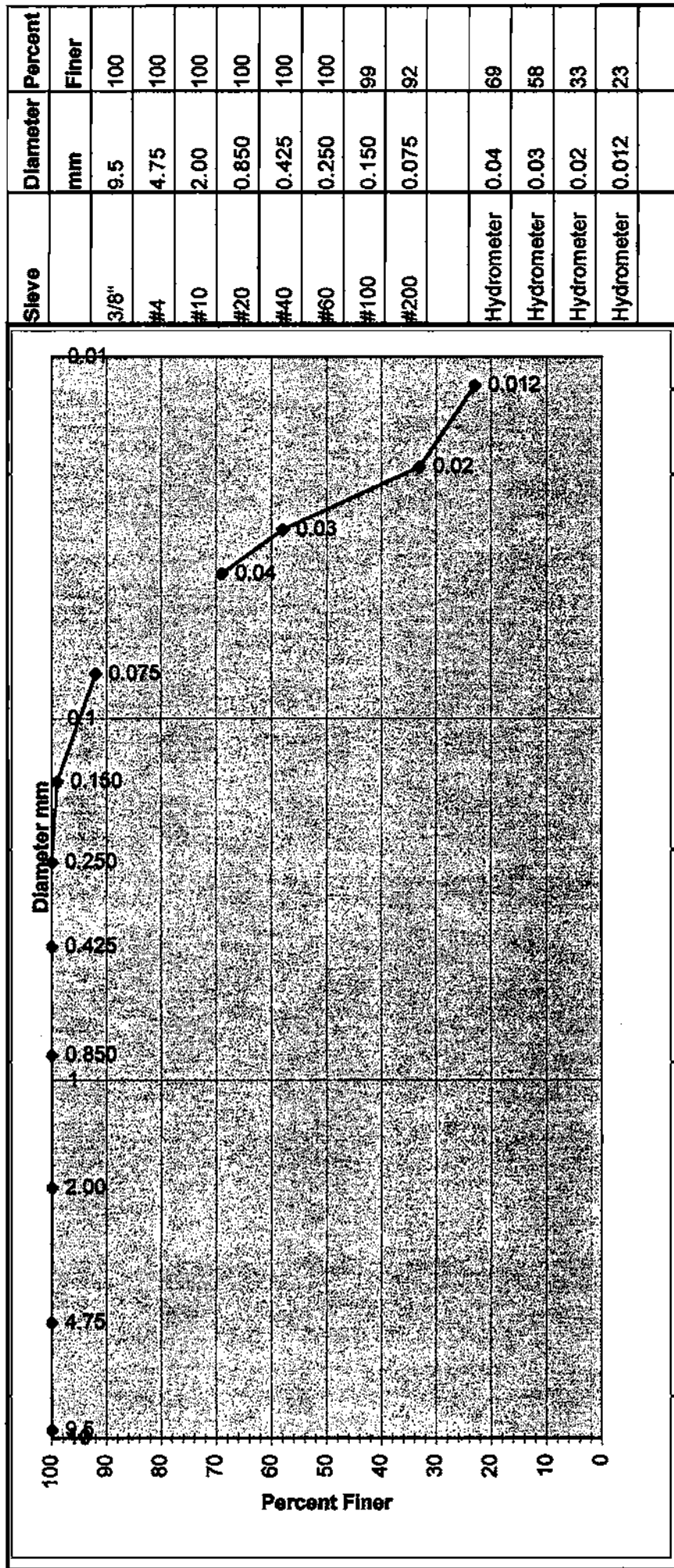


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Client: LCMF, Inc. Soil Description: Silt

Project: Palmer Forestry Facility Pavements Unified Classification: ML

Sample Location: TP #5 Atterburg Limits Lw = 31, Nonplastic

Depth: 3' Frost Classification: F4

Date 2/22/00

Sample Date 11/5/99

Proj. no: 9990

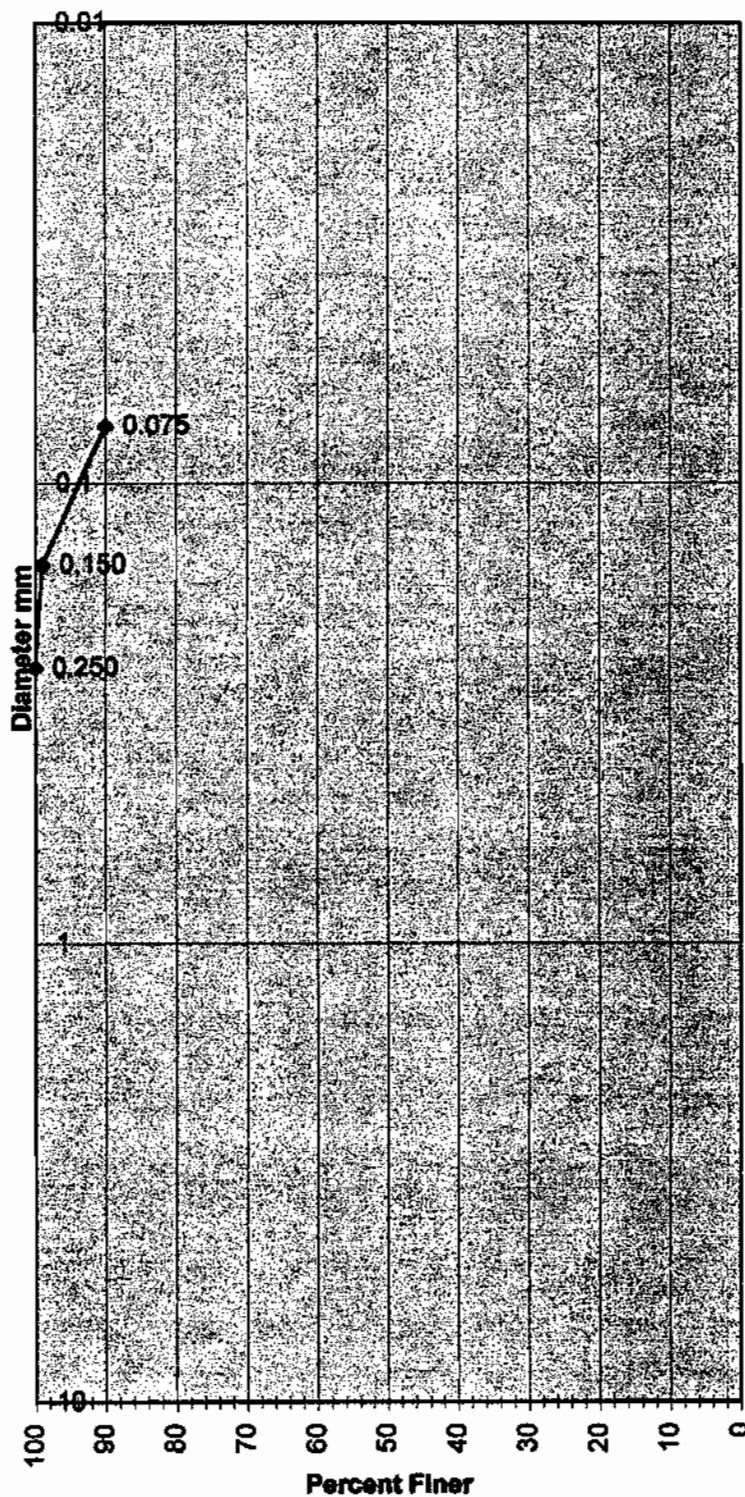
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Phone: (907) 745-4721

P.O. Box 4323 Palmer, AK 99845-4323

e-mail: mhpopticalaska.net[illegible]

Client:	LCMF, Inc.	Soil Description:	Silt
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Project: Palmer Forestry Facility Pavements Unified Classification: ML

Sample Location: TP #6

Depth: 5.5 - 6.0
Frost Classification: F4

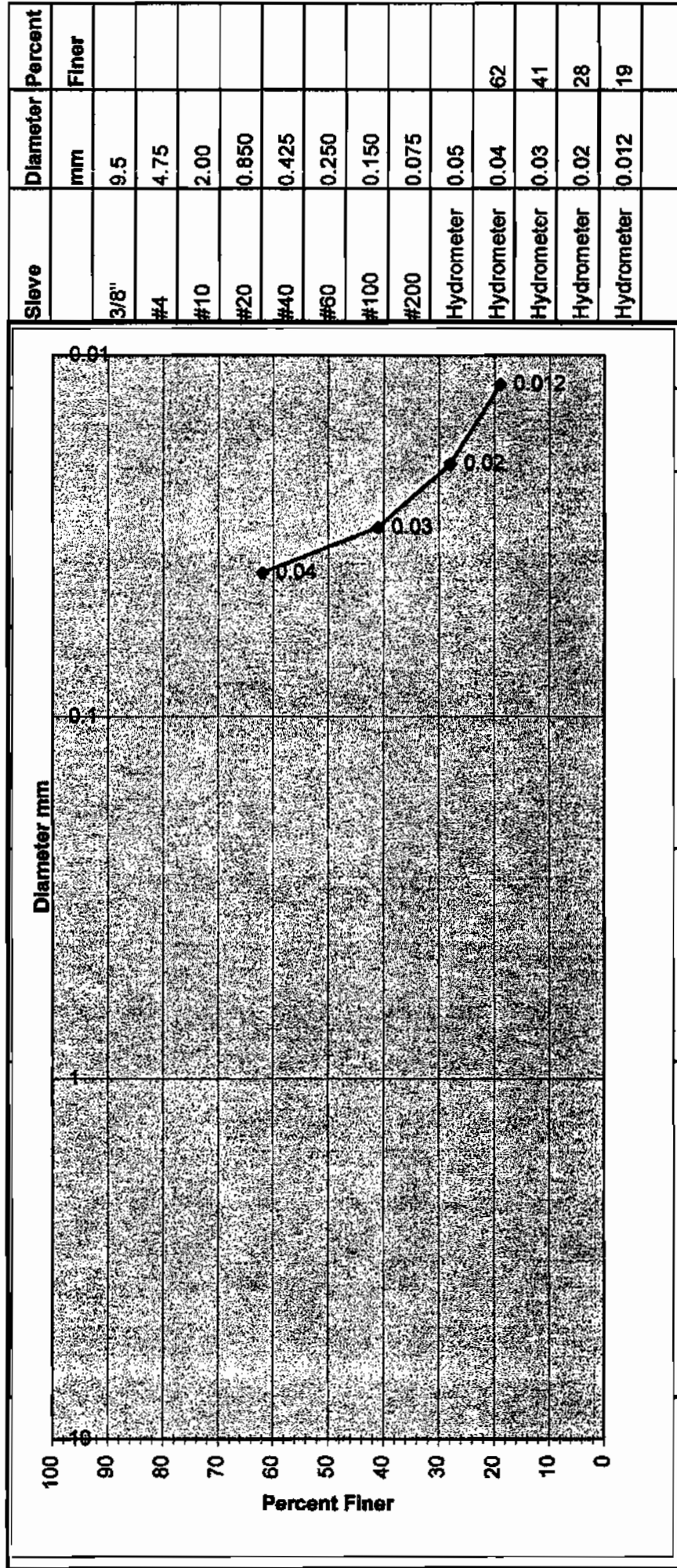
Date 2/22/00

Sample Date 11/5/99

Proj. no: 9990



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Client: **LCMF, Inc.** Soil Description: **Silt**
 Project: **Palmer Forestry Facility Pavements Unified Classification: ML**
 Sample Location: **TP #7** Atterburg Limits **Lw = 29, Nonplastic**
 Depth: **2.8'** Frost Classification: **F4**

Date **2/22/00**
 Sample Date **11/5/99**
 Proj. no: **9990**

Layer Description	Depth Interval From To Inches	Fines P200	Maximum Fines Pcr	Excess Fines	SRF @ top of Layer	SRF @ Bot of Layer	Change in SRF	(EFF)
Base	0 2	6.0	6.0	0.0	0.00	0.15	0.15	0.00
Existing GW	2 8	6.0	6.3	0.0	0.15	0.54	0.39	0.00
Existing GW	8 18	6.0	7.8	0.0	0.54	0.81	0.27	0.00
Existing GW	18 26	6.0	11.0	0.0	0.81	0.89	0.08	0.00
Subgrade	26 35	90	17.4	72.6	0.89	0.95	0.07	2.06
Subgrade	35 42	90	38.6	51.4	0.95	1.00	0.05	1.06
	42 Bottom				1			
							TOTAL (EFF)	3.11

PREDICTED DEFLECTION (inches)	0.067
PREDICTED SERVICE LIFE (EAL's)	80,000

ASTM Soil Classification Chart

Criteria for assigning Group Symbols and Group Names Using Laboratory Tests ^a				Soil Classification	
		Group		Symbol	Group name ^b
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels	Clean Gravels	$Cu \geq 4$ and $1 \leq Cc \leq 3^e$	GW	Well graded gravel ^f
	More than 50% of coarse fraction retained on No. 4 sieve.	Less than 5% fines ^c	$Cu < 4$ and /or $1 > Cc \leq 3^e$	GP	Poorly graded gravel ^f
		Gravel with Fines More than 12% fines ^c	Fines classify as ML or MH	GM	Silty gravel ^{f,g,h}
		Clean Sands	Fines classify as CL or CH	GC	Clayey gravel ^{f,g,h}
	Sands 50% or more of coarse fraction passed No. 4 sieve	Less than 5% fines ^c	$Cu \geq 6$ and $1 \leq Cc \leq 3^e$	SW	Well graded sand
Fine-Grained Soils 50% or more passes the No. 200 Sieve		Sands with fines more than 12% fines ^c	$Cu < 6$ and /or $1 > Cc \leq 3^e$	SP	Poorly graded sand ⁱ
	Silts and Clays	Inorganic	Fines classify as ML or MH	SM	Silty sand ^{g,h,i}
	Liquid limits less than 50	more than 12% fines ^c	Fines classify as CL or CH	SC	Clayey sand ^{g,h,i}
		Inorganic	$PI > 7$ and plots on or above "A" line ^j	CL	Lean Clay ^{k,l,m}
		Organic	$PI < 4$ or plots below "A" line ^j	ML	Silt ^{k,l,m}
Highly organic soils			Liquid limit - oven dried	< 0.75	Organic Clay ^{k,l,m,n}
			Liquid limit - not dried		Organic silt ^{k,l,m,o}
		Inorganic	PI plots on or above "A" line	CH	Fat Clay
			PI plots below "A" line	MH	Elastic silt ^{k,l,m}
		Organic	Liquid limit - oven dried	< 0.75	Organic Clay ^{k,l,m,p}
			Liquid limit - not dried	OH	Organic silt ^{k,l,m,q}
		Primarily organic matter, dark in color, and organic odor		PT	Peat

^a Based on the material passing the 3-in. (75-mm) sieve.

^b If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name

^c Gravels with 5 to 12% fines require dual symbols

GW-GM well-graded gravel with silt

GP-GM well-graded gravel with clay

GP-GM poorly graded gravel with silt

GP-GC poorly graded gravel with clay

^d Sands with 5 to 12% fines require dual symbols

SW-SM well-graded sand with silt

SW-SC well-graded sand with clay

SP-SM poorly graded sand with silt

SP-SC poorly graded sand with clay

^e $Cu = D_{60}/D_{10}$ $Cc = (D_{30})^2$

^f $D_{10} \times D_{60}$

^g $D_{10} \times D_{60}$

^f If soil contains $\geq 15\%$ sand, add "with sand" to group name

^g If fines classify as CL-ML, use dual symbol GC-GM or SC-SM

^h If fines are organic, add "with organic lines" to group name.

ⁱ If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^j If Atterberg limits plot in hatched area, soil is a CL-ML, silty soil.

^k If soil contains 15 to 29 % plus No. 200, add

"with sand" or "with gravel," whichever is predominant.

^l If soil contains L 30% plus No. 200, predominantly

sand, add "sandy" to group name.

^m If soil contains $\geq 30\%$ plus No. 200, predominantly

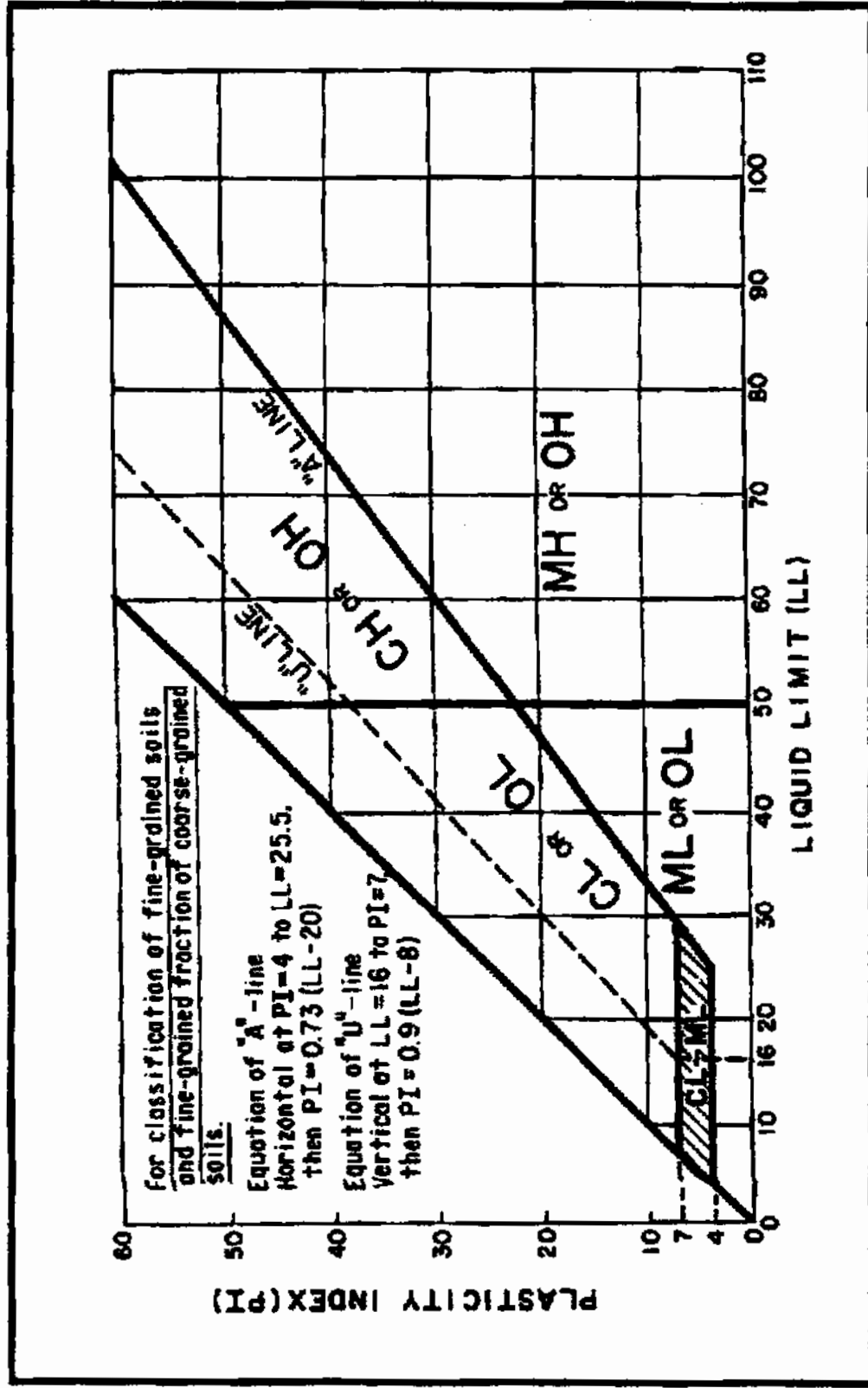
gravel, add "gravelly" to group name.

ⁿ $PI \geq 4$ and plots on or above "A" line.

^o $PI < 4$ or plots below "A" line.

^p PI plots on or above "A" line.

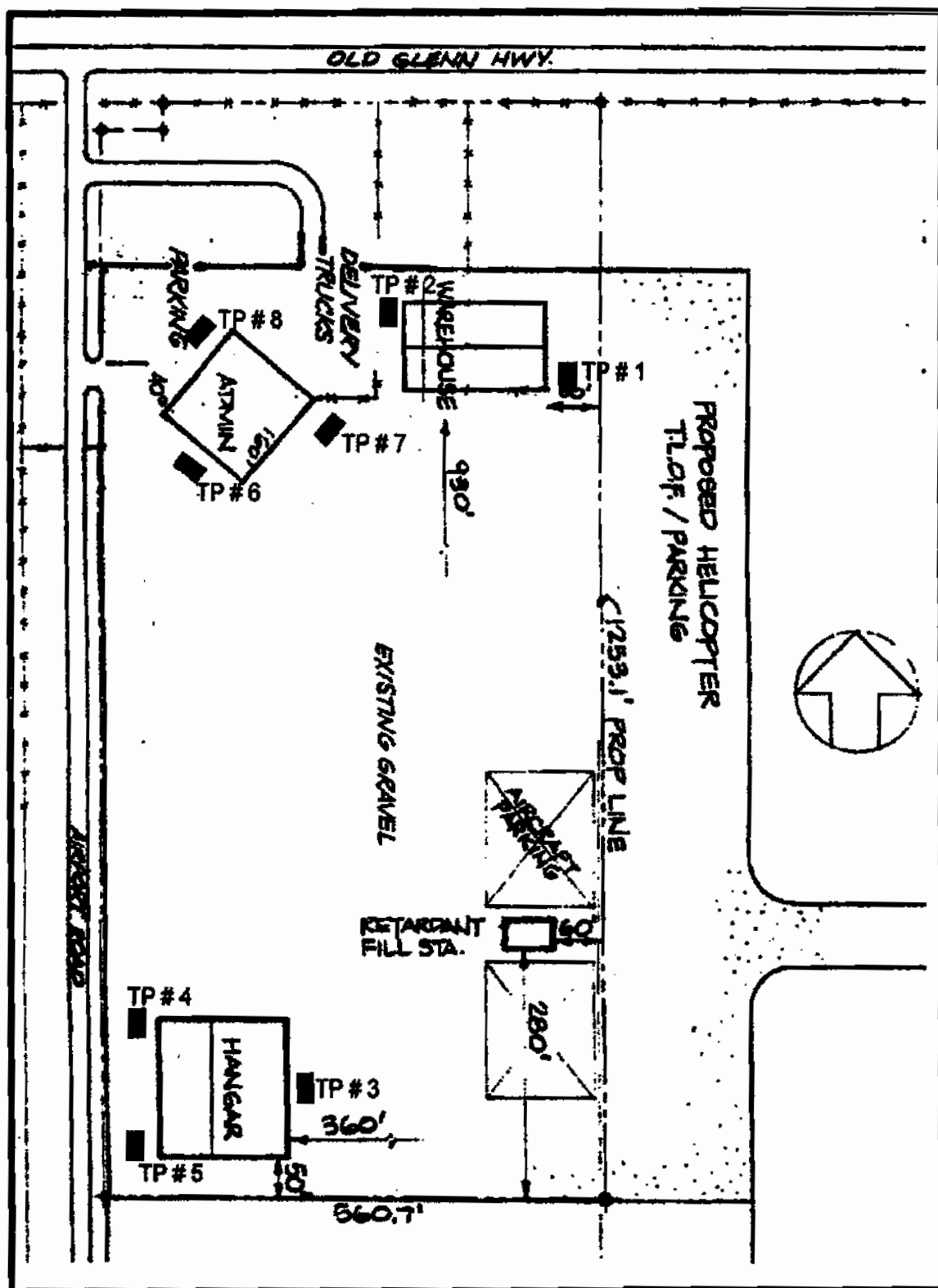
^q PI plots below "A" line.



Plasticity Chart

U.S. Corps of Engineers
Frost Design Soil Classification

Frost group	Soil Type	Percentage finer than 0.02mm, by weight	Typical soil types under Unified Soil Classification System
NFS	Sands and Gravelly soils	< 3	SP, SW, GP, GW
FI	Gravelly soils	3 to 10	GW, GP, GW-GM, GP-GM
F2	(a) Gravelly soils (b) Sands	10 to 20 3 to 15	GM, GW-GM, GP-GM SW, SP, SM, SW-SM, SP-SM
F3	(a) Gravelly soils (b) Sands, except very fine silty sands (c) Clays, $PI > 12$	>20 >15 —	GM, GC SM, SC CL, CH
F4	(a) All silts (b) Very fine silty sands (c) Clays, $PI < 12$ (d) Varved clays and fine-grained, banded sediments	— >15 — —	ML, MH SM CL, CL-ML CL and ML CL, ML, and SM; CL, CH, and ML; CL, CH, ML, and SM



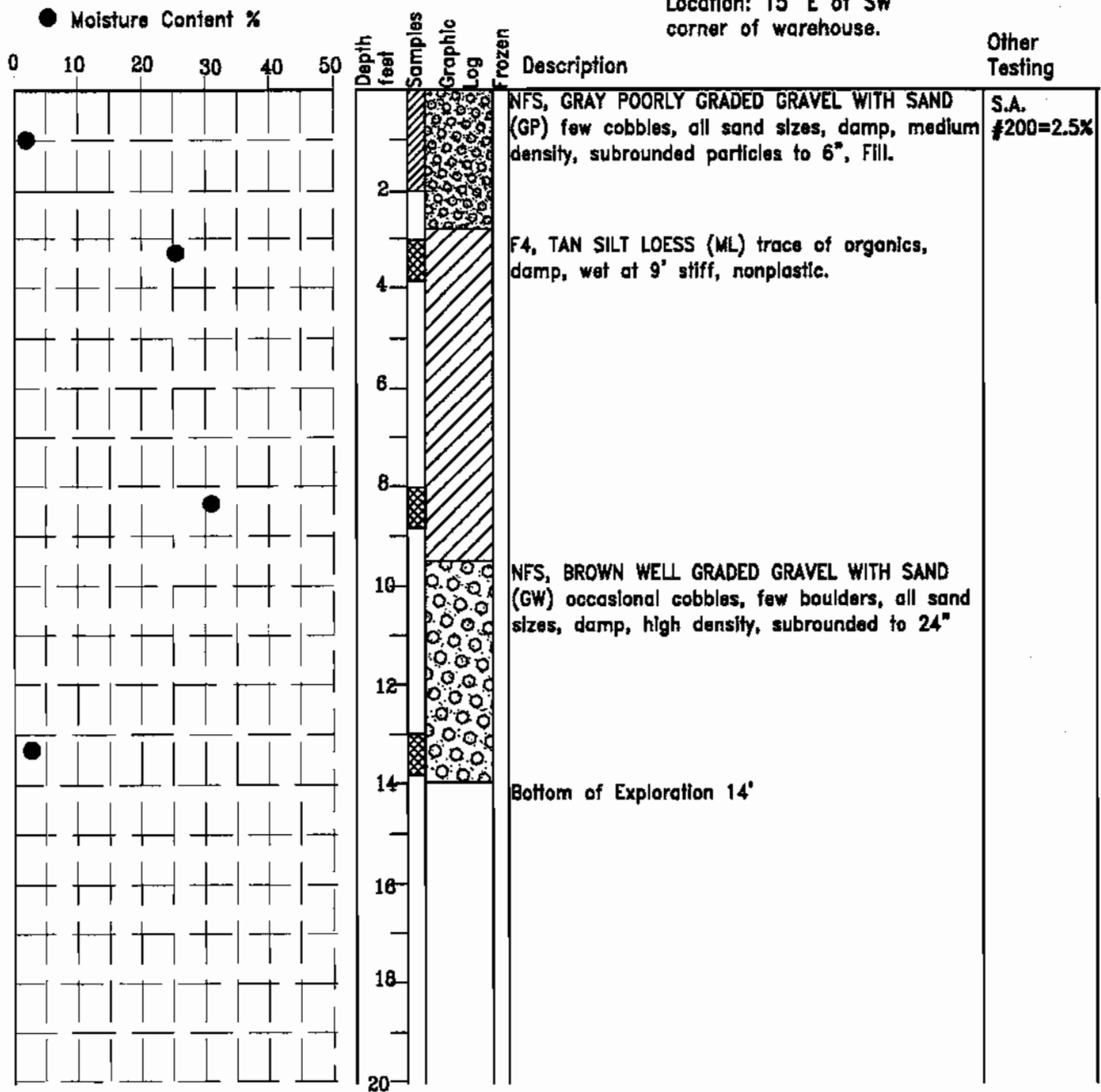
Test Pit Locations for Buildings

Log of Test Pit 1

Excavated: June 16, 1998

Equipment: Case 580

Location: 15' E of SW corner of warehouse.



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Job No.: 9847 Date: July, 1998

Log of Test Pit 1

Forestry Consolidation Facility

City of Palmer

231 W. Evergreen St., Palmer, AK 99645

Plate

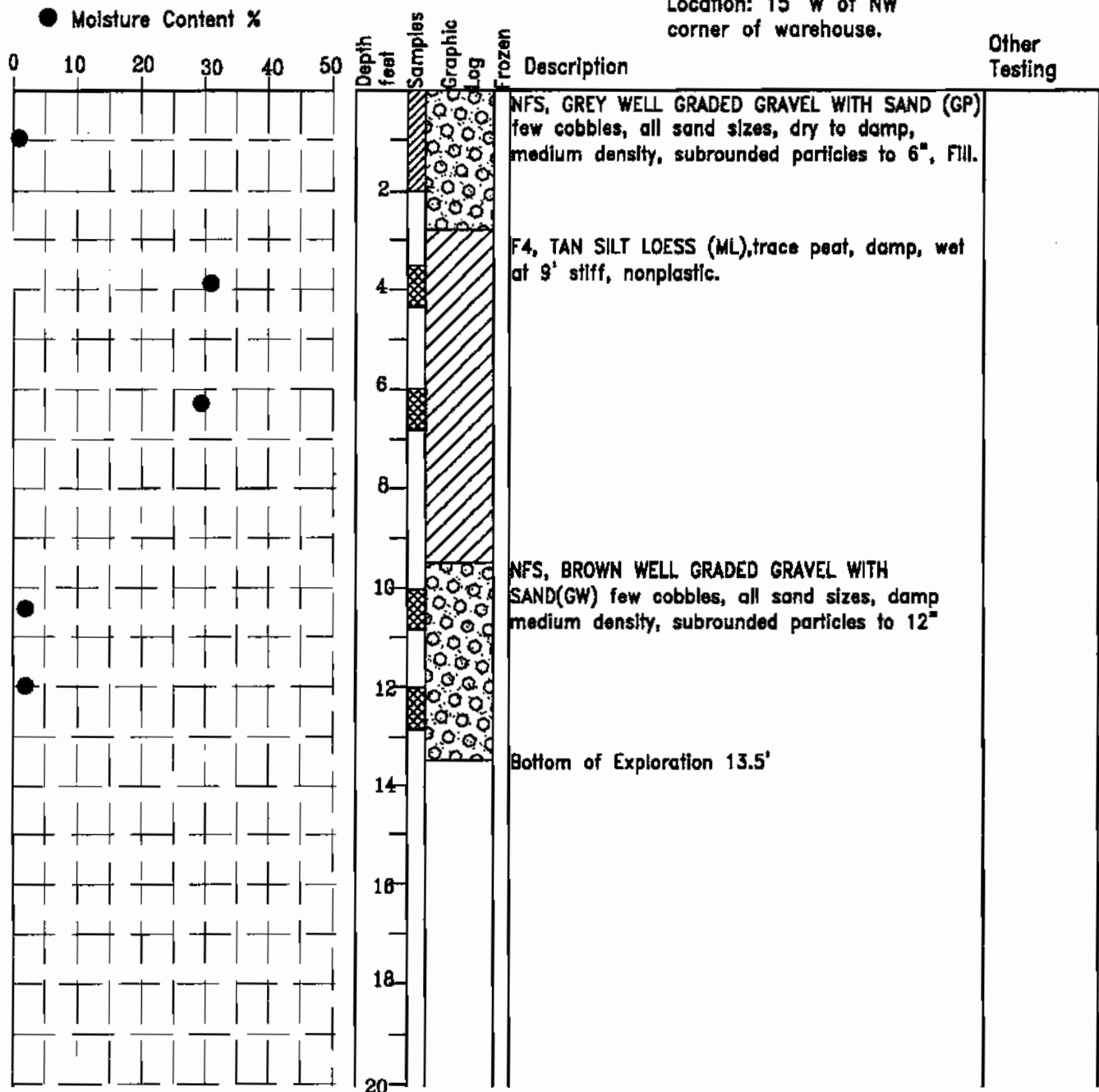
1

Log of Test Pit 2

Excavated: June 16, 1998

Equipment: Case 580

Location: 15' W of NW corner of warehouse.



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Job No.: 9847 Date: July, 1998

Log of Test Pit 2

Forestry Consolidation Facility
City of Palmer
231 W. Evergreen St, Palmer AK
99645

Plate

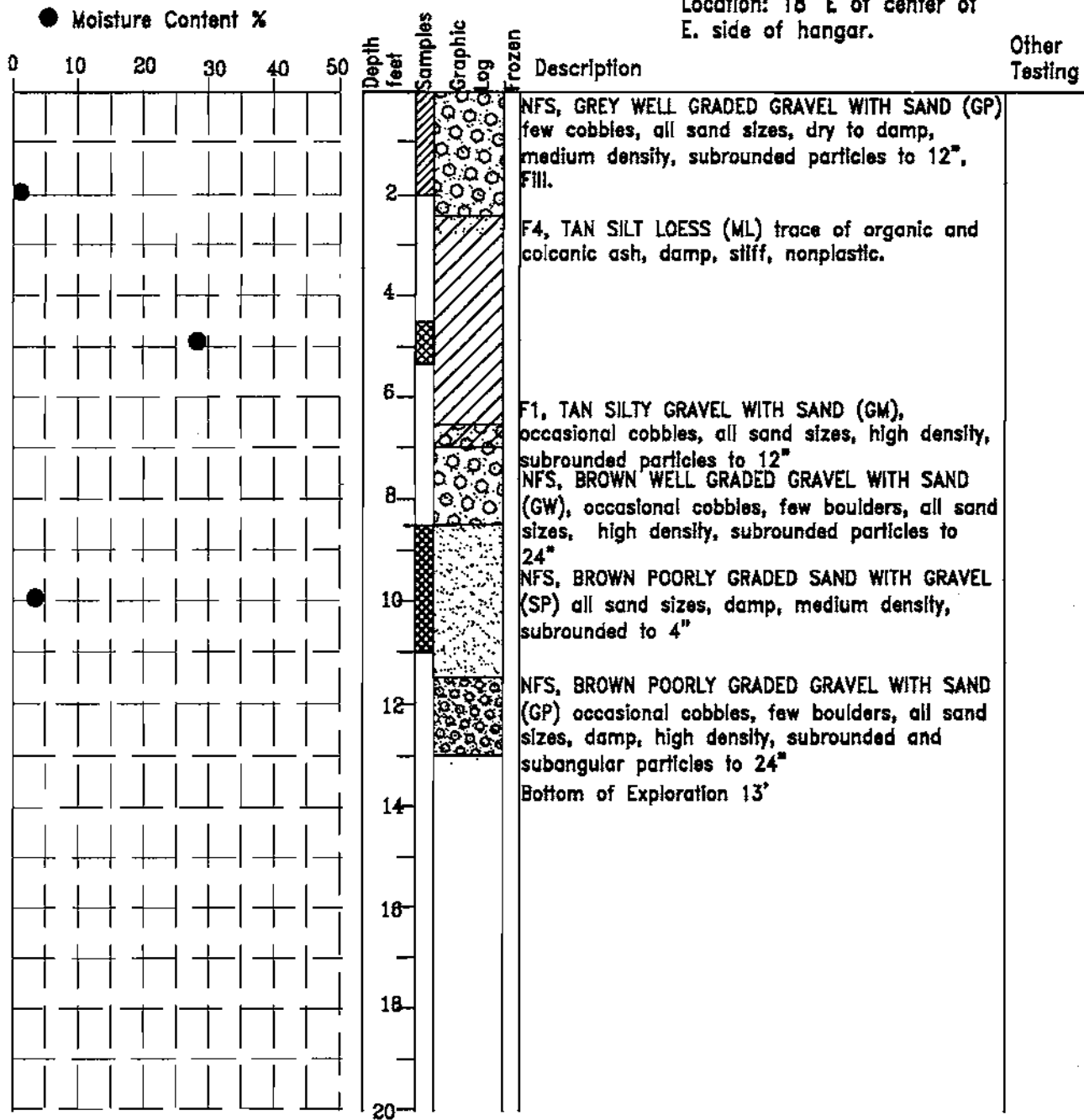
2

Log of Test Pit 3

Excavated: June 16, 1998

Equipment: Case 580

Location: 18' E of center of
E. side of hangar.



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Job No.: 9847

Date: July, 1998

Log of Test Pit 3

Forestry Consolidation Facility

City of Palmer

231 W. Evergreen St, Palmer AK
99645

Plate

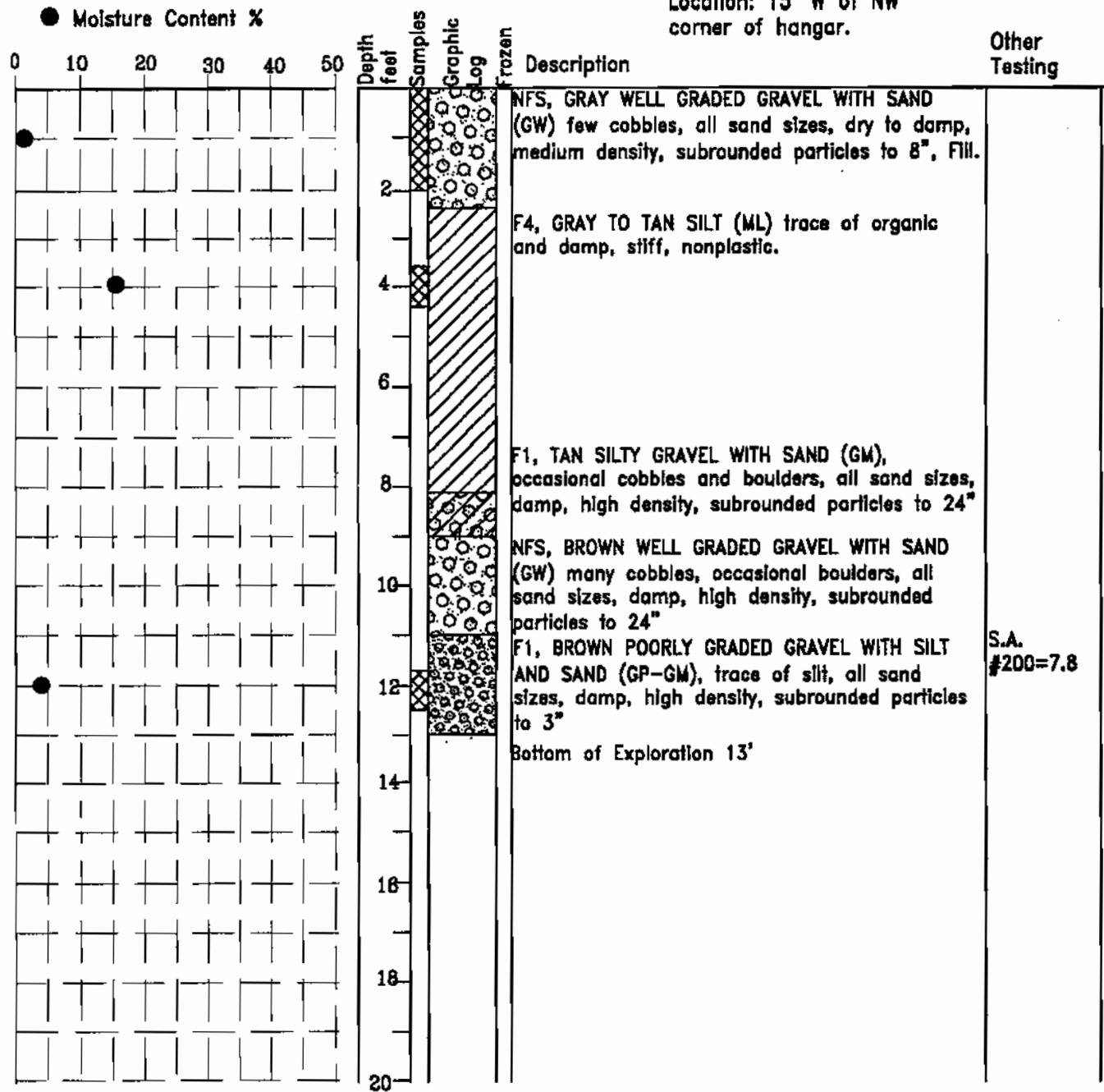
3

Log of Test Pit 4

Excavated: July 1, 1998

Equipment: DROTT

Location: 15' W of NW
corner of hangar.



● Moisture Content %

▨ Grab Sample
▨ Bulk Sample



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Log of Test Pit 4

Forestry Consolidation Facility
City of Palmer
231 W. Evergreen St, Palmer AK
99645

Plate

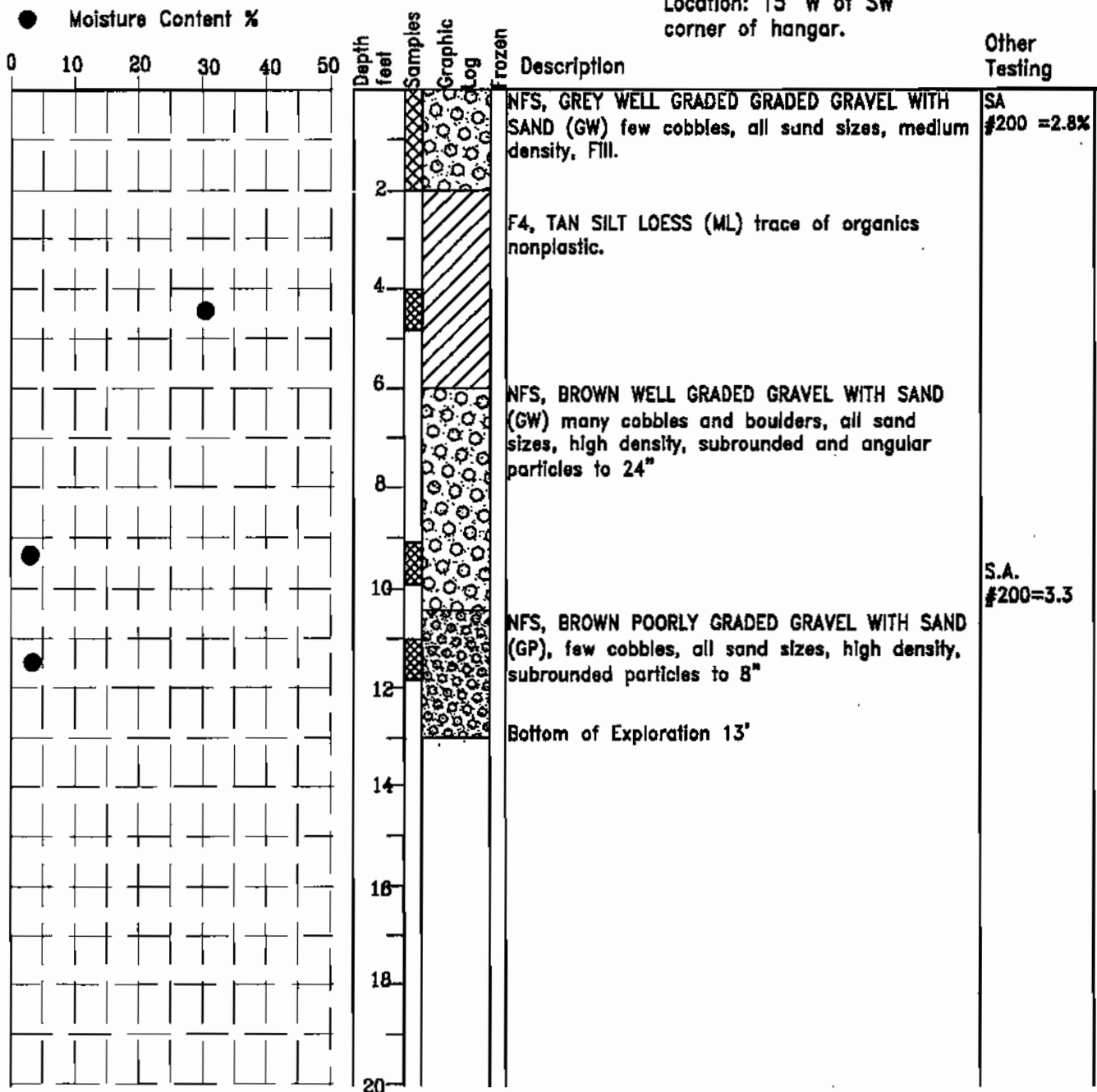
4

Log of Test Pit 5

Excavated: July 1, 1998

Equipment: Drott Excavator

Location: 15' W of SW
corner of hangar.



● Moisture Content %

▨ Grab Sample
▨ Bulk Sample



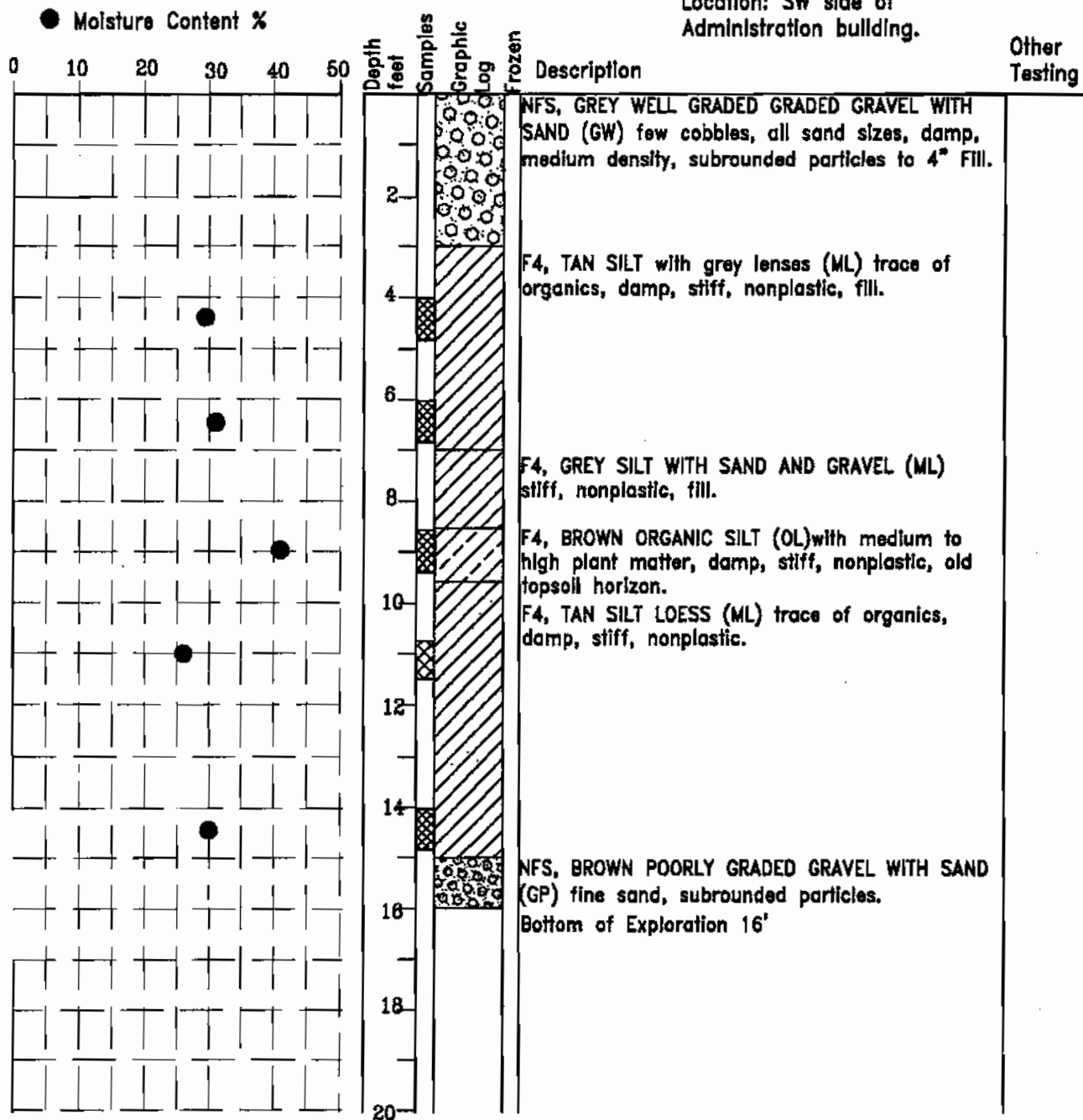
Mark Hansen P.E.
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Job No.: 9847 Date: July, 1998

Log of Test Pit 5

Forestry Consolidation Facility
City of Palmer
231 W. Evergreen St, Palmer AK
99645

Plate
5

Excavated: July 1, 1998
Equipment: Drott Excavator
Location: SW side of
Administration building.



Log of Test Pit 6

Forestry Consolidation Facility
City of Palmer
231 W. Evergreen St, Palmer AK
99645

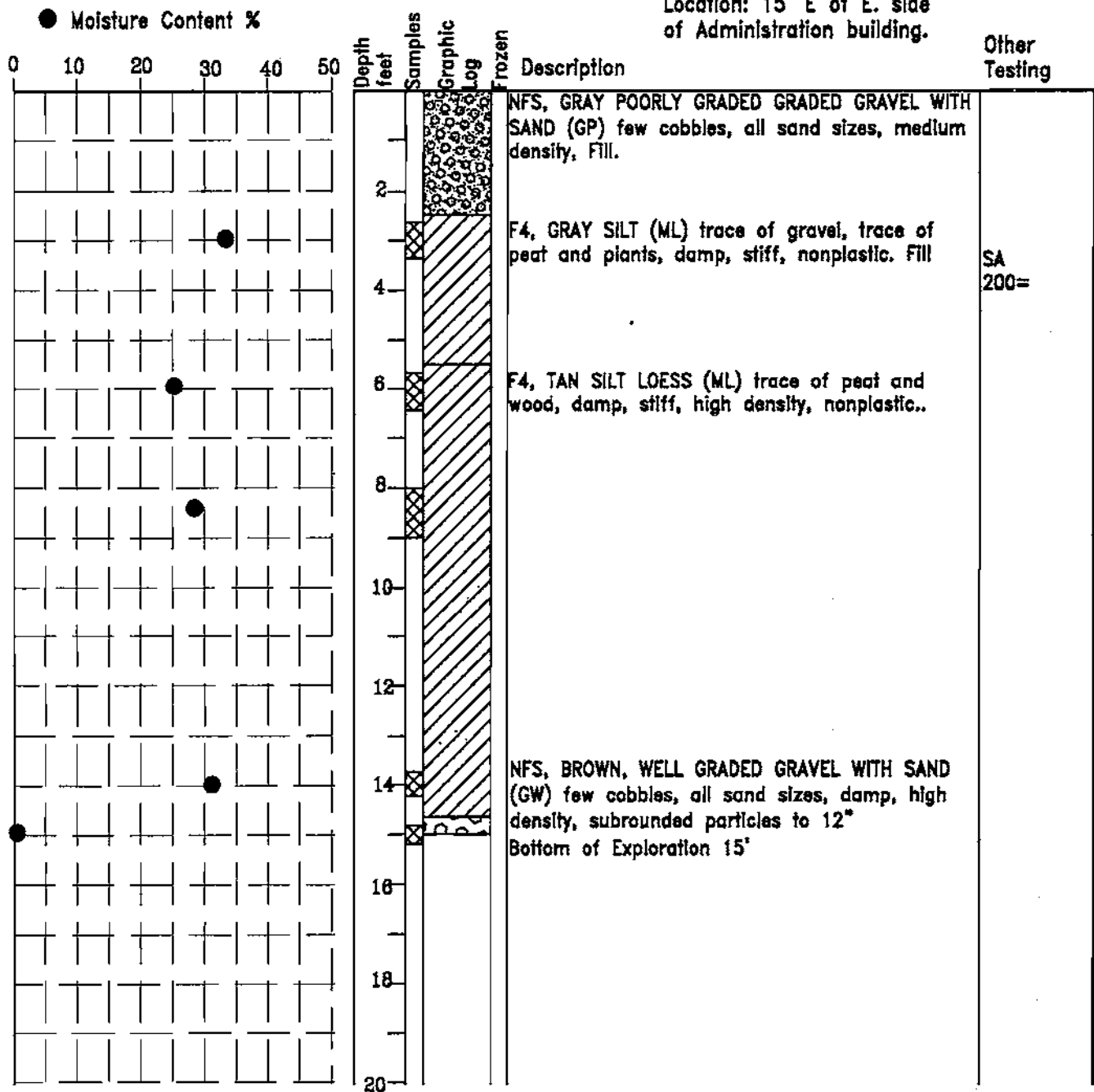
Plate
6

Log of Test Pit 7

Excavated: July 1, 1998

Equipment: Drott Excavator

Location: 15' E of E. side
of Administration building.



● Moisture Content %

▨ Grab Sample
▨ Bulk Sample



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Job No.: 9847 Date: July, 1998

Log of Test Pit 7

Forestry Consolidation Facility
City of Palmer
231 W. Evergreen St, Palmer AK
99645

Plate
7

Log of Test Pit 8

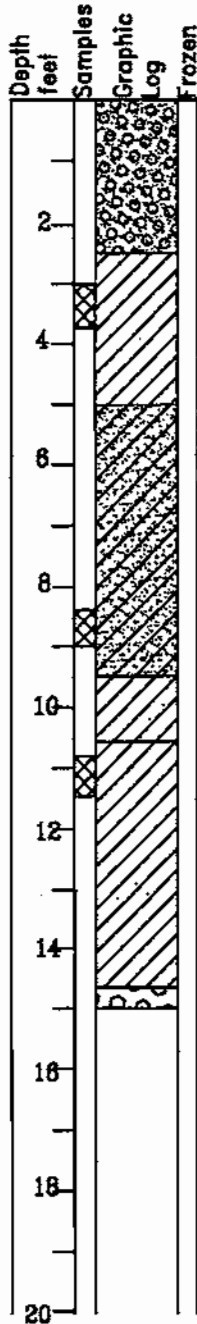
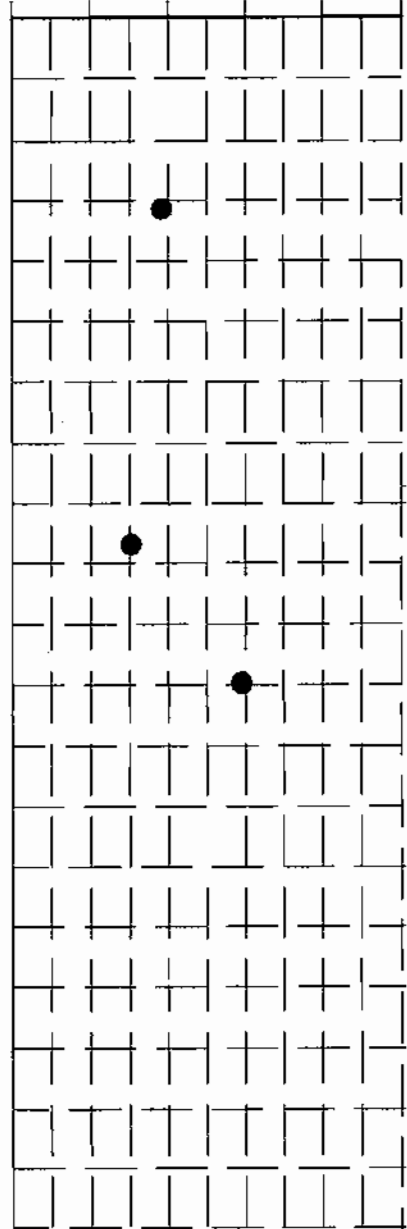
Excavated: July 1, 1998

Equipment: Drott Excavator

Location: 20' E. of N.
corner of Administration
building.

Other
Testing

● Moisture Content %
0 10 20 30 40 50



Description

NFS, GRAY POORLY GRADED GRAVEL WITH SAND (GP) few cobbles, all sand sizes, dry to damp medium density, subrounded particles to 4" Fill.

F4, TAN SILT (ML) few cobbles, damp, high density, nonplastic. particles to 12" Fill.

F3, GRAY SILTY SAND WITH GRAVEL (SM) trace of peat and wood, few cobbles, damp, high density, nonplastic., wire at 8' 50% silt. Fill.

F4 BROWN SILT AND PEAT (ML) medium peat, damp, soft to stiff, nonplastic.

F4, TAN SILT LOESS (ML) trace of peat, damp, stiff, nonplastic.

NFS, BROWN, WELL GRADED GRAVEL WITH SAND (GW) all sand sizes, high density, subrounded particles

Bottom of Exploration 15'

S.A.
#200=43%

● Moisture Content %

Grab Sample
Bulk Sample



Mark Hansen P.E.

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Job No.: 9847 Date: July, 1998

Log of Test Pit 8

Forestry Consolidation Facility

City of Palmer

231 W. Evergreen St., Palmer AK 99645

Plate

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