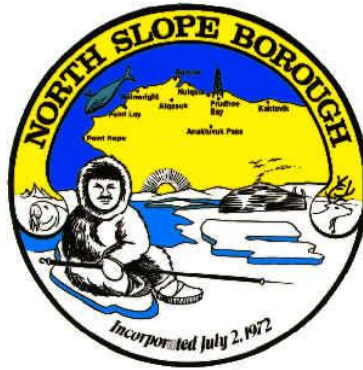


NORTH SLOPE BOROUGH



Areawide Heating and Glycol Replacement Atqasuk, Wainwright, & Kaktovik CIP # 18-069

February 7, 2011

Prepared by:
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Part 1

Bidding Requirements

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REQUEST FOR PROPOSAL/BID

CIP No.: 18-069

Project: AW Heating and Glycol Replacement

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NOTICE TO BIDDERS

NOTICE is hereby given that sealed proposals will be received by:

North Slope Borough
Department of CIPM
Attn: Contract Administrator

CIPM Office Location:
Upstairs in the Public Works Building
1689 Okpik Street
Barrow, AK 99723

The project title/CIP number, bid opening date and name of Project Administrator must appear on the outside envelope of all bids. Bidders are responsible for the timely delivery of bids to the person and address listed above.

Bid closing is **2:30 PM** local time, **March 3rd, 2011**, for the AW Heating and Glycol Replacement project as described more completely in the Contract Documents entitled Areawide Heating and Glycol Replacement and dated February 7th, 2011. Proposals received after this time will not be considered.

Bids will be opened and publicly read aloud at **3:00 PM** local time, **March 3rd, 2011** at the upstairs CIPM conference room at 1689 Okpik Street, Barrow, AK. Mailed proposals addressed to the Contract Administrator, Department of CIPM, PO Box 350, Barrow, Alaska 99723 shall be considered received when date and time stamped by Contract Administrator or designee. For further information, call the CIPM Project Administrator Barbara Turner at 907-646-8273.

Each proposal shall be accompanied by a certified or cashier's check payable to the order of the North Slope Borough for a sum not less than five percent (5%) of the amount of the proposal, or accompanied by a bid bond, in an amount not less than five percent (5%) of the amount of the proposal, of a corporate surety licensed to do business in the State of Alaska, conditioned that the bidder will pay the Borough, as liquidated damages, the amount specified in the bond, unless it enters into a contract in accordance with its proposal and furnishes the performance and payment bond with surety satisfactory to the Borough in an amount equal to one hundred percent (100%) of the contract price and insurance certificate within ten (10) days from the date on which it is notified that it is the successful bidder, its check (or bid bond) and the amount thereof shall be forfeited to the Borough.

The Borough reserves the right to reject any or all proposals and to waive irregularities or informalities in any of the proposals. Bids may be awarded in accordance with the Borough's preference policy, a copy of which is available upon request. Each proposal shall be submitted only on the prescribed proposal forms included with the contract documents.

INSTRUCTIONS TO BIDDERS

1.01 DEFINITIONS Words used in the contract documents shall be as defined in the general conditions and special conditions. The word "Bid" shall be defined as either a bid or proposal and the word "Bidder" shall be defined as either a bidder or proposer.

1.02 EXAMINATION OF DOCUMENTS AND SITE

a. Each bidder shall thoroughly examine and be familiar with the contract documents. Submission of a Bid shall constitute an acknowledgment upon which the Borough may rely that the bidder has thoroughly examined and is familiar with each of the contract documents. The failure or neglect of a bidder to receive or examine any contract document or any part thereof shall in no way relieve it from any obligations with respect to its Bid or to the contract. No claim for additional compensation shall be allowed which is based upon a lack of knowledge of any contract document.

b. Each bidder shall thoroughly examine and be familiar with the project site and its improvements. Submission of a Bid shall constitute an acknowledgment upon which the Borough may rely that the bidder has thoroughly examined and is familiar with the project site and its improvements, both as to surface and subsurface conditions, and that it waives any claim for any discrepancy between the site and its improvements and the contract documents. The failure or neglect of a bidder to fully familiarize itself with the project site shall in no way relieve it from any obligations with respect to its Bid or to the contract. No claim for additional compensation will be allowed which is based upon lack of knowledge of the project site and its improvements.

1.03 INTERPRETATIONS

No oral interpretations will be made to any bidder as to the meaning of any of the contract documents. Every request for interpretation shall be made in writing and delivered to the Borough Representative no later than 5:00 p.m. AST of the day of the Pre-Bid meeting or as may otherwise be established by the Bid documents. Every interpretation made to bidders shall be in the form of an addendum which, if issued, will be sent by electronic transmission or United States mail as promptly as is practicable to all parties to whom the contract documents have been issued. All such addenda shall become part of the contract documents.

1.04 FORM OF BID

a. The Borough's original of each bidder's Bid shall be submitted upon the Bid forms. No copies or loose sheets shall be submitted. Each Bid shall give the amount Bid in figures and, when required, in words. Each bidder shall submit one (1) original Bid enclosed in a sealed envelope marked "BID" with the full name of the project being Bid as shown on the cover of the contract documents, the date and time for opening, the name and return address of the bidder, and shall be addressed to the Borough at the location last announced for receipt of Bids. Each Bid schedule submitted as part of a Bid shall constitute a separate Bid to enter into a contract to furnish the construction specified in such schedule.

1.05 COMPLETENESS OF BID

a. Each bidder shall quote on all items in one (1) Bid schedule whether or not the Bid form for such schedule provides for quotation of prices for items which may be basic units of construction, integrated units of construction, alternative prices, additive prices, deductive prices, or a combination thereof, except for optional items on which no Bid is intended. Failure to do so may result in the Bid being rejected as not responsive.

b. When quotations on certain items are optional, bidders shall insert the words "no Bid" in the space provided for any item for which no offer is made.

c. Alternative, additive, or deductive prices will not be considered unless specifically required in the Bid form.

d. Each Bid shall include specific acknowledgment of receipt of all addenda issued during the bidding period. Failure to do so may result in the Bid being rejected as not responsive.

e. Bidders are encouraged to verify the Addenda that have been published prior to submitting their Bid. This may be done by contacting the Borough Representative.

f. Additional technical data furnished by a bidder, but not required by the contract documents, may at the Borough's option be considered a part of the Bid to the extent that it is supplementary to, is consistent with and not contrary to the contract documents in the opinion of the architect/engineer.

1.06 ALTERATIONS IN BID Except as otherwise provided herein, Bids which are conditional in any way, or which contain erasures or interlineations not authenticated as provided herein, or which contain items not called for, items not in conformity with applicable laws, changes, additions, recapitulations, alternative Bids, or any other modifications of the Bid form which are not specifically called for in the contract documents, may be rejected at the option of the Borough as not responsive. Erasures, interlineations or other corrections shall be authenticated by affixing in the margin immediately opposite the correction, the handwritten initials of each person executing the Bid.

1.07 MORE THAN ONE BID If, in addition to its Bid, a bidder has the controlling interest in a bidder offering another Bid, all Bids by such bidders may be rejected; provided, however, that a subcontractor who has quoted prices to a bidder for construction which constitutes less than one-half (1/2) of the amount of such bidder's Bid is not thereby disqualified from quoting prices to other bidders for portions of the construction or from submitting a Bid to the Borough for the construction to be furnished under the contract.

1.08 EXECUTION OF BID If a Bid is made by a partnership, it shall be executed in the partnership name, followed by the handwritten signature of a partner authorized to execute the Bid for the partnership. If a Bid is made by a corporation, it shall be executed in the name of the corporation, followed by the handwritten signature of an officer authorized to execute the Bid for the corporation, and the printed or typewritten designation of the office he holds in the corporation. The Borough may require any bidder to furnish certified copies of extracts of the minutes of meetings of the governing body of the bidder authorizing execution of the Bid and contract documents.

1.09 SUBMISSION OF BID It is the sole responsibility of each bidder to deliver its Bid to the Borough at the place for receiving Bids and prior to the time for opening Bids last announced to bidders. Any Bid received after the time last announced for opening Bids may be retained by the Borough or returned to the bidder, but such Bid shall be rejected as not responsive.

1.10 MODIFICATION OF BID A modification of a Bid already received will be considered only if the modification is received prior to the time last announced for opening Bids. All modifications shall be made in writing, executed and submitted in the same form and manner as the original Bid. Telephonic or telegraphic modifications will not be considered.

1.11 WITHDRAWAL OF BID Bid shall constitute an offer to the Borough as outlined therein and shall be irrevocable after the time last announced for opening Bids. Any bidder may withdraw its Bid by giving written notice to the Borough at the place such Bids are to be received and at any time prior to the time last announced for opening Bids. After the time last announced for opening Bids and until execution of the contract, no bidder will be permitted to withdraw its Bid unless such execution is delayed due to acts of the Borough, for a period exceeding sixty (60) days after the time last announced for opening Bids.

1.12 POSTPONEMENT OF OPENING The Borough reserves the right to postpone the date and time last announced for opening Bids and such a postponement may be made at any time prior to the time last announced for opening Bids. The Borough will give written or telegraphic notice of any such postponement to each party to whom contract documents have been issued, followed by issuance of an addendum confirming the changing of the announced date and time for opening Bids.

1.13 OPENING BIDS At the time and place last announced for opening Bids, each Bid which has been received prior to the time last announced for opening Bids, except those which have been properly withdrawn, will be publicly opened and read aloud, irrespective of any irregularities or informalities in such Bids. Each bidder may have no more than two (2) representatives at the opening.

1.14 PRICES

a. The Bid prices shall include everything necessary for furnishing the construction and fulfilling the contract, except as may be otherwise expressly provided in the contract documents.

b. Prices in words shall be valid only in a Bid schedule having no unit prices and requiring a single lump sum Bid for all construction in the schedule. If there is a difference between the price Bid in words and price Bid in figures for the same lump sum Bid, the words shall be the amount Bid.

c. If the product of a unit price and the estimated quantity for that unit does not equal the extended amount Bid for the estimated quantity, the unit price shall be the amount Bid for the unit and the correct product of the unit price and the estimated quantity shall be the correct extended amount Bid.

d. If the sum of the correct extended amounts Bid does not equal the total amount shown in the Bid for the Bid schedule, the correct sum of the correct extended amounts Bid shall be the total amount Bid for all construction in the schedule.

e. If an alternative Bid or modification of a Bid based on unit prices is submitted which provides for an adjustment to the total amount Bid, the portion of the adjustment applicable to each unit price shall be stated for each unit price. If it is not so stated or if the stated adjustment results in a discrepancy between the sum of the adjusted extended amounts Bid and the adjusted total amount Bid, each unit price included in the adjusted total shall bear the same relation to the corresponding original unit price as the adjusted total bears to the corresponding correct original total.

f. If a bidder submits more than one (1) copy of its Bid and all copies of the Bid are not identical in all respects, the errors, if any, in extended amounts and the sum of the extended amounts shall be first corrected as described above. If the several copies of the Bid submitted are not identical after being so corrected, the copy having the lowest total amount Bid for all construction in the schedule and guaranteed by a valid Bid guaranty shall be the bidder's Bid and all other copies shall be invalid.

g. All prices Bid shall be firm unless the special conditions permit price escalation. If all or part of a Bid includes construction for which the special conditions permit price escalation and no escalation method or indices are specified, the bidder shall indicate in its Bid the specific items subject to escalation, and shall give the method and indices to be used in computing the amount thereof.

h. It is recognized that the contractor's time and expense for completing each type of basic unit of construction may vary from one part of the construction to another. The bidder's attention is called to the fact that only one (1) unit price is Bid in the Bid for each type of basic unit

of construction and further that, except as otherwise provided in the special conditions, the Borough may change the quantity of each type of basic unit of construction without any change in the unit price Bid.

1.15 EVALUATION OF BIDS

a. In evaluating the Bids, the Borough may consider Bid prices, escalation, time of completion, bidder's experience, past record of the bidder in meeting commitments, qualifications of bidder's personnel, bidder's equipment available for prosecution of the contract, character and proximity to the project of bidder's service facilities, effect upon the total cost to the Borough of ownership and operation of the project and any other factors that may determine which Bid best serves the interests of the Borough. If the Bid includes furnishing manufactured equipment, the Borough will consider in addition to the foregoing the design and construction of such equipment, its performance, the cost of operation and maintenance, the availability of shop drawings, and, where applicable, the character and location of the supplier's service facilities. The Borough reserves the right to waive irregularities or informalities in any or all Bids without cause.

b. Proposals shall be evaluated under the provisions of N.S.B.M.C. § 2.36, Purchasing. Copies of N.S.B.M.C. 2.36 are available from the Borough Representative upon request. To qualify for a preference, bidders must first apply to, and receive qualification from the North Slope Borough Mayor's Office.

1.16 QUALIFICATION OF BIDDERS The Bidder, by submitting its Bid, warrants that it shall maintain the following policies of employment;

a. The Bidder and all the subcontractors shall not discriminate against any employee or applicant for employment because of age, race, religion, color, sex, or national origin. The Bidder shall take affirmative action to insure that qualified applicants are employed and that employees are treated during employment without regard to their race, religion, color, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruiting advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Bidder agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

b. The Bidder and all subcontractors shall, in all solicitations or advertisements for employees placed by them on their behalf, state that all qualified applicants will receive consideration for employment without regard to age, race, religion, color, sex, or national origin.

1.17 REJECTION OF BIDS The Borough reserves the right to reject any or all Bids without cause. Without limiting the generality of the foregoing, the Borough may reject any Bid which is incomplete, not responsive, obscure or irregular, any Bid which omits a Bid on any one (1) or more items for which bids are required, any Bid which omits unit prices if unit prices are required, any Bid in which unit prices are unbalanced in the opinion of the Borough, any Bid accompanied by an insufficient or irregular Bid guaranty, and any Bid from a bidder which has previously failed to perform satisfactorily or to complete on time construction of any nature.

1.18 ACCEPTANCE OF BID

a. Within sixty (60) days after the time last announced for opening Bids, the Borough may act either to accept a Bid or to reject all Bids. Failure of the Borough to accept a Bid within the said time, or such additional time as the apparent lowest responsive bidder shall agree to extend its Bid, shall constitute rejection of all Bids, subject to the above paragraph entitled "Evaluation of Bids".

b. The acceptance of a Bid will be evidenced by a notice of acceptance of Bid in writing signed by a duly authorized official of the Borough and delivered to the bidder whose Bid is accepted, in the manner provided for written notices. No other action or notice shall obligate the

bidder whose Bid is accepted to furnish a performance and payment bond, insurance certificate or insurance policies, lump sum Bid breakdown and execute the contract.

1.19 BID GUARANTY

a. The Bid guaranty shall be the certified or cashier's check or Bid bond required in the Notice to Bidders.

b. The Borough may reject all Bids and in such event all checks and Bid bonds will thereupon be returned to the bidders. When a Bid is accepted, all checks and Bid bonds will thereupon be returned to the bidders, except those of the three (3) apparent lowest responsive bidders may be retained until the contract is executed by the accepted bidder and the Borough.

c. Any bidder whose Bid is accepted shall furnish a satisfactory performance and payment bond, insurance policies, lump sum Bid breakdown and/or other documents specified in the Bid documents as well as execute the contract within ten (10) days after delivery of notice of acceptance of Bid or such additional time as is allowed by the Borough. Failure, neglect or refusal by the bidder to do so shall constitute a breach of agreement to enter into the contract effected by the bidder's Bid and the Borough's notice of acceptance of Bid. The damages to the Borough for such a breach of agreement will include monetary loss from, among other things, interference with the Borough's programs and normal operations. The amount of such damages is difficult or impossible to compute. The Borough has estimated and each bidder, by submitting its Bid, agrees that reasonable compensation for damages resulting from such breach of agreement shall be the amount of the Bid guaranty and promises to pay that amount as liquidated damages for such breach.

d. If any bidder whose Bid is accepted fails, neglects or refuses to furnish performance and payment bond, insurance certificate or insurance policies, lump sum Bid breakdown or other documents as specified in the Bid documents and execute the contract as herein provided, such bidder shall not be the lowest responsive bidder. The Borough may then select the lowest responsive bidder and deliver a notice of acceptance of Bid to such lowest responsive bidder.

1.20 CONSTRUCTION SCHEDULE For construction projects, each bidder shall include with his Bid a construction schedule which portrays the progression of the work for the beginning and end of each part of the construction work. At a minimum, said construction schedule shall show at least fundamental parts of the work such as mobilization, site work, materials deliveries, building shell, interior work and demobilization, on a chart using Gantt Chart methods or critical path scheduling techniques (C.P.M., P.E.R.T. or equivalent). Bidders shall assume a Notice to Proceed (NTP) sixty (60) days after Bid opening and completion as specified in the Project Manual.

1.21 SPECIAL INSTRUCTIONS All bidders shall comply with such special instructions to bidders as are provided in the Special Provisions.

1.22 BIDDER BID BREAKDOWN If included in the Project Manual, Bidders shall submit a Bid break down with their Bid in the form and containing the information as specified in the Project Manual.

1.23 BIDDERS WHO ARE JOINT VENTURES. If the bidder for this project is a joint venture, it must submit a joint venture agreement for approval specific to this bid concurrently with their Bid. Amendments to the joint venture agreement shall not be permitted subsequent to the Bid opening.

1.24 BIDDER'S CHECK LIST

- a. For Submittal of the Bid
 - (1) Bid (original)
 - (2) Bid Guaranty (original)
 - (3) Construction Schedule
 - (4) Non-Collusion Affidavit (original)

- (5) Joint Venture Agreement (if applicable)
 - (6) Certificate of Qualification (if claiming a NSB Bidders Preference)
 - (7) Alaska State Business License
 - (8) Disclosure of Ownership
- c. For Submittal of the Final Contract
- (1) Insurance Certificate(s) including Builders Risk Insurance Certificate
 - (2) NSB Insurance Questionnaire
 - (3) Performance and Payment Bond
 - (4) Three Signed Construction Agreements
 - (5) Subcontractor List
 - (6) Notice of Work, stamped as approved by DOL

PROPOSAL

PROJECT: _____

CIP No.: _____

North Slope Borough
Department of CIPM
P. O. Box 350
Barrow, Alaska 99723

(Bidder)

(Address)

(City, State, Zip)

(Date)

1. Pursuant to your notice to bidders inviting proposals for the construction described in the contract documents, of which this proposal is a part, the undersigned bidder hereby certifies and represents that it has examined and thoroughly understands the contract documents including the following: (If no addenda have been received, state "none").

Addenda No.

Date

2. The undersigned bidder, having made such examinations and reached such understandings:

(a) Encloses the required proposal guaranty in the amount of \$ _____, which amount is not less than five percent (5%) of the total amount of this proposal, and

(b) Accepts the obligations of a bidder incurred by submitting this proposal, and

(c) Agrees to the rights reserved to the Borough, including, but not limited to, rights set forth in the notice to bidders and instructions to bidders, and

(d) Proposes to furnish insurance certificate or insurance policies, construction schedule, lump sum bid breakdown and to execute the contract as set forth in the contract documents, and

(e) Warrants that the proposal submitted is in accordance with the following provisions as marked:

_____ (1) The equipment offered, if any, is in accordance with the requirements of the contract documents, notwithstanding any variation between descriptive material furnished and the requirements of the contract documents.

_____ (2) The equipment offered, if any, deviates from the requirements of the contract documents as itemized on the attachment entitled "Deviations".

(If the bidder fails to check one of the foregoing provisions, the proposal will be considered on the basis of provision (1) and the bidder agrees to contract in accordance with that provision.)

In strict accordance with the specifications, schedules, drawings, and conditions for the consideration of the following amount(s):

BASIC BID

_____ (\$ _____)
Words Figure

The party by whom this proposal is submitted and by whom the contract will be entered into, if this proposal is accepted is a(n) _____, doing business at:
(Individual, Partnership or Corporation)

Street	
City	
State	
Zip	

to which address notice of acceptance of proposal and all other written notices may be mailed or delivered until further written notice is given the Borough.

Legal Name of Bidding Organization

By: _____

Date: _____

BID BOND

KNOW ALL MEN BY THESE PRESENTS:

That _____ (Bidder), as principal, and (Bonding company), as surety, a corporation of _____, whose principal office is located at _____ are firmly bound unto North Slope Borough (Borough), as obligee, to fulfill the obligations of the principal and the surety under the contract to which reference is hereafter made, in the amount of _____ Dollars (\$_____) for payment whereof principal and surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, principal has by written proposal, dated _____, offered to enter into a contract with obligee for CIP No. _____, Bid Schedule(s) _____ for _____ pursuant to the terms and conditions set forth in the contract documents dated _____ including all addenda thereto, the architect/engineering provisions which were prepared by _____, which proposal and contract documents are by this reference made a part of.

NOW, THEREFORE, the condition of this obligation is such that if the principal within ten (10) days, or such additional time allowed by the obligee, after delivery by obligee to principal of notice of acceptance of proposal for one or more of said bid schedule(s) shall furnish performance and payment bond, insurance certificate or insurance policies, lump sum bid break down and execute the contract all as specified in said contract documents, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Any suit under this bond shall be instituted before the expiration of two (2) years from the date for opening proposals.

Signed and sealed this _____ day of _____, 20____.

(Surety)

(Principal)

(Title)

(Title)

NON-COLLUSION AFFIDAVIT

UNITED STATES OF AMERICA)
) ss
STATE OF ALASKA)

I, _____, of _____
(Name of Officer) (Name of Firm)

being duly sworn, do depose and state:

That I, or the firm, association or corporation of which I am a member, a bidder on the contract to be awarded by the North Slope Borough, Alaska for the construction of that certain project designated as Project Number _____ and described as _____, have not, 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 such contract.

(Signature)

(Typed or Printed)

SUBSCRIBED AND SWORN to before me this _____ day of _____, 20____.

Notary Public in and for the State of Alaska.
My Commission expires: _____

DISCLOSURE OF OWNERSHIP

NSBMC § 2.36.030 CONFLICT OF INTEREST

(B) DISCLOSURE OF OWNERSHIP. All persons, companies, organizations, or other entities contracting with the Borough must disclose the names of any owners, directors, and officers. This disclosure must accompany any bid submitted for a contract with the Borough. In cases where competitive bidding has been waived, the above disclosure must accompany the contract.

CONTRACTOR/COMPANY NAME

Contractor intends to do business as:

☐ Sole Proprietor ☐ Partnership ☐ Corporation
☐ Joint Venture ☐ Other: _____

Owner (s) of all involved: (give percentage of ownership)

Name	Title	Percentage
_____	_____	_____%
_____	_____	_____%
_____	_____	_____%

Directors or Officers of this firm:

Name	Office or Title	Company Name
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Signature of person holding signature authority

Date

Title

NORTH SLOPE BOROUGH BIDDERS PREFERENCE
APPLICATION/QUALIFICATION FORM

Year for which this application is submitted: _____

Name: _____
(As it will appear on bid documents)

Address: _____

Phone: _____

Check the box that best describes your business:

☐ Sole Proprietor ☐ Partnership ☐ Corporation

☐ Joint Venture ☐ Limited Liability Company ☐ Other _____

If claiming a local preference, how long have you operated a business within the North Slope Borough? _____

If claiming a local preference, please provide the address of your local business office:

Address: _____

In accordance with NSBMC § 2.36.280, the requirements for a Local Borough Bidder Preference are as follows:

1. Bidder must hold a current Alaska Business License;
2. Bidder must submit a bid for goods or services under the name as appearing on Bidder's current Alaska Business License;
3. Bidder must have maintained a business office within the Borough for a period of six months immediately preceding the date of the bid; and
4. Not less than 40% of the ownership of a bidder must be held directly or indirectly by a natural person or persons who reside in the Borough.

I do hereby acknowledge that the above information is true and correct. I further affirm that I have read and will comply with the requirements of North Slope Borough Code § 2.36 et seq.

SO AFFIRMED

Signature

Date

INSTRUCTIONS

Backup documentation is required and should be attached to initially verify each and every statement on this application. Please provide the name and phone number of the contact person with whom we may discuss or verify information provided in this application:

_____ Name	_____ Title
_____ Address	_____ Phone
_____ Email Address	_____ Fax No.

The following documents must be attached to this application:

1. A copy of your Alaska business license
2. A copy of your Alaska Contractors' license or Professional Registration (if applicable).
3. A copy of your joint venture agreement (if your organization is a joint venture.)
4. A Disclosure of Ownership
5. A City Business License

The following documents may be requested:

1. A Notarized Certificate of Ownership

This application must be submitted each year to the North Slope Borough Mayor's Office for review in accordance with N.S.B.M.C. § 2.36. The Mayor's Office shall certify your qualification by issuing written certification to you. You shall not qualify for any preference in bidding unless and until you have in your possession a Certificate of Qualification from the North Slope Borough Mayor's Office which must be obtained prior to any bid opening. You must submit a copy of your Certificate of Qualification with your bid. It is the contractor's responsibility to submit the application in a timely manner to ensure the Certificate of Qualification is received before any bid deadlines. Each applicant is strongly encouraged to obtain copies and review N.S.B.M.C. § 2.36 et seq. before completing and submitting any application to the Mayor's Office. Questions concerning the application should be directed to: North Slope Borough Mayor's Office, Box 69, Barrow, Alaska 99723. Phone: (907) 852-2611 ext. 200; Fax: (907) 852-0337.

Part 2

Contract Forms/ Conditions of the Contract

PERFORMANCE AND PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

That _____ (Contractor), as principal, and _____ (Bonding company), as surety, a corporation of _____, whose principal office is located at _____ are firmly bound unto North Slope Borough (Borough), as obligee, to fulfill the obligations of the principal and the surety under the contract to which reference is hereafter made, in the amount of _____ Dollars (\$_____) for payment whereof principal and surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, principal has by written proposal, dated _____, offered to enter into a contract with obligee for CIP No. _____, Bid Schedule(s) _____ for _____ pursuant to the terms and conditions set forth in the contract documents dated _____, the architect/engineering provisions which were prepared by _____ which contract documents, including all modifications to the contract that may hereafter be made, notice of said modifications to the surety being hereby waived is by this reference made a part hereof and which is hereinafter referred to as the contract.

NOW, THEREFORE, the condition of this obligation is such that if the principal shall faithfully perform all provisions of the contract on its part, and maintain the obligee and the obligee's property free and clear of all liens arising out of agreements for labor and material and pay all laborers, mechanics, and subcontractors and materialmen, and all persons who shall supply such person or persons or subcontractors or materialmen with provisions and supplies for the carrying on of such work, and indemnify, defend and save harmless the obligee from all loss, cost or damage which it may suffer by reason of the failure to do any of the foregoing, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

All persons who furnished labor, materials or supplies for use in and about the work provided for in the contract shall have a direct right of action under this bond, subject to the obligee's priority.

Any suit under this bond shall be instituted before the expiration of two (2) years from the date on which final payment under the contract is due.

Signed and sealed this _____ day of _____, 20____.

(Surety)

(Principal)

(Title)

(Title)



North Slope Borough Certificate of Insurance

North Slope Borough
P.O. Box 69
Attn: Risk Manager
Barrow, AK 99723

Phone: 907-852-0248
Fax: 907-852-0327

This certifies to the North Slope Borough that the following described policies have been issued to the Insured named below and are in force at this time.

Insured:

Address:

Description of operations/locations/products insured (show contract name and/or number, if any):

Project # and Title:

Certificate Holder, its officers, officials, employees and volunteers are included as Additional Insured except for Workers' Compensation as respects the contract between the Named Insured and the Certificate Holder. Waivers of subrogation are provided to the extent required by the contract. Coverage is considered primary and non-contributory.

	Insurance Company	Effective Date of Policy	Expiration Date of Policy	Amount of Deductible or Self-Insured Retention	Limit of Liability
Comprehensive General Liability					General Aggregate Products-Completed Operations Aggregate Personal & Advertising Injury Each Occurrence Occurrence
Auto Liability					
Professional Liability					Per Occurrence Annual Aggregate
Excess Liability					Per Occurrence Annual Aggregate
Workers' Compensation					Each Accident Policy Limit Each Employee
Property Builder's Risk _____ Installation Floater _____					

By the signature affixed to this certificate, the broker/agent warrants that this certificate is a true representation of the insured's policies and that all the conditions listed on this certificate have been agreed to by the insurance company. The broker/agent further warrants that he/she has the authority to bind the aforementioned insurance companies to the terms and conditions shown on this certificate of insurance.

Signature of Agent or Broker

Name of Agent or Broker

Name of Firm

License Number of Firm

Address of Firm



North Slope Borough Insurance Questionnaire

	Yes	No
COMPREHENSIVE GENERAL LIABILITY		
Is this policy written on the ISO CG 0001 (Edition 12/07) or a form as broad as CG 0001?		
Does the aggregate limit apply per project?		
Is the policy written on a claims made basis		
If policy is written on a claims made basis, please provide retro date _____	←	←
Has the policy been endorsed to include the North Slope Borough and its administrators, officials, officers, employees, and volunteers as additional insured?		
Has the policy been endorsed with a 60-day notice of cancellation clause?		
What is the Best's rating of this insurance company? _____	←	←
Are defense costs outside the limits of liability?		
Is this policy endorsed to make it primary and the borough's insurance non-contributory?		
AUTOMOBILE LIABILITY		
Is the policy written on the ISO CA 0001 (Edition 03/06) or a form as broad as ISO CA 0001?		
Is the policy written with a Symbol 1 - Any Auto?		
For NSB autos driven by the contractor, has the vehicle(s) been specifically endorsed to the policy?		
For NSB autos driven by the contractor, is the auto(s) insured for physical damage as provided in the CA 0001 form?		
Has the policy been endorsed to include the North Slope Borough and its administrators, officials, officers, employees, and volunteers as additional insured?		
Has the policy been endorsed with a 60-day notice of cancellation clause?		
What is the Best's rating of this insurance company? _____	←	←
Are defense costs outside the limits of liability?		
Is this policy endorsed to make it primary and the borough's insurance non-contributory?		
PROFESSIONAL LIABILITY		
Is the policy written on a claims made basis?		
If policy is written on a claims made basis, please provide retro date _____	←	←
Has the policy been endorsed with a 60-day notice of cancellation clause?		
What is the Best's rating of this insurance company? _____	←	←
EXCESS LIABILITY		
Is this policy written on a form that provides the minimum coverage as addressed in the contract?		
Is the policy written on a claims made basis?		
If policy is written on a claims made basis, please provide retro date _____	←	←
Has the policy been endorsed to include the North Slope Borough and its administrators, officials, officers, employees, and volunteers as additional insured?		
Has the policy been endorsed with a 60-day notice of cancellation clause?		
What is the Best's rating of this insurance company? _____	←	←

Are defense costs outside the limits of liability?		
How does Excess Liability extend over the Employer's Liability?		
WORKER'S COMPENSATION	Yes	No
Has this policy been endorsed with a waiver of subrogation in favor of the North Slope Borough?		
Has the policy been endorsed with a 60-day notice of cancellation clause?		
Does this policy include an endorsement that waives the right of subrogation against the Borough?		
What is the Best's rating of this insurance company? _____		
PROPERTY		
Does the policy provide direct loss of physical damage?		
Does the policy provide for indirect loss due to a direct loss of physical damage?		
Does the policy provide for resultant damage from faulty workmanship and materials?		
Does the policy allow partial occupancy by the North Slope Borough prior to project completion?		
Has the policy been endorsed to include the North Slope Borough and its administrators, officials, officers, employees, and volunteers as additional insured?		
Has the policy been endorsed with a 60 day notice of cancellation clause?		
What is the Best's rating of this insurance company? _____		
By the signature affixed to this questionnaire, the broker/agent warrants that this questionnaire is a true representation of the insured's policies and that all the conditions of this questionnaire have been agreed to by the insurance company.		
Signature of Agent or Broker		
Name of Agent or Broker		
Name of Firm		
License Number of Firm		
Address of Firm		
Type of Insurance and Policy Number(s)		
Project Title		

Contract No.: _____

**NORTH SLOPE BOROUGH
SHORT FORM CONSTRUCTION CONTRACT**

CIP No.: **18-069**

Project: **AREAWIDE HEATING AND GLYCOL REPLACEMENT
Atqasuk, Wainwright, And Kaktovik**

PREAMBLE

THIS CONTRACT is made between the NORTH SLOPE BOROUGH, hereinafter "Borough," and _____, hereinafter "Contractor".

PART I -- TIME OF COMMENCEMENT AND FINAL COMPLETION

The work to be performed under this Contract shall commence on issuance of the Notice to Proceed and shall be substantially completed not later than the **31st** day of **October, 2011**. Final completion is to occur no later than the **30th** day of **November, 2011**.

PART II -- CONTRACT SUM

The Borough shall pay the Contractor for the performance of the work, subject to additions and deductions by change order as provided herein, an amount not-to-exceed _____ (**\$ 0.00**) as provided for in Exhibit B.

PART III -- ADMINISTRATOR

The Administrator/Borough's representative of this Contract are:

North Slope Borough: **James H. Sceeles**

Architect/Engineer: **RSA Engineering, Inc.**

Program Manager: **Hubert Hopson**

PART IV -- GENERAL PROVISIONS

(A) Contract Documents.

(1) The contract documents consist of this Contract with general conditions, supplementary and other conditions, the drawings, the specifications, all addenda issued prior to the execution of this Contract, and all modifications issued by the Borough after execution of the contract such as change orders, written interpretations and written orders for minor changes in the work. The intent of the contract documents is to include all items necessary for the proper execution and completion of the work. The contract documents are complementary, and what is

required by any one shall be as binding as if required by all. Work not covered in the contract documents will not be required unless it is consistent and reasonably inferable therefrom as being necessary to produce the intended results.

(2) Nothing contained in the contract documents shall create any contractual relationship between the Borough or the architect/engineer and any subcontractor or sub-subcontractor.

(3) By executing the Contract, the Contractor represents that he has visited the site and familiarized himself with the local conditions under which the work is to be performed.

(4) The work comprises of the completed construction required by the contract documents and includes all labor necessary to produce such construction and all materials and equipment incorporated or to be incorporated in such construction.

(B) Administration of the Contract.

(1) The Administrator for this Contract shall be James H. Sceeles.

(2) The Administrator shall at all times have access to the work wherever it is in preparation and progress.

(3) The Administrator will visit the site at intervals appropriate to the stage of construction to familiarize himself generally with the progress and quality of the work and to determine if the work is proceeding in accordance with the contract documents. The Administrator will keep the Borough informed of the progress of the work. The Administrator will not have control or charge of and will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the work, and he will not be responsible for the Contractor's failure to carry out the work in accordance with the contract documents.

(4) The Administrator, or at the Administrator's option, the design professional will approve the amounts owing to the Contractor and will certify for payment as provided for herein.

(5) The Administrator will be the interpreter of the requirements of the contract documents. He will make decisions on all claims, disputes or other matters in question between the Contractor and the Borough, but he will not be liable for the results of any interpretation or decision rendered in good faith.

(6) The Administrator will have authority to reject work which does not conform to the contract documents.

(7) The Administrator will review and approve or take other appropriate action upon the Contractor's submittals such as shop drawings, product data and samples, but only for conformance with the design concept of the work and with the information given in the contract documents.

(C) Borough.

(1) The Borough will make available to the contractor copies of all project specific surveys, plats, and legal descriptions in its possession.

(2) Except as provided elsewhere in the contract documents, the Borough shall secure and pay for necessary approvals, easements, assessments and charges required for the construction, use or occupancy of permanent structures or permanent changes in existing facilities.

(3) The Borough shall forward all instructions to the Contractor through the Administrator.

(4) If the Contractor fails to correct defective work or fails to carry out the work in accordance with the contract documents, the Borough, by a written order, 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 Borough to stop the work shall not give rise to any duty on the part of the Borough to exercise this right for the benefit of the Contractor or any other person or entity.

(D) Contractor.

(1) The Contractor shall supervise and direct the work, using his best skill and attention and he shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work under the Contract.

(2) Unless otherwise specifically provided in the contract documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the work, whether temporary or permanent and whether or not incorporated or to be incorporated in the work.

(3) The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ any unfit person or anyone not skilled in the task assigned to him.

(4) The Contractor warrants to the Borough and the Administrator that all materials and equipment incorporated in the work will be new unless otherwise specified, and that all work will be of good quality, free from faults and defects and in conformance with the contract documents. All work not conforming to these requirements may be considered defective.

(5) Unless otherwise provided in the contract documents, the Contractor shall pay all sales, consumer, use and other similar taxes which are legally enacted at the time bids are received, and shall secure and pay for any required building permit and for all other permits and governmental fees, licenses and inspections required for the proper execution and completion of the work.

(6) The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the work, and shall promptly notify the Administrator if the drawings and specifications are at variance therewith.

(7) The Contractor shall be responsible to the Borough for the acts and omissions of his employees, subcontractors and their agents and employees, and other persons performing any of the work under a contract with the Contractor.

(8) The Contractor shall review, approve and submit all shop drawings, product data and samples required by the contract documents. The work shall be in accordance with approved submittals.

(9) The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the work he shall remove all his waste materials and rubbish from and about the project as well as his tools, construction equipment, machinery and surplus materials.

(10) The Contractor's use of North Slope Borough owned equipment shall not be allowed unless prior approval is obtained from the appropriate Director and a "Joint Use Agreement" is entered into between the North Slope Borough and the Contractor.

(11) This Contract shall be construed under the law of the State of Alaska. Venue for claims arising under this Contract shall be Barrow, Alaska.

(E) Subcontractor.

(1) A subcontractor is a person or entity who has a direct contract with the Contractor to perform any of the work at the site.

(2) Unless otherwise required by the contract documents or in the bidding documents, the Contractor, as soon as practicable after the award of the Contract, shall furnish to the Administrator in writing the names of subcontractors for each of the principal portions of the work. The Contractor shall not employ any subcontractor to whom the Administrator may have a reasonable objection. The Contractor shall not be required to contract with anyone to whom he has a reasonable objection. Contracts between the Contractor and the subcontractors shall require each subcontractor, to the extent of the work to be performed by the subcontractor, to be bound to the Contractor by the terms of the contract documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these documents, assumes toward the Borough and the Administrator.

(F) Work by Owner or by Separate Contractors.

(1) The Borough reserves the right to perform work related to the project with its own forces, and to award separate contracts in connection with other portions of the project or other work on the site under these or similar conditions of the Contract. If the Contractor claims that delay or additional cost is involved because of such action by the Borough, he shall make such claim as provided elsewhere in the contract documents.

(2) The Contractor shall afford the Borough and separate contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall connect and coordinate its work with theirs as required by the contract documents.

(3) Any costs caused by defective or ill-timed work shall be borne by the party responsible therefor.

(G) Time.

(1) All time limits stated in the contract documents are of the essence of the Contract. The Contractor shall expedite the work and achieve substantial completion within the contract time.

(2) The date of substantial completion of the work is the date certified by the Administrator when construction is completed to the extent that the Borough can occupy or utilize the work for the use for which it is intended.

(3) If portions of the work are made available to the Borough prior to substantial completion, the Administrator may issue a certificate of partial substantial completion for that portion of the work.

(4) If the Contractor is delayed at any time in the progress of the work by changes ordered in the work, by labor disputes, fire, unusual delay in transportation, adverse weather conditions not reasonably anticipated, unavoidable casualties, or any causes beyond the Contractor's control, or by any other cause which the Administrator determined may justify the delay, then the Contract time shall be extended by change order for such reasonable time as the Administrator may determine.

(H) Payments and Completion.

(1) The Borough hereby agrees to pay the Contractor as full compensation for the complete performance of the Contract that sum specified in Part II above, provided this sum of money is further properly adjusted in accordance with the applicable provisions of the Contract. The making of any payment to the Contractor under the Contract shall not relieve the Contractor of any obligations thereunder. The Contractor is obligated to complete the Contract in its entirety and to deliver to the Borough such completed construction as is specified in the Contract. Until the Contract is fully performed by the Contractor, the Contractor shall be obligated to repair, replace, restore, or rebuild any fully or partially completed construction required to be provided under the Contract which may not be in conformance with the Contract.

(2) If the special provisions for payment on a reimbursable or cost-plus basis, such payment shall be made in accordance with said provisions. However, the total compensation pursuant to such method of payment shall not exceed the total specified in Part II above.

(3) The Contractor may submit to the Administrator not later than the 10th day of each month or such other billing period specified in the special provisions, two copies of the Contractor's request for payment for construction completed during the previous period. Such Contractor's request for payment shall be in the form specified by the Administrator. With each Contractor's request for payment, the Contractor shall, if required, submit satisfactory evidence of payment for materials and labor, including payments to subcontractors, made during the previous period. Within five days after proper submission of Contractor's request for payment by the Contractor, the Administrator will:

- a. Recommend approval of the Contractor's request for payment as submitted;
or
- b. Recommend approval of such other amount as is due the Contractor, and notify the Contractor of the exceptions.

(4) The recommended Contractor's request for payment will be submitted to the Borough and the Borough may authorize a partial payment to the Contractor on the basis of the recommended Contractor's request for payment, but the Borough will retain such amounts as are recommended by the Administrator. Any retained amounts shall be held by the Borough as a fund for the protection and payment of any person or persons, mechanic, subcontractor, or material man who shall perform any labor upon the Contract or construction thereunder, and all persons who shall supply such person or persons or subcontractors with materials and supplies for the carrying on of such work. This fund may be retained for a period of thirty days following the acceptance of the completed construction under the Contract. Following such thirty day period, the fund or the amount thereof in excess of the sum sufficient to meet and discharge the claims of material men and laborers who have duly filed their claims under the law, together with a sum sufficient to pay the cost of such action and to pay attorney's fees, will be paid to the Contractor. Amounts may be retained on the basis of:

- a. Defective work not remedied.
- b. Claims filed or reasonable evidence indicating probable filing of claims.
- c. A reasonable doubt that the Contract can be completed by another Contractor for the balance then unpaid for.
- d. Bankruptcy, receivership or insolvency or the pendency of such proceedings against the Contractor.
- e. Costs of the Borough for architecture/engineering or work as provided in the contract documents to be reimbursed to the Borough by the Contractor.
- f. Failure of the Contractor to complete any part of the construction in accordance with the construction schedule.

(5) When the Administrator agrees that the work is substantially complete, he will issue a certificate of substantial completion.

(6) Final payment shall not be due until the Contractor has delivered to the Borough a complete release of all liens arising out of this Contract or receipts in full covering all labor, materials and equipment for which a lien could be filed, or a bond satisfactory to the Borough indemnifying it against any lien. If any lien remains unsatisfied after all payments are made, the Contractor shall refund to the Borough all moneys the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

(7) The making of final payments shall constitute a waiver of all claims by the Borough except those arising from:

- a. Unsettled liens,

- b. Faulty or defective work appearing after substantial completion,
- c. Failure of the work to comply with the requirements of the contract documents, or
- d. Terms of any special warranties required by the contract documents.

(8) The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final application for payment.

(9) Disbursement of moneys by the Borough hereunder shall be subject to set-off pursuant to the provisions of the Code of Ordinances.

(10) The Contractor shall provide to the Borough copies of all certified payrolls submitted to the Alaska State Department of Labor as required under Alaska Statute 36.05 *et. seq.* Copies shall be submitted to the Borough at the same time submission is made to the State Department of Labor.

(I) Protection of Persons and Property.

(1) The Contractor shall be responsible for initiating, maintaining and supervising all safety precaution and programs in connection with the work. He shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to

- a. All employees on the work and other persons who may be affected thereby,
- b. All the work and all materials and equipment to be incorporated therein, and
- c. Other property at the site or adjacent thereto.

(2) He shall give all notices and comply with all applicable laws, ordinances, rules, regulations and orders of any public authority bearing on the safety of persons and property and their protection from damage, injury or loss. The Contractor shall promptly remedy all damage or loss to any property caused in whole or in part by the Contractor, any subcontractor, any sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, except damage or loss attributable to the acts or omissions of the Borough or Administrator or anyone directly or indirectly employed by either of them or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to his obligations under paragraph 4.

(3) Discrimination

The Contractor may not discriminate against any employee or applicant for employment because of race, religion, color, national origin, age, physical handicap, sex, marital status, changes in marital status, pregnancy, or parenthood. The Contractor shall post in a

conspicuous place, available to employees and applicants for employment, a notice setting out the provisions of this paragraph.

(4) Environmental Compliance

a. The Contractor covenants full compliance with any applicable federal, state or local environmental statute, regulation or ordinance presently in effect or that may be amended or become effective in the future, governing hazardous materials and substances. Contractor further provides specific assurances that it is in compliance with the State's Hazard Communications Standard, as amended from time to time, including applicable provisions relating to material safety data sheets.

b. Within thirty (30) days of the issuance of the Notice To Proceed, the contractor shall submit a detailed list describing the type and quantity of any and all hazardous materials and substances being used for the construction project to the North Slope Borough Project Administrator.

c. At any time if existing hazardous materials or substances are found at the construction site or surrounding area a written report should immediately be made to the North Slope Borough Project Administrator.

d. Sixty (60) days after final completion of the project, the contractor shall submit a written report detailing the type and estimated quantity of any hazardous materials and substances used on the construction project, including any hazardous wastes generated during the construction project. The report should detail how the hazardous materials or substances were disposed of, including the reporting of any hazardous materials or substances left at the construction site or any surrounding area. The written report should be submitted to the North Slope Borough Project Administrator.

e. Hazardous materials or substances are defined as any substance which is toxic, ignitable, reactive, or corrosive and which is regulated by the local government, the State of Alaska, or the United States Government. Hazardous materials includes any and all materials or substance which are defined as "hazardous waste", "extremely hazardous waste", or a "hazardous substance" pursuant to any local law, the State, or Federal Law, including, without limitation, the Resource Conservation and Recovery Act of 1976, as amended from time to time, and regulations promulgated thereunder, and the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended from time to time, and regulations promulgated thereunder.

(J) Insurance Requirements for Contractors.

It is highly recommended that Contractors confer with their respective insurance companies or brokers to determine if their insurance program complies with the Borough's insurance requirements.

The Contractor shall procure and maintain the following insurance:

(1) Minimum Scope of Insurance

Coverage shall be at least as broad as:

a. Insurance Services Office form number CG 0001 (Edition 12 07) covering Commercial General Liability.

b. Insurance Services Office form number CA 0001 (Edition 03 06) covering Automobile Liability, symbol 1 "any auto".

c. Worker's Compensation insurance as required by the State of Alaska and Employers Liability Insurance.

(2) Minimum Limits of Insurance

Contractor shall maintain limits no less than:

a. General Liability:

1. \$1,000,000 combined single limit per occurrence for bodily injury, property damage, personal injury and advertising injury. The general aggregate limit shall be \$2,000,000. The general aggregate limits shall apply separately to each project.

2. General liability insurance shall be maintained in effect until final acceptance by the Borough of the completed construction and, for products liability and completed operations liability, at least two years thereafter.

3. If the general liability insurance is written on a claims made form, the Contractor shall provide insurance for a period of two years after final payment of this agreement. The policy(s) shall evidence a retroactive date, no later than the beginning of this agreement.

4. If the contractor utilizes a subcontractor(s) to perform any part of the work under this contract, the general liability insurance shall not contain any endorsements that exclude the work of the subcontractor(s).

b. Auto Liability:

1. \$1,000,000 combined single limit per accident for bodily injury and property damage.

For any Borough auto(s) being driven by the Contractor (including any employee, supervisor, manager, agent, etc.), the Contractor agrees to insure that vehicle(s) as a scheduled auto(s) to their auto policy. It is agreed that the contractor's auto policy will:

a) Provide the primary liability insurance for the Borough auto(s) as though the auto(s) were leased auto(s), naming the Borough as an additional insured and loss payee; and

b) Provide for physical damage losses (both comprehensive and collision) with a deductible of no more than \$1,000 per accident and naming the Borough as an additional insured and loss payee.

c. Worker's Compensation and Employers Liability:

1. Worker's Compensation shall be statutory as required by the State of Alaska. Employers Liability shall be endorsed to the following minimum limits:

Bodily Injury By Accident - \$1,000,000 each accident;
Bodily Injury By Disease - \$1,000,000 each employee;
Bodily Injury By Disease - \$1,000,000 policy limit.

d. Excess Liability:

1. In order to meet the required minimum limits of insurance it is permissible for the Contractor to combine an excess liability or umbrella policy with the general liability, auto liability or employers liability. In the instance where the Contractor purchases an excess liability or umbrella policy the occurrence limit and the aggregate limit may be of the same amount on the excess liability or umbrella policy.

2. Excess liability insurance shall be maintained in effect until final acceptance by the Borough of the completed construction and, for products liability and completed operations liability, at least five years thereafter.

3. If the excess liability insurance is written on a claims made form, the Contractor shall provide insurance for a period of five years after final payment of this agreement. The policy(s) shall evidence a retroactive date, no later than the beginning of this agreement.

e. Property Insurance

1. The Contractor shall secure and maintain through the life of the contract either Builder's Risk or an Installation Floater in the full amount of the contract. The Borough shall be named as an additional insured.

2. Personal property of the Contractor, including but not limited to personal tools and equipment, is the Contractor's responsibility.

(3) Deductibles and Self-Insured Retention

Prior to work commencing any deductible or self-insured retention must be declared and approved by the Borough. The Contractor may be requested to demonstrate how the deductible or self-insured retention will be funded in the event of a claim. At the option of the Borough, the Contractor shall reduce or eliminate such deductibles or self-insured retention as respects the Borough, its officers, officials, employees and volunteers; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

(4) Other Insurance Provisions

The policies are to contain, or be endorsed to contain, the following provisions:

a. General Liability, Automobile Liability and Excess Liability

1. The Borough, its Administrator, officers, officials, employees and volunteers are to be covered as additional insureds as respects: liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor, premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired or

borrowed by the Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the Borough, its Administrator, officers, officials, employees and volunteers.

2. The Contractor's insurance coverage shall be primary insurance as respects the Borough, its Administrator, officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the Borough, its Administrator, officers, officials, employees and volunteers shall be excess of the Contractor's insurance and shall not contribute to it.

3. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

b. Worker's Compensation and Employer's Liability

The insurer shall agree to waive all rights of subrogation against the Borough, its Administrator, officers, officials, employees and volunteers for losses arising from work performed by the Contractor or any subcontractor for the Borough.

c. All Insurance

Each insurance policy required by this agreement shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after 30 days prior written notice for nonpayment of premium or fraud on the part of the Contractor or 60 days prior written notice for any other reason by certified mail, return receipt requested, has been given to the Borough. Such notice shall be mailed by the Contractor's insurer(s) to the attention of the Borough's Risk Manager.

(5) Acceptability of Insurers

Insurance is to be placed with insurers with a Best's rating of no less than A-: VII.

(6) Verification of Coverage

Contractor shall furnish the Borough with approved certificates of insurance and with certified copies of all endorsements effecting coverage required by this clause. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates are to be on forms provided by the Borough, or which meet industry standard. The North Slope Borough questionnaire shall be completed and submitted to the Borough for review and approval. All certificates are to be received and approved by the Borough before the contract is processed. The Borough reserves the right to require complete, certified copies of all required insurance policies, at any time.

(7) Subcontractors

Contractor shall include all subcontractors as insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all requirements stated herein.

(K) Performance and Payment Bond.

Contractor shall obtain a Performance and Payment Bond satisfactory to the Borough and in the full amount of the Contract for all contracts over \$100,000.00 unless expressly waived in writing by the Borough.

(L) Indemnity.

(1) Indemnity: CONTRACTOR agrees to indemnify, defend [with legal counsel approved by Borough], and hold the Borough and its administrators, officers, agents, employees, volunteers and servants harmless from and against any and all claims, demands, actions, losses, expenses, and liabilities for, or related to, loss of or damage to property or injury to or death of any person relating to or arising or resulting in any way from the performance by CONTRACTOR or any of its Subcontractors under the Agreement, or the WORK or SERVICES provided or the condition or use thereof, regardless of any negligence of the Borough or their respective agents or employees, excepting only such loss, damage, injury or death which results solely from the negligence or willful misconduct of the Borough or solely from the joint negligence or willful misconduct of Borough and a third party directed by Borough.

(2) 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 hereunder, or to authorize anyone not a party to this Contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Contract.

(M) Changes in the Work.

(1) The Borough, without invalidating the Contract, may order changes in the work consisting of additions, deletions, or modifications, the Contract sum and the Contract time being adjusted accordingly. All such changes in the work shall be authorized by written change order signed by the Borough and the Administrator.

(2) The Contract sum and the Contract time may be changed only by change order.

(3) The cost or credit to the Borough from a change in the work shall be determined in advance by mutual written agreement.

(N) Correction of Work.

The Contractor shall promptly correct any work rejected by the Administrator as defective or as failing to conform to the contract documents whether observed before or after substantial completion and whether or not fabricated, installed or completed, and shall correct any work found to be defective or nonconforming within a period of one year from the date of substantial completion of the Contract or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the contract documents. These provisions apply to work done by subcontractors as well as to work done by direct employees of the Contractor.

(O) Termination of the Contract.

(1) If the Administrator unjustifiably fails to issue a certificate for payment for a period of thirty days through no fault of the Contractor, or if the Borough unjustifiably fails to make payment thereon for a period of thirty days, the Contractor may, upon fifteen additional days' written notice to both the Borough and the Administrator, terminate the Contract and recover from the Borough payment for all work executed and for any proven loss sustained upon any materials, construction equipment and machinery.

(2) If the Contractor defaults or persistently fails or neglects to carry out the work in accordance with the contract documents or fails to perform any provision of the Contract, the Borough, after ten days' written notice to the Contractor and without prejudice to any other remedy it may have, may make good such deficiencies and may deduct the cost thereof including compensation for the administrator's additional services made necessary thereby, from the payment then or thereafter due the Contractor or, at its option, may terminate the Contract and take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor and may finish the work by whatever method it may deem expedient, and if the unpaid balance of the Contract sum exceeds the expense of finishing the work, such excess shall be paid to the Contractor, but if such expense exceeds such unpaid balance, the Contractor shall pay the difference to the Borough.

(3) If the Borough determines at any time that it is in its best interest to terminate the construction or the Contract, the Borough may do so by giving the Contractor ten days prior written notice. Upon such termination the Borough shall pay the Contractor compensation based on the percentage of the completed construction as compared to the total Contract, furnished to the date of such termination as full and complete payment of all amounts due or to become due under the Contract. All completed and partially completed construction furnished shall thereupon pass to and become the property of the Borough. In no event shall the total amount of compensation paid to the Contractor exceed the total Contract amount.

(P) Title 36: Wage Rates on Public Works.

(1) **Compliance with A.S. §36.05.** Contractor and all subcontractors shall fully comply with A.S. §36.05 and the rules and regulations of the Alaska Department of Labor. Contractor assumes responsibility for compliance with A.S. §36.05 and rules and regulations of the Department of Labor by all subcontractors.

(2) **Compliance with A.S. §36.05.010.** Contractor and all subcontractors shall pay not less than the current prevailing rate of wages for work of a similar nature in the region in which the work is done. The current prevailing rate of wages is that contained in the latest determination of prevailing rate of wages issued by the Department of Labor at least 10 days before the final date for submission of bids for the contract. The rate shall remain in effect for the life of the contract or for 24 Calendar months, whichever is shorter. At the end of the initial 24-month period, if new wage determinations have been issued by the Department of Labor, the latest wage determination shall become effective for the next 24-month period or until the contract is completed, whichever occurs first. This process shall be repeated until the contract is completed.

(3) **Compliance with A.S. §36.05.040.** Contractor and all subcontractors shall, before the Friday of each week, file with the Department of Labor and with the Borough a sworn affidavit for the previous week, setting out in detail the number of persons employed, wages paid, job classification of each employee, hours worked each day and week, and all other information that the Department of Labor requires.

(4) **Compliance with A.S. §36.05.070.**

a) Contractor and all subcontractors shall pay all employees unconditionally and not less than once a week.

b) Wages may not be less than those stated in the advertised specifications, regardless of the contractual relationship between the contractor and 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 Borough shall withhold so much of the accrued payments as is necessary to pay laborers, mechanics, or field surveyors employed by the Contractor and subcontractors the difference between

- i. the rates of wages required by the contract to be paid laborers, mechanics, or field surveyors on the work, and
- ii. the rates of wages in fact received by laborers, mechanics, or field surveyors.

(5) The current Title 36 - Wage Schedule is attached to this Contract.

| (Q) Miscellaneous Provisions.

(1) This contract shall be governed by the law of the State of Alaska. Venue for any legal proceeding relating to this contract shall be in the Superior Court in Barrow, Alaska.

(2) The Contractor shall obey Title VII of the Civil Rights Act of 1964, Title 18 of the Alaska Statutes regarding unlawful discrimination in employment and all related laws regarding discrimination in employment practices.

PART V -- SPECIAL PROVISIONS

(A) Liquidated Damages

(1) For each and every day that any portion of the construction is not completed after the construction time fixed for completion in the contract documents, the Contractor shall pay the Borough, not as a penalty but as liquidated damages, such amount as is specified in the Special Provisions.

(2) Because of the difficulty in computing the actual damages which will result from failure to complete the construction on time, the said amount of liquidated damages is hereby estimated, agreed upon and determined in advance by the parties hereto as a reasonable evaluation of the actual damages which the Borough will suffer for each and every day during which the completion of the construction is delayed beyond the construction time herein fixed.

(3) Such monies due the Contractor, or to become due to Contractor at or after the construction time fixed in the contract documents, for all or any part of the construction, as may be necessary to pay said liquidated damages, may be retained by the Borough, and if such amounts are not sufficient to pay such liquidated damages, the Contractor shall immediately pay the deficiency to the Borough. Such deductions or amounts retained by the Borough shall not in any degree release the Contractor from further obligation and liability with respect to fulfilling the entire Contract.

(4) Liquidated damages as called for above shall be in the amount of N/A per day.

DATED the day and year last written below.

NORTH SLOPE BOROUGH

P. O. Box 69
Barrow, AK 99723

By: _____
Edward S. Itta, Mayor

Date: _____

By: _____

Date: _____

Reviewed as to form:

By: _____
North Slope Borough Law Department

EXHIBIT A
AREAWIDE HEATING AND GLYCOL REPLACEMENT
Atqasuk, Wainwright, And Kaktovik
(SCOPE OF SERVICES)

1. The work to be performed under this Contract shall be commenced effective upon the issuance of the Notice to Proceed, subject to certification of availability of funds, and shall be substantially completed not later than the **31st** day of **October, 2011**, unless modified by change order. For purposes of final billing, contract close out and other document processing, the final completion date of this Contract shall be the **30th** day of **November, 2011**, unless modified by change order.
2. The Contractor shall perform all work required by the Contract for the above-described project as described in the project manual entitled ***(insert exact title of project manual)*** dated ***(date of issuance of project manual)*** and plans ***(insert exact title of plans)*** dated ***(date of issuance of plans)*** as attached hereto and incorporated by reference.
3. The work which the Contractor is required to perform for this project consists of the following:
 - a) Procurement, shipping and installation of glycol per the specifications
 - b) All systems will be drained, flushed and repaired prior to new glycol installation per the specifications
 - c) All used glycol and flushing fluids will be placed in clearly marked drums, sealed and shipped off slope and out of the North Slope Borough.
 - d) There is an allowance for repairs to glycol systems. This will be on a time and materials basis with actual invoices for materials and shipping provided along with time sheets for the work. Charges to the Borough will be per contract terms stated in Exhibit C of this contract.
 - e) The contractor must provide temporary heat at no additional cost to the Borough when any work causing the heating system of any facility to be out of commission during a cold period resulting in personnel rooms below 68 degrees and work spaces or mechanical rooms to be no less than 55 degrees.
 - f) The Contractor will be charged rent for space for any materials remaining after October 31, 2011, until properly disposed of according to law and the terms of this contract.

EXHIBIT B
AREAWIDE HEATING AND GLYCOL REPLACEMENT
Atqasuk, Wainwright, And Kaktovik
(FIXED RATE)

1. Compensation.

The Borough shall pay to the Contractor as compensation for the services the Contractor rendered in accordance with the terms of this Contract. **TOTAL AMOUNT NOT-TO-EXCEED: \$ 0.00.**

a. Reimbursables.

In addition to the sum set forth above, the following expenses, incurred as a direct result of the services performed hereunder, shall be reimbursed at the rates cited in "Exhibit C, Reference: (M) Changes in the Work; (4)" except as time and materials and not lump sum as cited in Exhibit A.

Reimbursables shall include the following allowance:

**All parts and materials, freight, and itemized labor hours for repair
work**

Contractor shall not be entitled to reimbursement for any expenses other than those specifically set out in this paragraph. Contractor shall submit documented invoices for all reimbursable expenses for which Contractor seeks reimbursement hereunder. Documents include legible copies of freight or shipping invoices, parts and material invoices, clearly labeled timesheets for the designated work. **TOTAL REIMBURSABLES NOT-TO-EXCEED: \$ 0.00.**

b. Total Compensation.

Unless expressly agreed to in writing by the Borough and the Contractor, the maximum payment by the Borough to the Contractor for services rendered, and reimbursable expenses, in accordance with the terms of this Contract shall be **\$ 0.00.**

2. Manner of Payment.

The Borough shall make payments to the Contractor as follows: The Contractor shall submit monthly invoices for services rendered and for reimbursable expenses incurred within thirty days of performance of the service or incurring the expense. The invoice shall itemize the hours worked, tasks addressed during the itemized hours; and shall include copies of invoices for reimbursable. Reimbursable shall be supported by true, correct and legible copies of Contractor's invoices for authorized reimbursable. Any claim for payment for services or expenses after more than thirty days shall be refused by the Borough. The Borough may, however, at its discretion, accept such a late claim upon a showing by the Contractor of a valid cause for the delay. Statements for services rendered shall be based upon Contractor's estimate of the proportion of the services actually completed at the time of the billing. If the Borough objects to any statements or portions thereof submitted by the Contractor, the undisputed portion shall be paid.

3. Payment Upon Suspension.

In the event of suspension of this Contract, as provided herein, the Borough shall pay the Contractor, as full payment for all services performed and all expenses incurred by the Contractor under this Contract all sums actually due and owing to the Contractor by the Borough under this Contract on the effective date of the suspension of the Contract.

EXHIBIT C
AREAWIDE HEATING AND GLYCOL REPLACEMENT
Atqasuk, Wainwright, And Kaktovik
(SPECIAL CONDITIONS)

This Contract is subject to the following special conditions:

1. PART IV – GENERAL CONDITIONS

Reference: (B) Administration of the Contract

- a. Tasks of the administrator in this section are the responsibility of the Project Engineer, Nathan Zeigler, RSA Engineering Inc., Anchorage Alaska unless James Sceesles, the NSB Project Administrator, designates otherwise.

Reference: (D) Contractor; add

- (11) The submitted As-built information shall be drawn directly on a set of Contract Documents that are redlined by the Contractor on a regular basis and shall accurately reflect the work performed.
- (12) Substantial Completion will be performed only after submittal of Operation and Maintenance (O&M) manuals for review 15 working days prior to Substantial Completion. Approval of the O&M manuals is required for the project to be considered substantially complete.

Reference: (M) Changes in the Work; add (4) as follows:

- (4) Payment for Changes shall be by Contractor's proposal and Owner's acceptance of a Lump Sum cost. Lump sum changes shall be compensated by first determining the Cost of the Work, and then adding a contractor's fee. 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 as further described by the following:
 - a. Costs Included. When the value of any work covered by a Change Order is determined on the basis of Cost of the Work, the costs to be reimbursed to the contractor will be only those additional costs required because of the change in the work. Except as otherwise agreed to in writing by the Borough, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items:
 - 1) Labor Costs. Labor costs for employees in the direct employ of contractor in the performance of the work. Payroll costs shall include wages plus the cost of fringe benefits allowed by the State of Alaska Title 36 prevailing wage rate determination, social security taxes, unemployment and other payroll taxes, and worker's compensation premiums. Overtime pay will be included as required to complete the work in the time allowed.
 - 2) Material Costs. Material costs furnished and incorporated in the Work, including costs of transportation and storage thereof. All cash and trade discounts shall

accrue to the Borough. All refunds, rebates, and returns from sale of surplus materials shall accrue to the Borough.

3) Subcontractors. If required by the Borough, the Contractor shall obtain bids from Subcontractors. The Borough will evaluate the bids and will determine which bids, if any, are acceptable.

4) Supplemental Costs. Supplemental costs including, but not limited to, the following:

i Transportation, travel, and subsistence expenses of the Contractor's employees who are directly involved in the work.

ii Cost of consumable work items, supplies, and temporary site facilities.

iii Rental costs of construction equipment and machinery from the current edition of "Rental Rate Blue Book for Construction Equipment". Hourly rental rates shall be determined as follows:

(a) The hourly 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.

(b) The hourly overtime rate (more than 10 hours per day), shall be equal to 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.

(c) The hourly standby 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.

iv The cost of transferring equipment to and from the project site. Where equipment is moved in or out by common carrier compensation shall be limited to the actual freight bill/invoice. If the Contractor moves the equipment in or out using his own forces, compensation will be limited to the rental rate for the hauling unit plus operator wages. Equipment moved in or out under its own power shall be compensated with one half of the normal hourly rental rate plus operator wages. Compensation for move-out shall not exceed move-in.

v The cost of utilities, fuel, and sanitary facilities at the site.

vii The cost of premiums for additional bonds and insurance.

b. Costs excluded: The term Cost of the Work shall not include any of the following items:

1) Payroll costs for the Contractor's officers, executives, principals, general managers, estimators, engineers, architects, attorneys, auditors, accountants, bookkeepers, purchasing agents, timekeepers, expeditors, clerks, and other personnel

whether at the site or at the Contractor's principal or branch office for general administration of the work.

- 2) Expenses of the Contractor's principal and branch offices.
- 3) Any part of the Contractor's capital expenses including interest on the Contractor's capital employed for the work and charges against the Contractor for delinquent payments.
- 4) Costs due to the negligence of the Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them.
- 5) Other overhead or general expense costs not specifically mentioned above.

c. Contractor's fee: Fees for the Contractor and subcontractors, for overhead and profit shall be determined as follows:

1) For costs incurred under subparagraphs a., 1) Labor Costs, and a., 2) Material Costs, the fee shall be fifteen percent (15%) for overhead and six percent (6%) for profit for the Contractor or subcontractor actually performing the work.

2) For costs incurred by the Contractor under subparagraph a., 3) Subcontractors, the fee shall be ten percent (10%) of the subcontractor costs incurred under Labor Costs and Material Costs. The Contractor shall receive no fee on subcontractor Supplemental Costs. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee, the subcontractor who actually performs the work, at whatever tier, will be paid a fee of fifteen percent (15%) for overhead and six percent (6%) for profit on Labor Costs and Material Costs, and a fee of six percent (6%) for Supplemental Costs. Any higher tier subcontractor and the Contractor will each be paid a fee of ten percent (10%) of the subcontractor costs incurred under Labor Costs and Material costs. Higher tier subcontractors and the Contractor receive no fee on subcontractor Supplemental Costs.

3) For costs incurred under subparagraph a., 4) Supplemental Costs, the contractor's fee shall be six percent (6%).

4) The amount of credit to be allowed by contractor to the Borough for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus six percent (6%). When both additions and deletions are involved in one change, the adjustment to the contractor's fee shall be computed on the basis of the net amount of the change.

Reference 2.78, Environmental Compliance, Add the following:

(H) 1. Concurrently with the request for a Substantial Completion Inspection, the Contractor shall provide to the Project Administrator written certification that no asbestos or asbestos containing materials were utilized in the work, and that no existing asbestos was disturbed during the work.

END OF SECTION



Laborers' & Mechanics' Minimum Rates of Pay

**Title 36. Public Contracts
AS 36.05 & AS 36.10
Wage & Hour Administration
Pamphlet No. 600**

State of Alaska
Department of Labor
and Workforce Development

Commissioner Click Bishop
Effective September 1, 2010
Issue 21



**ALASKA DEPARTMENT OF LABOR
& WORKFORCE DEVELOPMENT**

Jobs are Alaska's Future

September 1, 2010

TO ALL CONTRACTING AGENCIES:

At the Alaska Department of Labor and Workforce Development, our goal is putting Alaskans to work. This pamphlet is designed to help contractors awarded public construction contracts understand the most significant laws of the State of Alaska pertaining to prevailing wage and resident hire requirements.

This pamphlet identifies current prevailing wage rates and resident hire classifications for public construction contracts (any construction projects awarded by the State of Alaska or its political subdivisions, such as local governments and certain non-profit organizations).

Because these rates may change, this publication is printed in the spring and fall of every year, so please be sure you are using the appropriate rates. The rates published in this edition become effective September 1, 2010.

All projects with a final bid date of September 11, 2010, or later, must pay the prevailing wage rates contained in this pamphlet. As the law now provides, these rates will remain stable during the life of a contract or for 24 calendar months, whichever is shorter. **The date the prime contract is awarded is the date from which the 24 months will be counted.** Upon expiration of the initial 24-month period, the latest wage rates issued by the department shall become effective for a subsequent 24-month period or until the original contract is completed, whichever occurs first. This process shall be repeated until the original contract is completed.

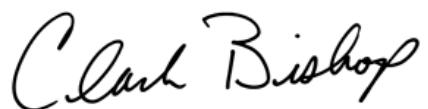
The term "original contract", as used herein, means the signed contract that resulted from the original bid and any amendments, including changes of work scope, additions, extensions, change orders, and other instruments agreed to by the parties that have not been subject to subsequent open bid procedures.

If a higher federal rate is required due to partial federal funding or other federal participation, the higher rate must be paid.

For additional copies of this pamphlet, contact the nearest office of the Division of Labor Standards and Safety, Wage and Hour office or visit the Internet site at:

<http://labor.state.ak.us/lss/pamp600.htm>

For questions regarding prevailing wage or resident hire requirements, please contact the nearest Wage and Hour office. These offices are listed on Page x.

A handwritten signature in black ink that reads "Clark Bishop". The signature is written in a cursive, flowing style.

Clark Bishop
Commissioner

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EXCERPTS FROM ALASKA LAW

Sec. 36.05.010. Wage rates on public construction.

A contractor or subcontractor who performs work on public construction in the state, as defined by AS 36.95.010, shall pay not less than the current prevailing rate of wages for work of a similar nature in the region in which the work is done. The current prevailing rate of wages is that contained in the latest determination of prevailing rate of wages issued by the Department of Labor and Workforce Development at least 10 days before the final date for submission of bids for the contract. The rate shall remain in effect for the life of the contract or for 24 calendar months, whichever is shorter. At the end of the initial 24-month period, if new wage determinations have been issued by the department, the latest wage determination shall become effective for the next 24-month period or until the contract is completed, whichever occurs first. This process shall be repeated until the contract is completed.

Sec. 36.05.040. Filing schedule of employees, wages paid, and other information.

All contractors or subcontractors who perform work on a public construction contract for the state or for a political subdivision of the state shall, before the Friday of every second week, file with the Department of Labor and Workforce Development a sworn affidavit for the previous reporting period, setting out in detail the number of persons employed, wages paid, job classification of each employee, hours worked each day and week, and other information on a form provided by the Department of Labor and Workforce Development.

Sec. 36.05.045. Notice of work and completion; withholding of payment.

- (a) Before commencing work on a public construction contract, the person entering into the contract with a contracting agency shall designate a primary contractor for purposes of this section. Before work commences, the primary contractor shall file a notice of work with the Department of Labor and Workforce Development. The notice of work must list work to be performed under the public construction contract by each contractor who will perform any portion of work on the contract and the contract price being paid to each contractor. The primary contractor shall pay all filing fees for each contractor performing work on the contract, including a filing fee based on the contract price being paid for work performed by the primary contractor's employees. The filing fee payable shall be the sum of all fees calculated for each contractor. The filing fee shall be one percent of each contractor's contract price. The total filing fee payable by the primary contractor under this subsection may not exceed \$5,000. There is no fee for a contract under which the total amount payable by the contracting agency is less than \$25,000. In this subsection, "contractor" means an employer who is using employees to perform work on the public construction contract under the contract or a subcontract.
- (b) Upon completion of all work on the public construction contract, the primary contractor shall file with the Department of Labor and Workforce Development a notice of completion together with payment of any additional filing fees owed due to increased contract amounts. Within 30 days after the department's receipt of the primary contractor's notice of completion, the department shall inform the contracting agency of the amount, if any, to be withheld from the final payment.
- (c) A contracting agency
 - (1) may release final payment of a public construction contract to the extent that the agency has received verification from the Department of Labor and Workforce Development that
 - (A) the primary contractor has complied with (a) and (b) of this section;
 - (B) the Department of Labor and Workforce Development is not conducting an investigation under this title; and
 - (C) the Department of Labor and Workforce Development has not issued a notice of a violation of this chapter to the primary contractor or any other contractors working on the public construction contract; and
 - (2) shall withhold from the final payment an amount sufficient to pay the department's estimate of what may be needed to compensate the employees of any contractors under investigation on this construction contract, and any unpaid filing fees.

- (d) The notice and filing fee required under (a) of this section may be filed after work has begun if
 - (1) The public construction contract is for work undertaken in immediate response to an emergency; and
 - (2) The notice and fees are filed not later than 14 days after the work has begun.
- (e) A false statement made on a notice required by this section is punishable under AS 11.56.210.

Sec. 36.05.060. Penalty for violation of this chapter.

A contractor who violates this chapter is guilty of a misdemeanor and upon conviction is punishable by a fine of not less than \$100 nor more than \$1,000, or by imprisonment for not less than 10 days nor more than 90 days, or by both. Each day a violation exists constitutes a separate offense.

Sec. 36.05.070. Wage rates in specifications and contracts for public works.

- (a) The advertised specifications for a public construction contract exceeding \$2,000 to which the state or a political subdivision of the state is a party that requires or involves the employment of mechanics, laborers, or field surveyors shall contain a provision stating the minimum wages to be paid various classes of laborers, mechanics, or field surveyors and that the rate of wages shall be adjusted to the wage rate under AS 36.05.010.
- (b) Repealed by §17 ch 142 SLA 1972.
- (c) A contract for public works in the state or a political subdivision shall contain provisions that
 - (1) the contractor or subcontractors of the contractor shall pay all employees unconditionally and not less than once a week;
 - (2) wages may not be less than those stated in the advertised specifications, regardless of the contractual relationship between the contractor or subcontractors and laborers, mechanics, or field surveyors;
 - (3) 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;
 - (4) the state or a political subdivision 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
 - (A) the rates of wages required by the contract to be paid laborers, mechanics, or field surveyors on the work, and
 - (B) the rates of wages in fact received by laborers, mechanics, or field surveyors.

Sec. 36.05.080. Failure to pay agreed wages.

Every contract within the scope of AS 36.05.070 shall contain a provision that if it is found that a laborer, mechanic, or field surveyor employed by the contractor or subcontractor has been or is being paid a rate of wages less than the rate of wages required by the contract to be paid, the state or its political subdivision may, by written notice to the contractor, terminate the contractor's right to proceed with the work or the part of the work for which there is a failure to pay the required wages and to prosecute the work to completion by contract or otherwise, and the contractor and the contractor's sureties are liable to the state or its political subdivision for excess costs for completing the work.

Sec. 36.05.090. Payment of wages from withheld payments and listing contractors who violate contracts.

- (a) The state disbursing officer in the case of a state contract and the local fiscal officer in the case of a political subdivision contract shall pay directly to laborers, mechanics, or field surveyors from accrued payments withheld under the terms of the contract the wages due laborers, mechanics, or field surveyors under AS 36.05.070.
- (b) The state disbursing officer or the local fiscal officer shall distribute to all departments of the state government and to all political subdivisions of the state a list giving the names of persons who have disregarded their obligations to employees. A person appearing on this list and a firm, corporation, partnership, or association in which the person has an interest may not work as a contractor or subcontractor on a public construction contract for the state or a political subdivision of the state until

three years after the date of publication of the list. If the accrued payments withheld under the contract are insufficient to reimburse all the laborers, mechanics, or field surveyors with respect to whom there has been a failure to pay the wages required under AS 36.05.070, the laborers, mechanics, or field surveyors have the right of action or intervention or both against the contractor and the contractor's sureties conferred by law upon persons furnishing labor or materials, and in the proceedings it is not a defense that the laborers, mechanics, or field surveyors accepted or agreed to accept less than the required rate of wages or voluntarily made refunds.

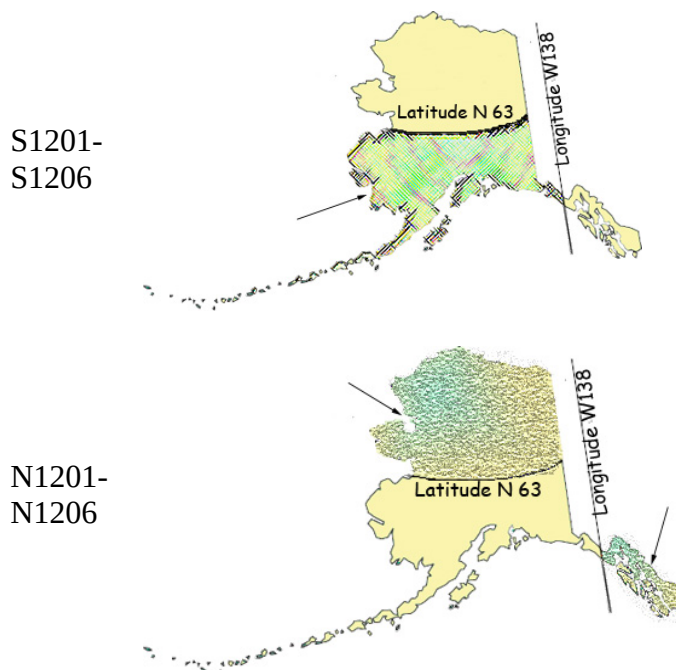
Sec. 36.05.900. Definition.

In this chapter, "contracting agency" means the state or a political subdivision of the state that has entered into a public construction contract with a contractor.

ADDITIONAL INFORMATION

LABORER CLASSIFICATION CLARIFICATION

The laborer rates categorized in class code S1201-S1206 apply in one area of Alaska; the area that is south of N63 latitude and west of W138 Longitude. The laborer rates categorized in class code N1201-N1206 apply in two areas of Alaska; the Alaska areas north of N63 latitude and east of W138 longitude. The following graphic representations should assist with clarifying the applicable wage rate categories:



ACCOMMODATIONS AND PER DIEM

The Alaska Department of Labor and Workforce Development has adopted a per diem requirement for blocklayers, bricklayers, carpenters, cement masons, dredgemen, heat & frost insulators/asbestos workers, ironworkers, laborers, operative plasterers & cement masons, painters, piledrivers, power equipment operators, roofers, surveyors, truck drivers/surveyors, and tunnel workers. This per diem rate creates an allowable alternative to providing board and lodging under the following conditions:

Employer-Provided Camp or Suitable Accommodations

Unless otherwise approved by the Commissioner, the employer shall ensure that a worker who is employed on a project that is 65 road miles or more from the international airport in either Fairbanks, Juneau or Anchorage or is inaccessible by road in a 2-wheel drive vehicle and who is not a domiciled resident of the locality of the project shall receive meals and lodging. Lodging shall be in accordance with all applicable state and federal laws. In cases where the project site is not road accessible, but the employee can reasonably get to the project worksite from their permanent residence within one hour, the Commissioner may waive these requirements for that employee upon a written request from the employer.

The term “domiciled resident” means a person living within 65 road miles of the project, or in the case of a highway project, the mid-point of the project, for at least 12 consecutive months prior to the award of the project. However, if the employer or person provides sufficient evidence to convince the department that a person has established a permanent residence and an intent to remain indefinitely within the distance to be considered a “domiciled resident,” the employer shall not be required to provide meals and lodging or pay per diem.

Where the employer provides or furnishes board, lodging or any other facility, the cost or amount thereof shall not be considered or included as part of the required prevailing wage basic hourly rate and cannot be applied to meet other fringe benefit requirements. The taxability of employer provided board and lodging shall be determined by the appropriate taxation enforcement authority.

Per Diem

Employers are encouraged to use commercial facilities and lodges; however, when such facilities are not available, per diem in lieu of meals and lodging must be paid at the basic rate of \$75.00 per day, or part thereof, the worker is employed on the project. Per diem shall not be allowed on highway projects west of Livengood on the Elliott Highway, at Mile 0 of the Dalton Highway to the North Slope of Alaska, north of Mile 20 on the Taylor Highway, east of Chicken, Alaska, on the Top of the World Highway and south of Tetlin Junction to the Alaska-Canada border.

The above-listed standards for room and board and per diem only apply to the crafts as identified in Pamphlet 600, *Laborers' and Mechanics' Minimum Rates of Pay*. Other crafts working on public construction projects shall be provided room and board at remote sites based on the department's existing policy guidelines.

APPRENTICE HIRING REQUIREMENTS

On July 24, 2005, Administrative Order No. 226 established a 15 percent goal for hiring apprentices in certain job categories on highway, airport, harbor, dam, tunnel, utility or dredging projects awarded by the Alaska Department of Transportation and Public Facilities that exceed \$2.5 million. This Order will apply to all projects in the referenced categories that are advertised after September 1, 2005. On these projects, the hours worked by apprentices will be compared to the hours worked by journeyman level workers to determine if the 15percent goal has been met. This on-the-job training goal is critical to ensure that the Alaska work force is prepared for the future. For additional details, contact the nearest Wage and Hour office at the address listed on Page ix of this publication. Administrative Order No. 226 may be viewed in its entirety on the Internet at <http://www.gov.state.ak.us/admin-orders/226.html> or call any Wage and Hour office to receive a faxed copy.

APPRENTICE RATES

Apprentice rates at less than the minimum prevailing rates may be paid to apprentices according to an apprentice program which has been registered and approved by the Commissioner of the Alaska Department of Labor and Workforce Development in writing, or according to a bona fide apprenticeship program registered with the Employment and Training Administration Office of Apprenticeship and Training, U.S. Department of Labor.

Any employee listed on a payroll at an apprentice wage rate who is not registered as above shall be paid the journeyman prevailing minimum wage in that work classification. Wage rates are based on prevailing crew makeup practices in Alaska and apply to work performed regardless of either the quality of the work performed by the employee or the titles or classifications which may be assigned to individual employees.

FRINGE BENEFIT PLANS

Contractors/subcontractors may compensate fringe benefits to their employees in any one of three methods. The fringe benefits may be paid into a union trust fund, into an approved benefit plan, or paid directly on the paycheck as gross wages.

Where fringe benefits are paid into approved plans, funds, or programs including union trust funds, the payments must be contributed at least monthly. If contractors submit their own payroll forms and are paying fringe benefits into approved plans, funds, or programs, the employer's certification must include, in addition to those requirements of 8 AAC 30.020(c), a statement that fringe benefit payments have been or will be paid at least monthly. Contractors who pay fringe benefits to a plan must ensure the plan is one approved by the Internal Revenue Service and that the plan meets the requirements of 8 AAC 30.025 (eff. 3/2/08) in order for payments to be credited toward the prevailing wage obligation.

SPECIAL PREVAILING WAGE RATE DETERMINATION

Special prevailing wage rate determinations may be requested for special projects or a special worker classification if the work to be performed does not conform to traditional public construction for which a prevailing wage rate has been established under 8 AAC 30.050(a) of this section. Requests for special wage rate determinations must be in writing and filed with the Commissioner at least 30 days before the award of the contract. An applicant for a special wage rate determination shall have the responsibility to support the necessity for the special rate. An application for a special wage rate determination filed under this section must contain:

- (1) a specification of the contract or project on which the special rates will apply and a description of the work to be performed;
- (2) a brief narrative explaining why special wage rates are necessary;
- (3) the job class or classes involved;
- (4) the special wage rates the applicant is requesting, including survey or other relevant wage data to support the requested rates;
- (5) the approximate number of employees who would be affected; and
- (6) any other information which might be helpful in determining if special wage rates are appropriate.

Requests made pursuant to the above should be addressed to:

Director
Alaska Department of Labor and Workforce Development
Labor Standards & Safety Division
Wage and Hour Administration
P.O. Box 111149
Juneau, AK 99811-1149

-or-

Email: anchorage.lss-wh@alaska.gov

**LABOR STANDARDS REGULATIONS
NOTICE REQUEST**

If you would like to receive ***notices of proposed changes to regulations*** for Wage and Hour or Mechanical Inspection, please indicate below the programs for which you are interested in receiving such notices, print your name and email or mailing address in the space provided, and send this page to:

Alaska Department of Labor and Workforce Development
Labor Standards & Safety Division
Wage and Hour Administration
3301 Eagle St., Suite 301
Anchorage, AK 99503-4149
Email: anchorage.lss-wh@alaska.gov

For *REGULATIONS* information relating to any of the following:

- ☐ Wage and Hour Title 23 Employment Practices
- ☐ Wage and Hour Title 36 Public Works
- ☐ Employment Agencies
- ☐ Child Labor
- ☐ Employment Preference (Local Hire)
- ☐ Plumbing Code
- ☐ Electrical Code
- ☐ Boiler/Pressure Vessel Construction Code
- ☐ Elevator Code
- ☐ Certificates of Fitness
- ☐ Recreational Devices

For information on any of the following *SEMINARS*:

- ☐ Electrical ☐ Plumbing ☐ Boiler

Request any of the following *PUBLICATIONS* by checking below:

- | | |
|--|---|
| ☐ Wage and Hour Title 23 Employment Practices | ☐ Public Construction Pamphlet |
| ☐ Minimum Wage & Overtime Poster | ☐ Public Construction Wage Rates |
| ☐ Child Labor Poster | ☐ Child Labor Pamphlet |

PLEASE NOTE: DUE TO INCREASED MAILING AND PRINTING COSTS, ONLY ONE OF EACH PUBLICATION REQUESTED WILL BE MAILED TO YOU. IF YOU WISH TO RECEIVE ADDITIONAL COPIES OR SUBSEQUENT PUBLICATIONS, PLEASE CONTACT OUR OFFICE AT (907) 269-4900.

Name: _____

Mailing Address: _____

Email Address: _____

EMPLOYMENT PREFERENCE INFORMATION

By authority of A.S. 36.10.150 and 8 AAC 30.064, the Commissioner of Labor and Workforce Development has determined the State of Alaska to be a Zone of Underemployment. A Zone of Underemployment requires that Alaska residents who are eligible under AS 36.10.140 be given a minimum of 90 percent employment preference on public works contracts throughout the state in certain job classifications. **This hiring preference applies on a project-by-project, craft-by-craft or occupational basis and must be met each workweek by each contractor/subcontractor.**

The following classifications qualify for a minimum of 90 percent Alaska resident hire preference:

Boilermakers	Electricians	Laborers	Plumbers & Pipefitters
Bricklayers	Equipment Operators	Mechanics	Roofers
Carpenters	Foremen & Supervisors	Millwrights	Sheet Metal Workers
Cement Masons	Insulation Workers	Painters	Truck Drivers
Culinary Workers	Ironworkers	Piledriving Occupations	Tug Boat Workers
			Welders

This determination became effective July 1, 2009, and remains in effect until June 30, 2011.

The first person on a certified payroll in any classification is called the "first worker" and is not required to be an Alaskan resident. However, once the contractor adds any more workers in the classification, then all workers in the classification are counted, and the 90 percent is applied to compute the number of required Alaskans to be in compliance. To compute the number of Alaskan residents required in a workweek in a particular classification, multiply the number of workers in the classification by 90 percent. The result is then rounded down to the nearest whole number to determine the number of Alaskans that must be employed.

If a worker works in more than one classification during a week, the classification in which they spent the most time would be counted for employment preference purposes. If the time is split evenly between two classifications, the worker is counted in both classifications.

If you have difficulty meeting the 90 percent requirement, an approved waiver must be obtained before a non-Alaskan resident is hired who would put the contractor/subcontractor out of compliance (8 AAC 30.081 (e) (f)). The waiver process requires proof of an intensive search for qualified Alaskan workers. To apply for a waiver, contact the nearest Wage and Hour Office for instructions.

Here is an example to apply the 90 percent requirement to four boilermaker workers. Multiply four workers by 90% and drop the fraction ($.90 \times 4 = 3.6 - .6 = 3$). The remaining number is the number of Alaskan resident boilermakers required to be in compliance in that particular classification for that week.

The penalties for being out of compliance are serious. AS 36.10.100 (a) states "A contractor who violates a provision of this chapter shall have deducted from amounts due to the contractor under the contract the prevailing wages which should have been paid to a displaced resident, and these amounts shall be retained by the contracting agency." If a contractor/subcontractor is found to be out of compliance, penalties accumulate until they come into compliance.

If you have difficulty determining whether a worker is an Alaska resident, you should contact the nearest Wage and Hour Office. Contact Wage and Hour in Anchorage at (907) 269-4900, in Fairbanks at (907) 451-2886, or in Juneau at (907) 465-4842.

**Alaska Department of Labor and Workforce Development
Labor Standards & Safety Division
Wage and Hour Administration
Web site: <http://labor.state.ak.us/lss/home.htm>**

Anchorage

3301 Eagle St., Suite 301
Anchorage, Alaska 99503-4149
Phone: (907) 269-4900

Email:
anchorage.lss-wh@alaska.gov

Juneau

1111 W. 8th Street, Suite 302
Juneau, Alaska 99801
Phone: (907) 465-4842

Email:
juneau.lss-wh@alaska.gov

Fairbanks

Regional State Office Building
675 7th Ave., Station J-1
Fairbanks, Alaska 99701-4593
Phone: (907) 451-2886

Email:
fairbanks.lss@alaska.gov

DEBARMENT LIST

AS 36.05.090(b) states that “the state disbursing officer or the local fiscal officer shall distribute to all departments of the state government and to all political subdivisions of the state a list giving the names of persons who have disregarded their obligations to employees.”

A person appearing on the following debarment list and a firm, corporation, partnership, or association in which the person has an interest may not work as a contractor or subcontractor on a public construction contract for the state or a political subdivision of the state for three years from the date of debarment.

<u>Company Name</u>	<u>Date of Debarment</u>	<u>Debarment Expires</u>
Percy Frisby and Arctic Pacific Enterprises, LLC	September 18, 2007	September 18, 2010
Todd Tix and TNT Painting and Contracting, Inc	June 13, 2008	June 13, 2011

Laborers' & Mechanics' Minimum Rates of Pay

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Boilermakers

A0101	Boilermaker (journeyman)	41.72	8.57	10.10	0.75	VAC 3.00	SAF 0.24	64.38
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Bricklayers & Blocklayers

**See note on last page if remote site

A0201	Blocklayer	37.39	6.90	8.50	0.40	L&M 0.10	0.23	53.52
	Bricklayer							
	Marble or Stone Mason							
	Refractory Worker (Firebrick, Plastic, Castable, and Gunitite Refractory Applications)							
	Terrazzo Worker							
	Tile Setter							

A0202	Tuck Pointer Caulker Cleaner (PCC)	37.39	6.90	8.50	0.40	L&M 0.10	0.23	53.52
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A0203	Marble & Tile Finisher	31.78	6.90	8.50	0.40	L&M 0.10	0.23	47.91
	Terrazzo Finisher							

A0204	Torginal Applicator	35.55	6.90	8.50	0.40	L&M 0.10	0.23	51.68
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Carpenters, Region I (North of N63 latitude)

**See note on last page if remote site

N0301	Carpenter (journeyman)	35.49	7.15	10.78	0.80	L&M 0.10	SAF 0.15	54.47
	Drywall Applicator or Lather							

Carpenters, Region II (South of N63 latitude)

**See note on last page if remote site

S0301	Carpenter (journeyman)	35.49	7.15	10.78	0.80	L&M 0.10	SAF 0.15	54.47
	Lather/Acoustical							

Cement Masons, Region I (North of N63 latitude)

**See note on last page if remote site

N0401	Group I, including:	34.29	5.05	10.50	0.85	L&M 0.10		50.79
	Application of Sealing Compound							
	Application of Underlayment							
	Building, General							
	Cement Mason (journeyman)							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
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Cement Masons, Region I (North of N63 latitude)

**See note on last page if remote site

						L&M	
N0401	Group I, including:	34.29	5.05	10.50	0.85	0.10	50.79
	Concrete						
	Concrete Paving						
	Curb & Gutter, Sidewalk						
	Curing of All Concrete						
	Grouting & Caulking of Tilt-Up Panels						
	Grouting of All Plates						
	Patching Concrete						
	Screed Pin Setter						
	Spackling/Skim Coating						

						L&M	
N0402	Group II, including:	34.29	5.05	10.50	0.85	0.10	50.79
	Form Setter						

						L&M	
N0403	Group III, including:	34.29	5.05	10.50	0.85	0.10	50.79
	Concrete Saw (self-powered)						
	Curb & Gutter Machine						
	Floor Grinder						
	Pneumatic Power Tools						
	Power Chipping & Bushing						
	Sand Blasting Architectural Finish						
	Screed & Rodding Machine Operator						
	Troweling Machine Operator						

						L&M	
N0404	Group IV, including:	34.29	5.05	10.50	0.85	0.10	50.79
	Application of All Composition Mastic						
	Application of All Epoxy Material						
	Application of All Plastic Material						
	Finish Colored Concrete						
	Gunite Nozzleman						
	Hand Powered Grinder						
	Tunnel Worker						

						L&M	
N0405	Group V, including:	34.54	5.05	10.50	0.85	0.10	51.04
	Plasterer						

Cement Masons, Region II (South of N63 latitude)

**See note on last page if remote site

						L&M	
S0401	Group I, including:	34.04	5.05	10.50	0.85	0.10	50.54
	Application of Sealing Compound						
	Application of Underlayment						
	Building, General						

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
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Cement Masons, Region II (South of N63 latitude)

**See note on last page if remote site

						L&M	
S0401	Group I, including:	34.04	5.05	10.50	0.85	0.10	50.54
	Cement Mason (journeyman)						
	Concrete						
	Concrete Paving						
	Curb & Gutter, Sidewalk						
	Curing of All Concrete						
	Grouting & Caulking of Tilt-Up Panels						
	Grouting of All Plates						
	Patching Concrete						
	Screed Pin Setter						
	Spackling/Skim Coating						
						L&M	
S0402	Group II, including:	34.04	5.05	10.50	0.85	0.10	50.54
	Form Setter						
						L&M	
S0403	Group III, including:	34.04	5.05	10.50	0.85	0.10	50.54
	Concrete Saw (self-powered)						
	Curb & Gutter Machine						
	Floor Grinder						
	Pneumatic Power Tools						
	Power Chipping & Bushing						
	Sand Blasting Architectural Finish						
	Screed & Rodding Machine Operator						
	Troweling Machine Operator						
						L&M	
S0404	Group IV, including:	34.04	5.05	10.50	0.85	0.10	50.54
	Application of All Composition Mastic						
	Application of All Epoxy Material						
	Application of All Plastic Material						
	Finish Colored Concrete						
	Guniting Nozzleman						
	Hand Powered Grinder						
	Tunnel Worker						
						L&M	
S0405	Group V, including:	34.29	5.05	10.50	0.85	0.10	50.79
	Plasterer						

Culinary Workers * See note on last page

						LEG	
A0501	Baker/Cook	24.17	3.78	4.47		0.05	32.47
						LEG	
A0503	General Helper	21.12	3.78	4.47		0.05	29.42

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Culinary Workers * See note on last page							
						LEG	
A0503	General Helper	21.12	3.78	4.47		0.05	29.42
	Housekeeper						
	Janitor						
	Kitchen Helper						
						LEG	
A0504	Head Cook	24.72	3.78	4.47		0.05	33.02
						LEG	
A0505	Head Housekeeper	21.54	3.78	4.47		0.05	29.84
	Head Kitchen Help						
Dredgemen							
**See note on last page if remote site							
						L&M	
A0601	Assistant Engineer, including:	35.46	8.20	7.75	1.00	0.10	52.51
	Craneman						
	Electrical Generator Operator (primary pump/power barge/dredge)						
	Engineer						
	Welder						
						L&M	
A0602	Assistant Mate (deckhand)	34.30	8.20	7.75	1.00	0.10	51.35
						L&M	
A0603	Fireman	34.74	8.20	7.75	1.00	0.10	51.79
						L&M	
A0605	Leverman Clamshell	37.99	8.20	7.75	1.00	0.10	55.04
						L&M	
A0606	Leverman Hydraulic	36.23	8.20	7.75	1.00	0.10	53.28
						L&M	
A0607	Mate & Boatman	35.46	8.20	7.75	1.00	0.10	52.51
						L&M	
A0608	Oiler (dredge)	34.74	8.20	7.75	1.00	0.10	51.79
Electricians							
						L&M	LEG
A0701	Inside Cable Splicer	39.05	8.62	11.32	0.65	0.20	0.15 59.99
						L&M	LEG
A0702	Inside Journeyman Wireman, including:	37.30	8.62	11.27	0.65	0.20	0.15 58.19
	Communications and Technicians						
						L&M	LEG
A0703	Outside Cable Splicer	47.43	8.62	14.58	0.65	0.20	0.15 71.63
						L&M	LEG
A0704	Journeyman Lineman, including:	45.68	8.62	14.52	0.65	0.20	0.15 69.82
	Equipment Operator						

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
Electricians								
						L&M	LEG	
A0704	Journeyman Lineman, including: Technician	45.68	8.62	14.52	0.65	0.20	0.15	69.82
						L&M	LEG	
A0705	Powderman	43.68	8.62	14.46	0.65	0.20	0.15	67.76
						L&M	LEG	
A0706	Material Handler	25.19	7.95	4.51	0.15	0.15	0.15	38.10
						L&M	LEG	
A0707	Tree Trimming Groundman	24.21	8.62	9.38	0.15	0.15	0.15	42.66
						L&M	LEG	
A0708	Journeyman Tree Trimmer	31.83	8.62	9.60	0.15	0.15	0.15	50.50
Elevator Workers								
						L&M	VAC	
A0802	Elevator Constructor	32.64	10.02	9.46	0.55	0.20	2.61	55.48
						L&M	VAC	
A0803	Elevator Constructor Mechanic	46.63	10.02	9.46	0.55	0.20	3.73	70.59
Heat & Frost Insulators/Asbestos Workers								
**See note on last page if remote site								
						SAF		
A0902	Asbestos Abatement-Mechanical Systems	27.35	7.58	6.56	0.60	0.12		42.21
						SAF		
A0903	Asbestos Abatement/General Demolition All Systems	27.35	7.58	6.56	0.60	0.12		42.21
						SAF		
A0904	Insulator, Group II	35.26	7.58	6.56	0.60	0.12		50.12
						SAF		
A0905	Insulator, Group III	34.26	7.58	7.56	0.60	0.12		50.12
						SAF		
A0906	Insulator, Group IV	33.26	7.58	8.56	0.60	0.12		50.12
						SAF		
A0907	Insulator, Group V	31.26	7.58	10.56	0.60	0.12		50.12
IronWorkers								
**See note on last page if remote site								
						L&M	IAF	
A1101	Ironworkers, including: Bender Operators Bridge & Structural Machinery Mover Ornamental Reinforcing Rigger Sheeter	33.25	6.51	14.00	0.80	0.43	0.10	55.09
Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation								

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
IronWorkers								
**See note on last page if remote site								
						L&M	IAF	
A1101	Ironworkers, including:	33.25	6.51	14.00	0.80	0.43	0.10	55.09
	Signalman							
	Stage Rigger							
	Toxic Haz-Mat Work							
	Welder							
						L&M	IAF	
A1102	Helicopter	34.25	6.51	14.00	0.80	0.43	0.10	56.09
	Tower (energy producing windmill type towers to include nacelle and blades)							
						L&M	IAF	
A1103	Fence/Barrier Installer	29.75	6.51	13.75	0.80	0.43	0.10	51.34
	Guard Rail Installer							
						L&M	IAF	
A1104	Guard Rail Layout Man	30.49	6.51	13.75	0.80	0.43	0.10	52.08
Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)								
**See note on last page if remote site								
						L&M	LEG	
N1201	Group I, including:	29.00	5.41	11.25	1.20	0.20	0.15	47.21
	Asphalt Worker (shovelman, plant crew)							
	Brush Cutter							
	Camp Maintenance Laborer							
	Carpenter Tender or Helper							
	Choke Setter, Hook Tender, Rigger, Signalman							
	Concrete Labor (curb & gutter, chute handler, grouting, curing, screeding)							
	Crusher Plant Laborer							
	Demolition Laborer							
	Ditch Digger							
	Dumpman							
	Environmental Laborer (asbestos, hazard/toxic waste, oil spill)							
	Fence Installer							
	Fire Watch Laborer							
	Flagman							
	Form Stripper							
	General Laborer							
	Guardrail Laborer, Bridge Rail Installer							
	Hydro-seeder Nozzleman							
	Laborer, Building							
	Landscaper or Planter							
	Laying of Mortarless Decorative Block (retaining walls, flowered decorative block 4 feet or less - highway or landscape work)							
	Material Handler							
	Pneumatic or Power Tools							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

**See note on last page if remote site

						L&M	LEG	
N1202	Group II, including:	29.96	5.41	11.25	1.20	0.20	0.15	48.17
	Sewer Plant Maintenance Man							
	Thermal Plastic Applicator							
	Timber Faller, Chainsaw Operator, Filer							
	Timberman							

						L&M	LEG	
N1203	Group III, including:	30.83	5.41	11.25	1.20	0.20	0.15	49.04
	Bit Grinder							
	Camera/Tool/Video Operator							
	Guardrail Machine Operator							
	High Rigger & Tree Topper							
	High Scaler							
	Multiplate							
	Plastic Welding							
	Slurry Seal Squeegee Man							
	Traffic Control Supervisor							
	Welding Certified (in connection with laborer's work)							

						L&M	LEG	
N1204	Group IIIA	33.97	5.41	11.25	1.20	0.20	0.15	52.18
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to, wagon drills, air-track drills, hydraulic drills)							
	Licensed Powderman							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pipelayers							

						L&M	LEG	
N1205	Group IV	19.00	5.41	11.25	1.20	0.20	0.15	37.21
	Final Building Cleanup							
	Permanent Yard Worker							

						L&M	LEG	
N1206	Group IIIB	34.77	5.41	11.25	1.20	0.20	0.15	52.98
	Federally Licensed Powderman (Responsible Person in Charge)							
	Grade Checking (setting or transferring of grade marks, line and grade)							

Laborers (The area that is south of N63 latitude and west of W138 longitude)

**See note on last page if remote site

						L&M	LEG	
S1201	Group I, including:	29.00	5.41	11.25	1.20	0.20	0.15	47.21
	Asphalt Worker (shovelman, plant crew)							
	Brush Cutter							
	Camp Maintenance Laborer							
	Carpenter Tender or Helper							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The area that is south of N63 latitude and west of W138 longitude)

**See note on last page if remote site

						L&M	LEG	
S1201	Group I, including:	29.00	5.41	11.25	1.20	0.20	0.15	47.21
	Choke Setter, Hook Tender, Rigger, Signalman							
	Concrete Labor (curb & gutter, chute handler, grouting, curing, screeding)							
	Crusher Plant Laborer							
	Demolition Laborer							
	Ditch Digger							
	Dumpman							
	Environmental Laborer (asbestos, hazard/toxic waste, oil spill)							
	Fence Installer							
	Fire Watch Laborer							
	Flagman							
	Form Stripper							
	General Laborer							
	Guardrail Laborer, Bridge Rail Installer							
	Hydro-seeder Nozzleman							
	Laborer, Building							
	Landscaper or Planter							
	Laying of Mortarless Decorative Block (retaining walls, flowered decorative block 4 feet or less - highway or landscape work)							
	Material Handler							
	Pneumatic or Power Tools							
	Portable or Chemical Toilet Serviceman							
	Pump Man or Mixer Man							
	Railroad Track Laborer							
	Sandblast, Pot Tender							
	Saw Tender							
	Scaffold Building & Erecting							
	Slurry Work							
	Stake Hopper							
	Steam Cleaner Operator							
	Steam Point or Water Jet Operator							
	Tank Cleaning							
	Utiliwalk & Utilidor Laborer							
	Watchman (construction projects)							
	Window Cleaner							

						L&M	LEG	
S1202	Group II, including:	29.96	5.41	11.25	1.20	0.20	0.15	48.17
	Burning & Cutting Torch							
	Cement or Lime Dumper or Handler (sack or bulk)							
	Choker Splicer							
	Chucktender (wagon, air-track & hydraulic drills)							
	Concrete Laborer (power buggy, concrete saws, pumpcrete nozzleman, vibratorman)							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The area that is south of N63 latitude and west of W138 longitude)

**See note on last page if remote site

						L&M	LEG	
S1202	Group II, including:	29.96	5.41	11.25	1.20	0.20	0.15	48.17
	Culvert Pipe Laborer							
	Cured Inplace Pipelayer							
	Environmental Laborer (marine work)							
	Foam Gun or Foam Machine Operator							
	Green Cutter (dam work)							
	Guniting Operator							
	Hod Carrier							
	Jackhammer or Pavement Breaker (more than 45 pounds)							
	Laser Instrument Operator							
	Laying of Mortarless Decorative Block (retaining walls, flowered decorative block over 4 feet - highway or landscape work)							
	Mason Tender & Mud Mixer (sewer work)							
	Pilot Car							
	Pipelayer Helper							
	Plasterer, Bricklayer & Cement Finisher Tender							
	Powderman Helper							
	Power Saw Operator							
	Railroad Switch Layout Laborer							
	Sandblaster							
	Sewer Caulker							
	Sewer Plant Maintenance Man							
	Thermal Plastic Applicator							
	Timber Faller, Chainsaw Operator, Filer							
	Timberman							
						L&M	LEG	
S1203	Group III, including:	30.83	5.41	11.25	1.20	0.20	0.15	49.04
	Bit Grinder							
	Camera/Tool/Video Operator							
	Guardrail Machine Operator							
	High Rigger & Tree Topper							
	High Scaler							
	Multiplate							
	Plastic Welding							
	Slurry Seal Squeegee Man							
	Traffic Control Supervisor							
	Welding Certified (in connection with laborer's work)							
						L&M	LEG	
S1204	Group IIIA	33.97	5.41	11.25	1.20	0.20	0.15	52.18
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to, wagon drills, air-track drills, hydraulic drills)							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
Laborers (The area that is south of N63 latitude and west of W138 longitude)								
**See note on last page if remote site								
						L&M	LEG	
S1204	Group IIIA	33.97	5.41	11.25	1.20	0.20	0.15	52.18
	Licensed Powderman							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pipelayers							
						L&M	LEG	
S1205	Group IV	19.00	5.41	11.25	1.20	0.20	0.15	37.21
	Final Building Cleanup							
	Permanent Yard Worker							
						L&M	LEG	
S1206	Group IIIB	34.77	5.41	11.25	1.20	0.20	0.15	52.98
	Federally Licensed Powderman (Responsible Person in Charge)							
	Grade Checking (setting or transferring of grade marks, line and grade)							
Millwrights								
						L&M		
A1251	Millwright (jouneyman)	33.89	7.15	8.43	1.00	0.25	0.15	50.87
						L&M		
A1252	Millwright Welder	34.48	7.15	8.43	1.00	0.25	0.15	51.46
Painters, Region I (North of N63 latitude)								
**See note on last page if remote site								
						L&M		
N1301	Group I, including:	31.69	6.26	8.89	0.80	0.60		48.24
	Brush							
	Paper							
	Roller							
	Vinyl							
						L&M		
N1302	Group II, including:	32.19	6.26	8.89	0.80	0.60		48.74
	Buffer Operator							
	Finish Metals							
	Floorcoverer							
	Hazardous Material Handler							
	Lead Based Paint Abatement							
	Pot Tender							
	Radon Mitigation							
	Sandblast							
	Spray							
	Structural							
	Taping & Texturing							
N1304	Group IV	35.25	6.26	8.06	0.80	0.30		50.67

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Painters, Region I (North of N63 latitude)							
**See note on last page if remote site							
N1304	Group IV Glazier	35.25	6.26	8.06	0.80	0.30	50.67
Painters, Region II (South of N63 latitude)							
**See note on last page if remote site							
S1301	Group I, including : General Painter	28.02	6.26	10.12	0.80	L&M 1.10	46.30
S1302	Group II, including : General Taper Paper & Vinyl Hanger	29.22	6.26	10.12	0.80	L&M 1.10	47.50
S1303	Group III, including : Industrial Painter	29.32	6.26	10.12	0.80	L&M 1.10	47.60
S1304	Group IV, including: Glazier	33.63	6.26	9.63	0.80	L&M 0.35	50.67
S1305	Group V, including: Carpet Installer Linoleum & Soft Tile Installer Seamless Liquid Floor Applicator	30.83	6.26	5.02	0.80	L&M 0.35	43.26
Piledrivers							
**See note on last page if remote site							
A1401	Assistant Dive Tender, Piledriver, Skiff Operator Rigger	34.49	7.15	10.78	0.80	L&M 0.10 IAF 0.15	53.47
A1402	Carpenter/Piledriver, Sheet Stabber Framer	35.49	7.15	10.78	0.80	L&M 0.10 IAF 0.15	54.47
A1403	Piledriver-Welder	36.49	7.15	10.78	0.80	L&M 0.10 IAF 0.15	55.47
A1404	Diver (working)	79.60	7.15	10.78	0.80	L&M 0.10 IAF 0.15	98.58
A1405	Diver (standby)	39.80	7.15	10.78	0.80	L&M 0.10 IAF 0.15	58.78
A1406	Dive Tender	38.80	7.15	10.78	0.80	L&M 0.10 IAF 0.15	57.78
A1407	Welder (American Welding Society, Certified Welding Inspector)	41.05	7.15	10.78	0.80	L&M 0.10 IAF 0.15	60.03

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Plumbers, Region I (North of N63 latitude)

						L&M	S&L	
N1501	Journeyman Pipefitter	38.66	6.85	10.70	0.70	1.10		58.01
	Plumber							
	Welder							

Plumbers, Region II (South of N63 latitude)

						L&M		
S1501	Journeyman Pipefitter	36.21	7.92	9.07	1.50	0.20		54.90
	Plumber							
	Welder							

Plumbers, Region IIA (1st Judicial District)

						L&M		
X1501	Journeyman Pipefitter	35.27	8.47	9.75	2.10	0.24		55.83
	Plumber							
	Welder							

Power Equipment Operators

**See note on last page if remote site

						L&M		
A1601	Group I, including:	36.23	8.20	7.75	1.00	0.10		53.28
	Asphalt Roller							
	Back Filler							
	Barrier Machine (Zipper)							
	Batch Plant Operator, (batch & mixer over 200 yards per hour)							
	Beltcrete with Power Pack & similar conveyors							
	Bending Machine							
	Boat Coxwain							
	Bulldozer							
	Cableways, Highlines & Cablecars							
	Cleaning Machine							
	Coating Machine							
	Concrete Hydro Blaster							
	Cranes (45 tons & under or 150 feet of boom & under (including jib & attachments))							
	(a) Backhoes, Excavators (with all attachments), Clamshells, Draglines, Gradalls (3 yards & under), Shovels							
	(b) Hydralifts or Transporters, (all track or truck type)							
	(c) Derricks							
	Crushers							
	Deck Winches, Double Drum							
	Ditching or Trenching Machine (16 inch or over)							
	Drilling Machines, Core, Cable, Rotary and Exploration							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Power Equipment Operators

**See note on last page if remote site

							L&M	
A1601	Group I, including:	36.23	8.20	7.75	1.00	0.10		53.28
	Finishing Machine Operator, Concrete Paving, Laser Screed, Sidewalk, Curb & Gutter Machine							
	Helicopters							
	Hover Craft, Flex Craft, Loadmaster, Air Cushion, All-Terrain Vehicle, Rollagon, Bargecable, Nodwell, Sno Cat							
	Hydro Ax, Feller Buncher & similar							
	Licensed Line & Grade							
	Loaders:							
	(a) Forklifts (with power boom & swing attachment)							
	(b) Front End & Overhead, (2-1/2 yards through 5 yards)							
	(c) Loaders, (with forks or pipe clamp)							
	(d) Loaders, (elevating belt type, Euclid & similar types)							
	Mechanic, Welder, Bodyman, Electrical, Camp & Maintenance Engineer							
	Micro Tunneling Machine							
	Mixers: Mobile type with hoist combination							
	Motor Patrol Grader							
	Mucking Machine: Mole, Tunnel Drill, Horizontal/Directional Drill Operator and/or Shield							
	Operator on Dredges							
	Piledriver Engineer, L.B. Foster Puller or similar paving breaker							
	Power Plant Turbine Operator 200 k.w & over (power plants or combination of power units over 300 k.w.)							
	Remote Controlled Equipment							
	Sauerman-Bagley							
	Scraper (through 40 yards)							
	Service Oiler/Service Engineer							
	Shot Blast Machine							
	Sideboom (under 45 tons)							
	Spreaders, Blaw Knox, Cedarapids, Barber Greene, Slurry Machine							
	Sub Grader (Gurries, C.M.I. & C.M.I. Roto Mills & similar types)							
	Tack Tractor							
	Truck Mounted Concrete Pump, Conveyor & Creter							
	Unlicensed Off-Road Hauler							
	Wate Kote Machine							

							L&M	
A1602	Group IA, including:	37.99	8.20	7.75	1.00	0.10		55.04
	Camera/Tool/Video Operator (Slipline)							
	Certified Welder, Electrical Mechanic, Camp Maintenance Engineer, Mechanic over 10,000 hours							
	Cranes (over 45 tons or 150 feet including jib & attachments)							
	(a) Shovels, Backhoes, Excavators (with all attachments), Draglines, Clamshells (over 3 yards)							
	(b) Tower Cranes							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
Power Equipment Operators								
**See note on last page if remote site								
		L&M						
A1602	Group IA, including:	37.99	8.20	7.75	1.00	0.10		55.04
	Licensed Water/Waste Water Treatment Operator							
	Loaders (over 5 yards)							
	Motor Patrol Grader, Dozer, Grade Tractor (finish: when finishing to final grade and/or to hubs, or for asphalt)							
	Power Plants (1000 k.w. & over)							
	Quad							
	Scrapers (over 40 yards)							
	Screed							
	Sidebooms (over 45 tons)							
	Slip Form Paver, C.M.I. & similar types							
		L&M						
A1603	Group II, including:	35.46	8.20	7.75	1.00	0.10		52.51
	Batch Plant Operator (batch & mixer 200 yards per hour & under)							
	Boiler - Fireman							
	Cement Hogs & Concrete Pump Operator							
	Conveyors (except those listed in Group I)							
	Hoists on Steel Erection, Towermobiles & Air Tuggers							
	Horizontal/Directional Drill Locator							
	Licensed Grade Technician							
	Loaders, Elevating Grader, Dumor & similar							
	Locomotives, Rod & Geared Engines							
	Mixers							
	Screening, Washing Plant							
	Sideboom (cradling rock drill, regardless of size)							
	Skidder							
	Trenching Machines (under 16 inches)							
	Water/Waste Water Treatment Operator							
		L&M						
A1604	Group III, including:	34.74	8.20	7.75	1.00	0.10		51.79
	"A" Frame Trucks, Deck Winches							
	Bombardier (tack or tow rig)							
	Boring Machine							
	Brooms, Power							
	Bump Cutter							
	Compressor							
	Farm Tractor							
	Forklift, Industrial Type							
	Gin Truck or Winch Truck (with poles when used for hoisting)							
	Grade Checker & Stake Hopper							
	Hoists, Air Tuggers, Elevators							
	Loaders:							
	(a) Elevating-Athey, Barber Greene & similar types							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Power Equipment Operators

**See note on last page if remote site

							L&M	
A1604	Group III, including:	34.74	8.20	7.75	1.00	0.10		51.79
	(b) Forklifts or Lumber Carrier (on construction job sites)							
	(c) Forklifts, (with tower)							
	(d) Overhead & Front End, (under 2-1/2 yards)							
	Locomotives: Dinkey (air, steam, gas & electric) Speeders							
	Mechanics, Light Duty							
	Mixers, (concrete mixers & batch 200 yards per hour & under)							
	Oil, Blower Distribution							
	Posthole Digger, Mechanical							
	Pot Fireman (power agitated)							
	Power Plant, Turbine Operator, (under 300 k.w.)							
	Pumps, Water							
	Roller, (other than Plantmix)							
	Saws, Concrete							
	Skid Steer (with all attachments)							
	Straightening Machine							
	Tow Tractor							

							L&M	
A1605	Group IV, including:	28.53	8.20	7.75	1.00	0.10		45.58
	Drill Helper							
	Parts & Equipment Coordinator							
	Rig Oiler/Assistant Engineer (over 85 tons or 100 foot boom)							
	Spotter							
	Steam Cleaner							
	Swamper (on trenching machines or shovel type equipment)							

Roofers

**See note on last page if remote site

							L&M	
A1701	Roofer & Waterproofer	36.95	6.43	4.41	0.81	0.10	0.02	48.72

Sheet Metal Workers, Region I (North of N63 latitude)

							L&M	
N1801	Sheet Metal Journeyman	42.98	6.90	10.34	1.32	0.25		61.79
	Air Balancing and duct cleaning of HVAC systems							
	Brazing, soldering or welding of metals							
	Demolition of sheet metal HVAC systems							
	Fabrication and installation of exterior wall sheathing, siding, metal roofing, flashing, decking and architectural sheet metal work							
	Fabrication and installation of heating, ventilation and air conditioning ducts and equipment							
	Fabrication and installation of louvers and hoods							
	Fabrication and installation of sheet metal lagging							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Sheet Metal Workers, Region I (North of N63 latitude)

							L&M	
N1801	Sheet Metal Journeyman	42.98	6.90	10.34	1.32	0.25		61.79
	Fabrication and installation of stainless steel commercial or industrial food service equipment							
	Manufacture, fabrication assembly, installation and alteration of all ferrous and nonferrous metal work							
	Metal lavatory partitions							
	Preparation of drawings taken from architectural and engineering plans required for fabrication and erections of sheet metal work							
	Sheet Metal shelving							
	Sheet Metal venting, chimneys and breaching							
	Skylight installation							

Sheet Metal Workers, Region II (South of N63 latitude)

							L&M	
S1801	Sheet Metal Journeyman	38.84	6.90	10.35	1.10	0.31		57.50
	Air Balancing and duct cleaning of HVAC systems							
	Brazing, soldering or welding of metals							
	Demolition of sheet metal HVAC systems							
	Fabrication and installation of exterior wall sheathing, siding, metal roofing, flashing, decking and architectural sheet metal work							
	Fabrication and installation of heating, ventilation and air conditioning ducts and equipment							
	Fabrication and installation of louvers and hoods							
	Fabrication and installation of sheet metal lagging							
	Fabrication and installation of stainless steel commercial or industrial food service equipment							
	Manufacture, fabrication assembly, installation and alteration of all ferrous and nonferrous metal work							
	Metal lavatory partitions							
	Preparation of drawings taken from architectural and engineering plans required for fabrication and erections of sheet metal work							
	Sheet Metal shelving							
	Sheet Metal venting, chimneys and breaching							
	Skylight installation							

Sprinkler Fitters

							L&M	
A1901	Sprinkler Fitter	41.55	7.60	11.75	0.30	0.25		61.45

Surveyors

**See note on last page if remote site

							L&M	
A2001	Chief of Parties	40.99	6.75	7.00	1.10	0.10		55.94

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Surveyors							
**See note on last page if remote site							
						L&M	
A2002	Party Chief	39.40	6.75	7.00	1.10	0.10	54.35
						L&M	
A2003	Line & Grade Technician/Office Technician	38.80	6.75	7.00	1.10	0.10	53.75
						L&M	
A2004	Associate Party Chief (including Instrument Person & Head Chain Person)	36.68	6.75	7.00	1.10	0.10	51.63
						L&M	
A2005	Stake Hop/Grademan	33.75	6.75	7.00	1.10	0.10	48.70
						L&M	
A2006	Chain Person (for crews with more than 2 people)	32.34	6.75	7.00	1.10	0.10	47.29
Truck Drivers							
**See note on last page if remote site							
						L&M	
A2101	Group I, including:	37.77	6.75	7.00	1.10	0.10	52.72
	Air/Sea Traffic Controllers						
	Ambulance/Fire Truck Driver (EMT certified)						
	Boat Coxswain						
	Captains & Pilots (air & water)						
	Deltas, Commanders, Rollagons, & similar equipment (when pulling sleds, trailers or similar equipment)						
	Dump Trucks (including rockbuggy & trucks with pups) over 40 yards up to & including 60 yards						
	Helicopter Transporter						
	Lowboys, including attached trailers & jeeps, up to & including 12 axles (over 12 axles or 150 tons to be negotiated)						
	Material Coordinator and Purchasing Agent						
	Ready-mix (over 12 yards up to & including 15 yards) (over 15 yards to be negotiated)						
	Semi with Double Box Mixer						
	Tireman, Heavy Duty/Fueler						
	Water Wagon (250 Bbls and above)						
						L&M	
A2102	Group 1A including:	39.04	6.75	7.00	1.10	0.10	53.99
	Dump Trucks, including rockbuggy & trucks with pups, over 60 yards up to & including 100 yards (over 100 yards to be negotiated)						
	Jeeps (driver under load)						
						L&M	
A2103	Group II, including:	36.51	6.75	7.00	1.10	0.10	51.46
	All Delta's, Commanders, Rollagons, & similar equipment						
	Construction and Material Safety Technician						
	Dump Trucks (including rockbuggy & trucks with pups) over 20 yards up to & including 40 yards						
	Lowboys (including attached trailers & jeeps up to & including 8 axles)						
	Mechanics						

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Truck Drivers

**See note on last page if remote site

							L&M	
A2103	Group II, including:	36.51	6.75	7.00	1.10	0.10		51.46
	Partsman							
	Ready-mix (over 7 yards up to & including 12 yards)							
	Stringing Truck							
	Super Vac Truck/Cacasco Truck/Heat Stress Truck							
	Turn-O-Wagon or DW-10 (not self loading)							
A2104	Group III, including:	35.69	6.75	7.00	1.10	0.10		50.64
	Batch Trucks (8 yards & up)							
	Dump Trucks (including rockbuggy & trucks with pups, over 10 yards up to & including 20 yards)							
	Expeditor (electrical & pipefitting materials)							
	Greaser - Shop							
	Oil Distributor Driver							
	Thermal Plastic Layout Technician							
	Traffic Control Technician							
	Trucks/Jeeps (push or pull)							
A2105	Group IV, including:	35.11	6.75	7.00	1.10	0.10		50.06
	Air Cushion or similar type vehicle							
	All Terrain Vehicle							
	Boom Truck/Knuckle Truck (over 5 tons)							
	Buggymobile							
	Bull Lift & Fork Lift, Fork Lift with Power Boom & Swing Attachment (over 5 tons)							
	Bus Operator (over 30 passengers)							
	Combination Truck-Fuel & Grease							
	Compactor (when pulled by rubber tired equipment)							
	Dump Trucks (including Rockbuggy & trucks with pups up to & including 10 yards)							
	Dumpster							
	Expeditor (general)							
	Fire Truck/Ambulance Driver							
	Flat Beds, Dual Rear Axle							
	Foam Distributor Truck Dual Axle							
	Front End Loader with Fork							
	Gin Pole Truck, Winch Truck, Wrecker (truck mounted "A" frame manufactured rating over 5 tons)							
	Grease Truck							
	Hydro Seeder, Dual Axle							
	Hyster Operators (handling bulk aggregate)							
	Loadmaster (air & water operations)							
	Lumber Carrier							
	Ready-mix, (up to & including 7 yards)							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Truck Drivers

**See note on last page if remote site

							L&M	
A2105	Group IV, including:	35.11	6.75	7.00	1.10	0.10		50.06
	Rigger (air/water/oilfield)							
	Semi or Truck & Trailer							
	Tireman, Light Duty							
	Track Truck Equipment							
	Vacuum Truck, Truck Vacuum Sweeper							
	Warehouseperson							
	Water Truck, Dual Axle							
	Water Wagon, Semi							

							L&M	
A2106	Group V, including:	34.35	6.75	7.00	1.10	0.10		49.30
	Batch Truck (up to & including 7 yards)							
	Boom Truck/Knuckle Truck (up to & including 5 tons)							
	Buffer Truck							
	Bull Lifts & Fork Lifts, Fork Lifts with Power Boom & Swing							
	Attachments (up to & including 5 tons)							
	Bus Operator (up to 30 passengers)							
	Farm Type Rubber Tired Tractor (when material handling or pulling wagons on a construction project)							
	Flat Beds, Single Rear Axle							
	Foam Distributor Truck Single Axle							
	Fuel Handler (station/bulk attendant)							
	Gear/Supply Truck							
	Gin Pole Truck, Winch Truck, Wrecker (Truck Mounted "A" Frame manufactured rating 5 tons & under)							
	Gravel Spreader Box Operator on Truck							
	Hydro Seeders, Single axle							
	Pickups (pilot cars & all light-duty vehicles)							
	Rigger/Swamper							
	Tack Truck							
	Team Drivers (Horses, Mules, & similar equipment)							
	Water Truck (Below 250 Bbls)							

Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

**See note on last page if remote site

							L&M	LEG	
N2201	Group I, including:	31.90	5.41	11.25	1.20	0.20	0.15		50.11
	Brakeman								
	Mucker								
	Nipper								
	Topman & Bull Gang								
	Tunnel Track Laborer								

							L&M	LEG	
N2202	Group II, including:	32.96	5.41	11.25	1.20	0.20	0.15		51.17

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

**See note on last page if remote site

						L&M	LEG	
N2202	Group II, including:	32.96	5.41	11.25	1.20	0.20	0.15	51.17
	Burning & Cutting Torch							
	Concrete Laborer							
	Jackhammer							
	Laser Instrument Operator							
	Nozzlemen, Pumpcrete or Shotcrete							
	Pipelayer Helper							

						L&M	LEG	
N2203	Group III, including:	33.91	5.41	11.25	1.20	0.20	0.15	52.12
	Miner							
	Retimberman							

						L&M	LEG	
N2204	Group IIIA, including:	37.37	5.41	11.25	1.20	0.20	0.15	55.58
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)							
	Licensed Powderman							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pipelayer							

						L&M	LEG	
N2206	Group IIIB, including:	38.25	5.41	11.25	1.20	0.20	0.15	56.46
	Federally Licensed Powderman (Responsible Person in Charge)							
	Grade Checking (setting or transferring of grade marks, line and grade)							

Tunnel Workers, Laborers (The area that is south of N63 latitude and west of W138 longitude)

**See note on last page if remote site

						L&M	LEG	
S2201	Group I, including:	31.90	5.41	11.25	1.20	0.20	0.15	50.11
	Brakeman							
	Mucker							
	Nipper							
	Topman & Bull Gang							
	Tunnel Track Laborer							

						L&M	LEG	
S2202	Group II, including:	32.96	5.41	11.25	1.20	0.20	0.15	51.17
	Burning & Cutting Torch							
	Concrete Laborer							
	Jackhammer							
	Laser Instrument Operator							
	Nozzlemen, Pumpcrete or Shotcrete							
	Pipelayer Helper							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Tunnel Workers, Laborers (The area that is south of N63 latitude and west of W138 longitude)

**See note on last page if remote site

						L&M	LEG	
S2203	Group III, including:	33.91	5.41	11.25	1.20	0.20	0.15	52.12
	Miner							
	Retimberman							

						L&M	LEG	
S2204	Group IIIA, including:	37.37	5.41	11.25	1.20	0.20	0.15	55.58
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)							
	Licensed Powderman							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pipelayer							

						L&M	LEG	
S2206	Group IIIB, including:	38.25	5.41	11.25	1.20	0.20	0.15	56.46
	Federally Licensed Powderman (Responsible Person in Charge)							
	Grade Checking (setting or transferring of grade marks, line and grade)							

Tunnel Workers, Power Equipment Operators

**See note on last page if remote site

						L&M		
A2207	Group I	39.85	8.20	7.75	1.00	0.10		56.90
						L&M		
A2208	Group IA	41.79	8.20	7.75	1.00	0.10		58.84
						L&M		
A2209	Group II	39.01	8.20	7.75	1.00	0.10		56.06
						L&M		
A2210	Group III	38.21	8.20	7.75	1.00	0.10		55.26
						L&M		
A2211	Group IV	31.38	8.20	7.75	1.00	0.10		48.43

* A remote site is isolated and relatively distant from the amenities of civilization, and usually far from the employee's home. As a condition of employment, the workers must eat, sleep, and socialize at the worksite and remain there for extended periods.

** This classification must receive board and lodging under certain conditions. A per diem option of \$75 is an alternative to providing meals and lodging. See Page v for an explanation.

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Part 3

Specifications

DIVISION 0 – BIDDING REQUIREMENTS AND CONTRACT FORMS

REFER TO SECTION Part 1 & Part 2 of this Manual

DIVISION 1 – GENERAL REQUIREMENTS

SECTION 011100	SUMMARY OF WORK
SECTION 012500	SUBSTITUTION PROCEDURES
SECTION 012600	MODIFICATION PROCEDURES
SECTION 013113	PROJECT COORDINATION
SECTION 013119	PROJECT MEETINGS
SECTION 013300	SUBMITTAL PROCEDURES
SECTION 013516	ALTERATION PROJECT PROCEDURES
SECTION 014219	REFERENCE STANDARDS
SECTION 014500	QUALITY CONTROL
SECTION 015000	TEMPORARY UTILITIES, FACILITIES, AND CONTROLS
SECTION 016100	COMMON PRODUCT REQUIREMENTS
SECTION 017329	CUTTING AND PATCHING
SECTION 017719	CLOSEOUT REQUIREMENTS
SECTION 017823	OPERATION AND MAINTENANCE DATA

DIVISIONS 2 – 22

NOT USED

DIVISION 23 – MECHANICAL

SECTION 230005	WORK DESCRIPTION
SECTION 230500	COMMON WORK RESULTS FOR HVAC
SECTION 230700	HVAC INSULATION
SECTION 232112	HYDRONIC SYSTEMS
SECTION 232514	GLYCOL SYSTEM
SECTION 232515	SYSTEM CLEANING

DIVISIONS 24 – 28

NOT USED

END OF SECTION

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Title of Work, and type of Contract.
- B. Use of Premises.
- C. Owner Occupancy.
- D. Owner-Furnished Items.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work of this Contract is comprised of returning the hydronic heating systems to optimal operating condition of specified North Slope Borough owned buildings within the villages of Atqasuk, Wainwright, and Kaktovik, including: complete drain of glycol in systems and disposal of glycol outside of the North Slope Borough; installing new side-stream filter(s) sized to divert 5% of total hydronic flow; identifying and bringing to the attention of the owner any general maintenance items suggested for the hydronic heating system; complete flush and clean of hydronic heating system; refilling of hydronic heating system with premixed Dowfrost 50/50 HD glycol. Refer to Division 23; Section 23 00 05 for complete work description.

1.3 CONTRACT METHOD

- A. Construct the Work under a single lump sum contract for each bid package. Glycol quantities provided for each building system are estimates only. Contractor to provide a total "per gallon" cost at the time of bid to be charged to owner in the event that actual glycol quantities are more than 20% different from estimated quantities.

1.4 WORK BY OTHERS

- A. At this time there are no known contracts in place that will impact the work of this Contractor.

1.5 WORK SEQUENCE

- A. Construct Work in stages to accommodate Owner use of premises during construction. Coordinate Progress Schedule and coordinate with Owner Occupancy during construction.
- B. Provide a work plan for owner review and approval prior to any required shut down of critical equipment or utility.

1.6 CONTRACTOR USE OF PREMISES

- A. Contractor shall limit use of premises for Work, for storage, and for access, to allow Owner occupancy.
- B. Coordinate use of premises under direction of Owner.
- 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.

1.7 OWNER OCCUPANCY

- A. Owner will occupy premises during entire construction period for conduct of his normal operations. Cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.
- B. Where access is required that will disturb the Owner's use of the building, the contractor shall obtain Owner's approval of a work plan prior to beginning work. Work Plan shall describe duration of the disruption and all pertinent details of the proposed Work.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not used

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for handling requests for substitutions made after award of the Contract.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Reference Standards and Definitions" specifies the applicability of industry standards to products specified.
 - 2. Division 1 Section "Submittal Procedures" specifies requirements for submitting the Contractor's Construction Schedule and the Submittal Schedule.
 - 3. Division 1 Section "Common Product Requirements" specifies requirements governing the Contractor's selection of products and product options.

1.3 DEFINITIONS

- A. Definitions in this Article do not change or modify the meaning of other terms used in the Contract Documents.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract are considered to be requests for substitutions. The following are not considered to be requests for substitutions:
 - 1. Revisions to the Contract Documents requested by the Owner.
 - 2. Specified options of products and construction methods included in the Contract Documents.
 - 3. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBMITTALS

- A. Substitution Request Submittal: The Owner/Engineer will consider requests for substitution if received within 14 days after commencement of the Work.

Requests received more than 14 days after commencement of the Work may be considered or rejected at the total discretion of the Owner.

1. Submit 5 copies of each request for substitution for consideration. Submit requests in the form and according to procedures required for substitution request forms.
2. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.
3. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
 - a. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate contractors, that will be necessary to accommodate the proposed substitution.
 - b. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements, such as performance, weight, size, durability, and visual effect.
 - c. Product Data, including Drawings and descriptions of products and fabrication and installation procedures.
 - d. Samples, where applicable or requested.
 - e. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
 - f. Cost information, including a proposal of the net change, if any in the Contract Sum.
 - g. The Contractor's certification that the proposed substitution conforms to requirements in the Contract Documents in every respect and is appropriate for the applications indicated.
 - h. The Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.
4. Owner's Action: If necessary, the Owner/Engineer will request additional information or documentation for evaluation within one week of receipt of a request for substitution. The Owner/Engineer will notify the Contractor of acceptance or rejection of the substitution within one week of receipt of the

request or receipt of additional information or documentation, whichever is later. The Owner has the final approval for all substitutions.

- a. Use the product specified if the Owner/Engineer cannot make a decision on the use of a proposed substitute within the time allocated.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Conditions: The Owner/Engineer will receive and consider the Contractor's request for substitution when one or more of the following conditions are satisfied, as determined by the Owner/Engineer. If the following conditions are not satisfied, the Owner/Engineer will return the requests without action except to record noncompliance with these requirements.
 1. Proposed changes are in keeping with the general intent of the Contract Documents.
 2. The request is timely, fully documented, and properly submitted through the Engineer and the Engineer concurs with the request for Substitution.
 3. The specified product or method of construction cannot be provided within the Contract Time. The Owner/Engineer will not consider the request if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.
 4. The request is directly related to an "or-equal" clause or similar language in the Contract Documents.
 5. The requested substitution offers the Owner a substantial advantage, in cost, time, energy conservation, or other considerations, after deducting additional responsibilities the Owner must assume. The Owner's additional responsibilities may include compensation for redesign and evaluation services, increased cost of other construction by the Owner, and similar considerations.
 6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
 7. The specified product or method of construction cannot be provided in a manner that is compatible with other materials and where the Contractor certifies that the substitution will overcome the incompatibility.
 8. The specified product or method of construction cannot be coordinated with other materials and where the Contractor certifies that the proposed substitution can be coordinated.

9. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.
- B. The Contractor's submittal and the Owner's/Engineer's acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval.

PART 3 - EXECUTION - Not Used

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing contract modifications.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Submittal Procedures" for requirements for the Contractor's Construction Schedule.
 - 2. Division 1 Section "Substitution Procedures" for administrative procedures for handling requests for substitutions made after award of the Contract.

1.3 MINOR CHANGES IN THE WORK

- A. The Owner will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or Contract Time.
- B. All modifications shall be documented on an approved DCVR or RFI form. Oral agreements will not be an acceptable means to modify the contract requirements.

1.4 CHANGE ORDER PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: The Owner will issue a detailed description of proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Within 10 calendar days of receipt of a proposal request, submit an estimate of cost necessary to execute the change to the Owner for review.
 - a. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time.

- B. If the Contractor claims that the architect/engineer's instructions or additional requirements of the Borough, by drawings or otherwise, entitle the Contractor to additional payment or extension of time under the contract, the Contractor shall deliver to the Borough and the architect/engineer a written proposal of changes in total contract amount and construction time within ten (10) days after the receipt of such instructions or requirements and before proceeding to execute the changes. Failure of the Contractor to deliver such a proposal shall constitute a waiver by the Contractor of any claim for additional payment or extension of time.
1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
 2. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Comply with requirements in Section "Substitution Procedures" if the proposed change requires substitution of one product or system for a product or system specified.
 5. When the Borough and the Contractor are in agreement as to changes in total contract amount and construction time, the engineer will issue a change order to the contract for approval of the Borough and Contractor.

1.5 CHANGE ORDER PROCEDURES

- A. Upon the approval of a Proposal Request, the Borough will issue a Change Order for signatures of the Owner and the Contractor.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:
 - 1. General project coordination procedures.
 - 2. Administrative and supervisory personnel.
 - 3. Cleaning and protection.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Project Meetings" for progress meetings, coordination meetings, and preinstallation conferences.
 - 2. Division 1 Section "Submittal Procedures" for preparing and submitting the Contractor's Construction Schedule.
 - 3. Division 1 Section "Materials and Equipment" for coordinating general installation.
 - 4. Division 1 Section "Closeout Requirements" for coordinating contract closeout.

1.3 COORDINATION

- A. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
 - 3. Make provisions to accommodate items scheduled for later installation.

- B. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - 1. Prepare similar memoranda for the Owner and separate contractors where coordination of their work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Project closeout activities.
 - 6. Progress Payment Reviews

1.4 SUBMITTALS

- A. Staff Names: Within 15 days of commencement of construction operations, submit a list of the Contractor's principal staff assignments, including the superintendent and other personnel in attendance at the Project Site. Identify individuals and their duties and responsibilities. List their telephone numbers to be used on site.

PART 2 - PRODUCTS – Not Used

PART 3 - EXECUTION

3.1 GENERAL COORDINATION PROVISIONS

- A. Inspection of Conditions: Inspect the conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.
- C. Coordinate with the specific borough facility personnel where relocation of equipment may be required to perform the Work. Provide a minimum of 48 hours notice, and obtain an approved work plan prior to disturbing the Owner's normal operations.

3.2 CLEANING AND PROTECTION

- A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration at Substantial Completion.
- B. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
- C. Protect the Owner's equipment and supplies with appropriate barriers, cones, etc.
- D. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
 - 1. Excessively high or low temperatures.
 - 2. Thermal shock.
 - 3. Excessively high or low humidity.
 - 4. Air contamination or pollution.
 - 5. Water or ice.
 - 8. Solvents.
 - 7. Chemicals.
 - 8. Light.
 - 9. Radiation.
 - 10. Puncture.
 - 11. Abrasion.
 - 12. Heavy traffic.
 - 13. Soiling, staining, and corrosion.
 - 14. Rodent and insect infestation.
 - 15. Combustion.

16. Electrical current.
17. Improper lubrication.
18. Unusual wear or other misuse.
19. Contact between incompatible materials.
20. Destructive testing.
21. Misalignment.
22. Excessive weathering.
23. Unprotected storage.
24. Improper shipping or handling.
25. Theft.
26. Vandalism.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project meetings, including, but not limited to, the following:
 - 1. Preconstruction conferences.
 - 2. Progress meetings.
 - 3. Coordination meetings.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Project Coordination" for procedures for coordinating project meetings with other construction activities.
 - 2. Division 1 Section "Submittal Procedures" for submitting the Contractor's Construction Schedule.

1.3 PRECONSTRUCTION CONFERENCE

- A. Schedule a preconstruction conference before starting construction, at a time convenient to the Owner but no later than 10 days after execution of the Agreement. Hold the conference at the North Slope Borough, CIPM offices at 3000 C Street, Suite 104 Anchorage, Alaska. Conduct the meeting to review responsibilities and personnel assignments.
- B. Attendees: Authorized representatives of the Owner, Engineer, the Contractor and its superintendent; major subcontractors and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Discuss items of significance that could affect progress, including the following:
 - 1. Tentative construction schedule.
 - 2. Critical work sequencing.
 - 3. Designation of responsible personnel.
 - 4. Procedures for processing field decisions and Change Orders.

5. Procedures for processing Applications for Payment.
6. Distribution of Contract Documents.
7. Submittal of Shop Drawings, Product Data, and Samples.
8. Preparation of record documents.
9. Use of the premises – Utilities, Toilets, Showers, Breakroom.
10. Parking availability.
11. Office, work, and storage areas.
12. Equipment deliveries and priorities.
13. Safety procedures.
14. First aid.
15. Security.
16. Housekeeping.
17. Working hours.

1.4 PROGRESS MEETINGS

- A. Conduct progress meetings on a monthly basis at the offices of RSA Engineering at 2522 Arctic Blvd Ste 200, Anchorage, Alaska. Notify the Owner of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.
- B. Attendees: In addition to representatives of the Owner and the General Contractor, each subcontractor, supplier, or other entity concerned with current progress shall be represented as necessary at these meetings. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project.
 1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to insure that current and subsequent activities will be completed within the Contract Time.

2. Review the present and future needs of each entity present, including the following:
 - a. Interface requirements.
 - b. Time.
 - c. Sequences.
 - d. Status of submittals.
 - e. Deliveries.
 - f. Off-site fabrication problems.
 - g. Access.
 - h. Site utilization.
 - i. Temporary facilities and services.
 - j. Hours of work.
 - k. Hazards and risks.
 - l. Housekeeping.
 - m. Quality and work standards.
 - n. Change Orders.
 - o. Documentation of information for payment requests.
- D. Reporting: No later than 7 days after each meeting, the engineer will distribute minutes of the meeting to each party present and to parties who should have been present. The contractor shall respond, in writing, within 5 days, to clarify or correct the accuracy of the minutes.
- E. Schedule Updating: No later than 7 days after each meeting where revisions to the schedule have been made or recognized, revise the Construction Schedule, and forward to the Owner for approval.

PART 2 – PRODUCTS – Not Used

PART 3 – EXECUTION – Not Used

END OF SECTION

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Procedures.
- B. Progress Schedules.
- C. Schedule of Values.
- D. Shop Drawings.
- E. Product Data.
- F. Manufacturer's Instructions.

1.2 RELATED REQUIREMENTS

- A. Section 01 61 00 – Common Product Requirements.
- B. Section 017719 – Closeout Requirements.

1.3 PROCEDURES

- A. Deliver submittals to Engineer at address listed on cover of Project Manual.
- B. Identify Project, Contractor, subcontractor, major supplier; identify pertinent Drawing sheet and detail number, and Specification Section number, as appropriate. Identify deviations from Contract Documents. Provide space for Contractor and Engineer review stamps.
- C. Submit initial progress schedules and schedule of values in duplicate by the date and time of the pre-construction conference. After review by Engineer revise and resubmit as required. Submit revised schedules with each Application for Payment, reflecting changes since previous submittal.
- D. Comply with progress schedule for submittals related to Work progress. Coordinate submittal of related items.
- E. After Engineer review of submittal, revise and resubmit as required, identifying changes made since previous submittal.
- F. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.

1.4 PROGRESS SCHEDULES

- A. Submit horizontal bar chart with separate bar for each major operation, identifying first work day of each week.

- B. Show complete sequence of delivery by activity, identifying work of separate stages and other logically grouped activities. Show projected percentage of completion for each item of Work as of time of each Application for Progress Payment.
- C. Show submittal dates required for shop drawings, product data, and samples, and product delivery dates.
- D. Contractor to provide a copy of the progress schedule to the designated Fire Department representative, as well as the NSB project administrator.

1.5 SCHEDULE OF VALUES

- A. Submit schedule on 8-1/2 x 11 inch paper; Contractor's standard form or media-driven printout will be considered on request.
- B. Format: Table of Contents of this Project Manual. Identify each line item with number and title of the major Specification Sections.
- C. Include in each line item a directly proportional amount of Contractor's overhead and profit.
- D. Revise schedule to list change orders, for each application for payment.

1.6 SHOP DRAWINGS

- A. Submit in the form of opaque reproductions.

1.7 PRODUCT DATA

- A. Mark each copy to identify applicable products, models, options, and other data; supplement manufacturers' standard data to provide information unique to the Work.
- B. Submit the number of copies which Contractor requires, plus three copies which will be retained by Engineer.

1.8 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.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Procedural requirements.
- B. Rehabilitation and renovations of existing spaces and materials.

1.2 RELATED REQUIREMENTS

- A. Section 01 11 00 - Summary of Work
- B. Section 01 73 29 - Cutting and Patching
- C. Section 01 50 00 –Temporary Utilities, Facilities, and Controls

PART 2 - PRODUCTS

2.1 PRODUCTS FOR PATCHING AND EXTENDING WORK

- A. New Materials: As specified in individual Sections.
- B. Match existing products and work for patching and extending work.
- C. Determine type and quality of existing products by inspection and any necessary testing, and workmanship by use of existing as a standard. Presence of a product, finish, or type of work, requires that patching, extending, or matching shall be performed as necessary to make Work complete and consistent with specifications and original conditions.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Verify that demolition is complete, and areas are ready for installation of new work.
- B. Beginning of restoration work means acceptance of existing conditions.

3.2 PREPARATION

- A. Cut, move, or remove items as necessary for access to alterations and renovations work; replace and restore at completion.
- B. Remove unsuitable material not marked for salvage, such as rotted wood, rusted metals, and deteriorated masonry and concrete; replace materials as specified for finished work.
- C. Remove debris and abandoned items from area and from concealed spaces.

- D. Prepare surfaces and remove surface finishes to provide for proper installation of new work and new finishes.
- E. Close openings in exterior surfaces to protect existing work and salvage items from weather and extremes of temperature and humidity. Insulate ductwork and piping to prevent condensation in exposed areas.

3.3 INSTALLATION

- A. Coordinate work of alterations to expedite completion and to accommodate Owner occupancy.
- B. Remove, cut, and patch work in a manner to minimize damage and to provide means of restoring products and finishes to original condition.
- C. Install products as specified in individual Sections.

3.4 TRANSITIONS

- A. Where new work abuts or aligns with existing, make a smooth and even transition. Patched work shall match existing adjacent work in texture and appearance.
- B. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer.

3.5 ADJUSTMENTS

- A. Fit work at penetrations of surfaces as specified in Section 01 73 29.

3.6 FINISHES

- A. Finish surfaces as specified in individual Sections.
- B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.7 CLEANING

- A. In addition to cleaning specified in Section 01 50 00, clean Owner-occupied areas of work daily.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Specification Sections apply to this section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": The term "approved", when used to convey Engineer's or Owner's action on Contractor's submittals, applications and requests, is limited to Engineer's and Owner's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean directed by the Engineer or Owner, requested by the Engineer or Owner, and similar phrases.
- D. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on the Drawings or to other paragraphs or schedules in the Specifications and similar requirements in the Contract Documents. Terms such as "shown", "noted", "scheduled", and "specified" are used to help the user locate the reference.
- E. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions and agreements within the construction industry that control the performance of the Work.
- F. "Furnish": The term "furnish" means to supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation and similar operations.
- G. "Project Site": The term "project site" means the space available for performing construction activities. The extent of the Project Site is: the Public Safety Office, the USDW Building, and the Warm Storage Building in the village of Atqasuk; the Public Safety Office, and the Health Clinic in the village of Wainwright; and the Public Safety Office in the village of Kaktovik or other storage area(s) as identified by the North Slope Borough.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

- B. Publication Dates: Comply with standards in effect as of the date of the Contract Documents unless otherwise indicated.
- C. Conflicting Requirements: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different but apparently equal to the Engineer for a decision before proceeding.
- D. Copies of Standards: Each entity engaged in construction on this Project shall be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Construction Documents. Where copies of standards are needed to perform a required construction activity obtain copies directly from publication source and make them available on request.

1.4 SCHEDULE OF REFERENCES

- A. Abbreviations and Acronyms for Industry Organizations: Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, mailing addresses and web site addresses are subject to change and are believed to be accurate and up to date as of the date of the Contract Documents.

AGC	Associated General Contractors of America 1957 E Street, N.W. Washington, DC 20006
AIA	American Institute of Architects (The) www.aiaonline.org
AISC	American Institute of Steel Construction 400 North Michigan Avenue Eighth Floor Chicago, IL 60611 www.aisc.org
AISI	American Iron and Steel Institute 1000 16th Street, N.W. Washington, DC 20036 www.steel.org
ANSI	American National Standards Institute 1430 Broadway New York, NY 10018 www.ansi.org

ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers 1791 Tullie Circle, N.E. Atlanta, GA 30329 www.ashrae.org
ASME	American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017 www.asme.org
ASTM	American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103 www.astm.org
AWS	American Welding Society 550 LeJeune Road Miami, FL 33135 www.aws.org
CDA	Copper Development Association 57th Floor, Chrysler Building 405 Lexington Avenue New York, NY 10174
CPA	Composite Panel Association (Formerly National Particleboard Association) www.pdmdf.com
CSI	Construction Specifications Institute www.csinet.org
EJCDC	Engineers' Joint Contract Documents Committee American Consulting Engineers Council 1050 15th Street, N.W. Washington, DC 20005
FS	Federal Specification General Services Administration Specifications and Consumer Information Distribution Section (WFSIS) Washington Navy Yard, Bldg. 197 Washington, DC 20407
GA	Gypsum Association 1603 Orrington Avenue Evanston, IL 60201 www.gypsum.org

**North Slope Borough
Areawide Heating and Glycol Replacement
Atqasuk, Wainwright, & Kaktovik**

**DIVISION 1
SECTION 014219
REFERENCE STANDARDS**

IEEE	Institute of Electrical and Electronics Engineers 345 East 47th Street New York, NY 10017
LGSI	Light Gage Structural Institute www.loseke.com
MIL	Military Specification Naval Publications and Forms Center 5801 Tabor Avenue Philadelphia, PA 19120
NEMA	National Electrical Manufacturers' Association 2101 L Street, N.W. Washington, DC 20037 www.nema.org
NFPA	National Fire Protection Association Battery March Park Quincy, MA 02269 www.nfpa.org
SMACNA	Sheet Metal and Air Conditioning Contractor's National Association 8224 Old Court House Road Vienna, VA 22180 www.smacna.org
SSMA	Steel Stud Manufacturers Association (Formerly ML/SFA – Metal Lath/Steel Framing Association) www.ssma.com
SSPC	Society for Protective Coatings www.sspc.org
UL	Underwriters' Laboratories, Inc. 333 Pfingston Road Northbrook, IL 60062 www.ul.com
USG	United States Gypsum Company A Subsidiary of USG Corporation www.usg.com

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. General Quality Control.
- B. Workmanship.
- C. Manufacturer's Instructions.
- D. Manufacturer's Certificates.
- E. Manufacturers' Field Services.

1.2 RELATED REQUIREMENTS

- A. General Conditions: Inspection and testing required by governing authorities.
- B. Section 014219 - Reference Standards: Applicability of specified reference standards.
- C. Section 013300 – Submittal Procedures: Submittal of Manufacturer's Instructions.

1.3 QUALITY CONTROL, GENERAL

- A. Maintain quality control over suppliers, manufacturers, products, services, etc. to produce work of specified quality.

1.4 MANUFACTURERS' INSTRUCTIONS

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

1.5 MANUFACTURERS' CERTIFICATES

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

1.6 MANUFACTURERS' FIELD SERVICES

- A. When specified in respective Specification Sections, manufacturer shall 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. Representative shall submit written report to Engineer listing observations and recommendations.

**North Slope Borough
Areawide Heating and Glycol Replacement
Atqasuk, Wainwright, & Kaktovik**

**DIVISION 1
SECTION 014500
QUALITY CONTROL**

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes requirements for construction facilities and temporary controls, including temporary utilities, support facilities, and security and protection.
- B. Temporary utilities include, but are not limited to, the following:
 - 1. Temporary electric power and light.
 - 2. Heating oil.
- C. Support facilities include, but are not limited to, the following:
 - 1. Temporary enclosures.
 - 2. Waste disposal services.
 - 3. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities include, but are not limited to, the following:
 - 1. Temporary fire protection.
 - 2. Entry control.
 - 3. Barricades, warning signs, and lights.

1.3 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:
 - 1. Building code requirements.
 - 2. Health and safety regulations.
 - 3. Utility company regulations.
 - 4. Police, fire department, and rescue squad rules.

5. Environmental protection regulations.

- B. Standards: Comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities." Install temporary electrical facilities in compliance with NFPA 70 "National Electric Code".

1.4 PROJECT CONDITIONS

- A. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.
- B. At all times during the progress of the work, the Contractor shall keep the premises clean and free of unnecessary materials and debris. The Contractor shall, on direction at any time from the owner, clear any designated areas or area of materials and debris. On completion of any portion of the work, the Contractor shall remove from the premises all tools and machinery and all debris occasioned by the work, leaving the premises free of all obstructions and hindrances.

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. General: Use new or undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.
- B. Electrical Power Cords: Provide grounded extension cords. Use hard-service cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
- C. Lamps and Light Fixtures: Contractor may use existing building lighting.
- D. Fire Extinguishers: Provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for the exposures.
1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 SUPPORT FACILITIES INSTALLATION

- A. Locate storage sheds, and other temporary construction and support facilities for easy access.
 - 1. Maintain support facilities until near Substantial Completion. Remove prior to Final Completion.
- B. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.
- C. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F (27 deg C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.

3.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Temporary Fire Protection: Comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations."
 - 1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
 - 2. Store combustible materials in containers in fire-safe locations.
 - 3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for fighting fires. Prohibit smoking in all areas.
- B. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the

public of the hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amber lights.

- C. Entry Control: Protect Work, existing premises, and Owner's operation to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
 - 1. Initiate program in coordination with Owner's existing system at job mobilization, maintain throughout construction period until Substantial Completion or Owner occupancy precludes the need for Contractor Security.
 - 2. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- D. Environmental Protection: Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near the site.

3.4 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage.
- C. Termination and Removal: Unless the Project Manager requests that it be maintained longer, remove each temporary facility when the need has ended or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are the Contractor's property.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing the Contractor's selection of products for use in the Project.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Reference Standards " specifies the applicability of industry standards to products specified.
 - 2. Division 1 Section "Submittal Procedures" specifies requirements for submittal of the Contractor's Construction Schedule and the Submittal Schedule.
 - 3. Division 1 Section "Substitution Procedures" specifies administrative procedures for handling requests for substitutions made after award of the Contract.

1.3 DEFINITIONS

- A. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms are self-explanatory and have well-recognized meanings in the construction industry.
 - 1. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - a. "Named Products" are items identified by the manufacturer's product name, including make or model number or other designation, shown or listed in the manufacturer's published product literature, that is current as of the date of the Contract Documents.
 - 2. "Materials" are products substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.

3. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.

1.4 SUBMITTALS

- A. Product List: Prepare a list showing products specified in tabular form acceptable to the Engineer. Include generic names of products required. Include the manufacturer's name and proprietary product names for each item listed.
 1. Coordinate product list with the Contractor's Construction Schedule and the Schedule of Submittals.
 2. Form: Prepare product list with information on each item tabulated under the following column headings:
 - a. Generic name used in Contract Documents.
 - b. Manufacturer's name and address.
 - c. Supplier's name and address.
 - d. Installer's name and address.
 - e. Projected delivery date or time span of delivery period.
 3. Initial Submittal: Within 14 days after date of commencement of the Work, submit an initial product list in accordance with section 01300. Provide a written explanation for omissions of data and for known variations from Contract requirements.
 - a. At the Contractor's option, the initial submittal may be limited to product selections and designations that must be established early in the Contract period.
 4. Completed List: Within 21 days after date of commencement of the Work, submit the completed product list in accordance with section 01300. Provide a written explanation for omissions of data and for known variations from Contract requirements.
 5. Owner's Action: The Engineer will respond in writing to Contractor within 1 week of receipt of the completed product list. No response within this period constitutes no objection to listed manufacturers or products but does not constitute a waiver of the requirement that products comply with Contract Documents. The Engineer's response will include a list of unacceptable product selections, containing a brief explanation of reasons for this action.

1.5 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind from a single source.
 - 1. When specified products are available only from sources that do not, or cannot, produce a quantity adequate to complete project requirements in a timely manner, consult with the Owner/Engineer to determine the most important product qualities before proceeding. Qualities may include attributes, such as visual appearance, strength, durability, or compatibility. When a determination has been made, select products from sources producing products that possess these qualities, to the fullest extent possible.
- B. Compatibility of Options: When the Contractor is given the option of selecting between 2 or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.
- C. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products that will be exposed to view in occupied spaces or on the exterior.
 - 1. Labels: Locate required product labels and stamps on concealed surfaces or, where required for observation after installation, on accessible surfaces that are not conspicuous.
 - 2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface that is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Ratings.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products according to the manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.
 - 1. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.

2. Coordinate delivery with installation time to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to the site in an undamaged condition in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products upon delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
5. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
6. Store products subject to damage by the elements above ground, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, new at the time of installation.
 1. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.
 2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- B. Product Selection Procedures: The Contract Documents and governing regulations govern product selection. Procedures governing product selection include the following:
 1. Proprietary Specification Requirements: Where Specifications name only a single product or manufacturer with "no substitutions allowed" noted, provide the product indicated. No substitutions will be permitted.
 2. Nonproprietary Specifications: When Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with Contract

requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

3. Descriptive Specification Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
4. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements and are recommended by the manufacturer for the application indicated.
 - a. Manufacturer's recommendations may be contained in published product literature or by the manufacturer's certification of performance.
5. Compliance with Standards, Codes, and Regulations: Where Specifications only require compliance with an imposed code, standard, or regulation, select a product that complies with the standards, codes, or regulations specified.
6. Visual Matching: Where Specifications require matching existing equipment, the Engineer's decision will be final on whether a proposed product matches satisfactorily.
 - a. Where no product available within the specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category.

PART 3 - EXECUTION

3.1 INSTALLATION OF PRODUCTS

- A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.
 1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Requirements and limitations for cutting and patching of Work.

1.2 RELATED REQUIREMENTS

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 26 00 – Substitution Procedures.
- C. Individual Specifications Sections:
 - 1. Cutting and patching incidental to work of the Section.
 - 2. Advance notification to other Sections of openings required in work of those Sections.
 - 3. Limitations on cutting structural members.

1.3 SUBMITTALS

- A. Submit written request in advance of cutting or alteration which affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather-exposed or moisture-resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight-exposed elements.
- B. Include in request:
 - 1. Identification of Project.
 - 2. Location and description of affected work.
 - 3. Necessity for cutting or alteration.
 - 4. Description of proposed work, and products to be used.
 - 5. Alternatives to cutting and patching.
 - 6. Date and time work will be executed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Those required for original installation.
- B. For any change in materials, submit request for substitution under provisions of Section 01 25 00.

PART 3 - EXECUTION

3.1 GENERAL

- A. Execute cutting, fitting, and patching to complete Work, and to:
 - 1. Fit the several parts together, to integrate with other work.
 - 2. Remove and replace defective and non-conforming work.
 - 3. Remove samples of installed work for testing.
 - 4. Provide openings in elements of Work for penetrations of electrical work.

3.2 INSPECTION

- A. Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- B. After uncovering, inspect conditions affecting performance of work.
- C. Beginning of cutting or patching means acceptance of existing conditions.

3.3 PREPARATION

- A. Provide supports to assure structural integrity of surroundings; devices and methods to protect other portions of Project from damage.
- B. Provide protection from elements for areas that may be exposed by uncovering work; maintain excavations free of water.

3.4 PERFORMANCE

- A. Execute work by methods to avoid damage to other work, and which will provide proper surfaces to receive patching and finishing.
- B. Employ qualified installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight- exposed surfaces.
- C. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

- D. Restore work with new products in accordance with requirements of Contract Documents.
- E. Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- F. At penetrations of fire-rated wall, ceiling, or floor construction, completely seal voids with fire-rated material, full thickness of the construction element.
- G. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Project record document submittal.
 - 3. Operation and maintenance manual submittal.
 - 4. Submittal of warranties.
 - 5. Final cleaning.
- B. Closeout requirements for specific construction activities are included in the appropriate Sections in Division 23.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
 - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
 - a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
 - b. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
 - 2. Advise the Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

5. Submit record drawings, maintenance manuals, and similar final record information.
 6. Deliver spare parts, extra stock, and similar items.
 7. Advise the Owner's personnel of changeover in security provisions.
 8. Complete startup testing of systems and instruction of the Owner's operation and maintenance personnel. Discontinue and remove temporary facilities from the site, along with construction tools, and similar elements.
 9. Complete final cleanup requirements, including touchup painting.
 10. Touch up and otherwise repair and restore marred, exposed finishes.
 11. Provide minimum 5 business days notice for scheduling of inspections.
- B. Inspection Procedures: On receipt of a request for inspection, the Owner/Engineer will either proceed with inspection or advise the Contractor of unfilled requirements. The Owner/Engineer will prepare the Certificate of Substantial Completion following inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
1. Results of the completed inspection will form the basis of requirements for final acceptance.
- C. Re-inspection Procedure: If it is determined that the project is not substantially complete, the Owner/Engineer will reinspect the Work upon receipt of notice that the Work, including inspection list items from the first inspection, has been completed, except for items whose completion is delayed under circumstances acceptable to the Owner.
1. All costs associated with the re-inspection shall be borne by the Contractor. The Owner shall be accorded a Contract Sum adjustment by deductive Change Order.
 2. Upon completion of re-inspection, the Owner/Engineer will prepare a Certificate of Substantial Completion.
 3. If the Work is incomplete, the Owner/Engineer will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for substantial completion. If necessary, re-inspection will be repeated and all costs associated with the re-inspection shall be borne by the Contractor and the Owner shall be accorded a Contract Sum adjustment by deductive Change Order.

1.4 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
 2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
 3. Submit a certified copy of the Owner's/Engineer's final inspection list of items to be completed or corrected. The copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 4. Submit consent of surety to final payment.
 5. Submit a final liquidated damages settlement statement.
 6. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Reinspection Procedure: The Owner/Engineer will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Owner.
1. All costs associated with the re-inspection shall be borne by the Contractor. The Owner shall be accorded a Contract Sum adjustment by deductive Change Order.
 2. Upon completion of reinspection, the Owner/Engineer will prepare a certificate of final acceptance. If the Work is incomplete, the Owner/Engineer will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
 3. If the Work is incomplete, the Owner/Engineer will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for substantial completion. If necessary, re-inspection will be repeated and all costs associated with the re-inspection shall be borne by the Contractor and the Owner shall be accorded a Contract Sum adjustment by deductive Change Order.

1.5 RECORD DOCUMENT SUBMITTALS

- A. General: Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location.

Provide access to record documents for the Owner's/Engineer's reference during normal working hours.

- B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark which drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
 - 1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
 - 2. Mark new information that is important to the Owner but was not shown on Contract Drawings or Shop Drawings.
 - 3. Note related change-order numbers where applicable.
 - 4. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets; print suitable titles, dates, and other identification on the cover of each set.
- C. Record Product Data: Maintain one copy of each Product Data submittal. Note related Change Orders and markup of record drawings and Specifications.
 - 1. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site and from the manufacturer's installation instructions and recommendations.
 - 2. Give particular attention to concealed products and portions of the Work that cannot otherwise be readily discerned later by direct observation.
 - 3. Upon completion of markup, submit complete set of record Product Data to the Owner.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES

- A. Operation and Maintenance Instructions: Arrange for Installer of equipment to meet with the Owner's personnel to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:
 - 1. Maintenance manuals.

2. Record documents.
 3. Spare parts and materials.
 4. Tools.
 5. Identification systems.
 6. Control sequences.
 7. Hazards.
 8. Cleaning.
 9. Warranties and bonds.
 10. Maintenance agreements and similar continuing commitments.
- B. As part of instruction for operating equipment, demonstrate the following procedures:
1. Startup.
 2. Shutdown.
 3. Emergency operations.
 4. Safety procedures.

3.2 FINAL CLEANING

- A. General: The General Conditions require general cleaning during construction. Regular site cleaning is included in Division 1 Section "Construction Facilities and Temporary Controls.
- B. Cleaning: Employ experienced workers for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.
 - a. Remove labels that are not permanent labels.
 - b. In areas where Work has occurred clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.

- c. In areas where Work has occurred wipe surfaces of electrical equipment. Clean plumbing fixtures that have been used by the Contractor to a sanitary condition.
 - d. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances generated by the Contractor.
- C. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.
- D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of lawfully.

END OF SECTION

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

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

1.2 RELATED REQUIREMENTS

- A. Section 01 33 00 – Submittal Procedures.
- B. Section 01 77 19 – Closeout Requirements.
- C. Individual Specifications Sections: Specific requirements for operation and maintenance data.

1.3 QUALITY ASSURANCE

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

1.4 FORMAT

- A. Prepare data in the form of an instructional manual. Provide both hard copy book format and electronic format of the Operation and Maintenance Manual.
- B. Hard Copy Binders: Commercial quality, 8-1/2 x 11 inch three-ring binders, D-ring type, with hardback, cleanable, plastic covers; three inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings. No binder shall contain material in excess of two thirds of ring size.
- D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; list title of Project and identify subject matter of contents.
- E. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.
- F. In the hard copy binder, provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- G. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.
- H. Drawings: Provide with reinforced punched binder tab. Bind in with text; photographically reduce larger drawings to size of text pages or a maximum 11 x 17 inch folded to fit in the binder. Include an 11 x 17 copy of the approved shop drawings and the project record drawings in the manual.

1.5 CONTENTS, EACH VOLUME

- A. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Engineer 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, including 24-hour and emergency response 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 and flow 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, routine normal operating instructions and sequences, emergency instructions and any special operating instructions.
- D. Maintenance Requirements: Include routine procedures and guide for trouble-shooting; and repair.
- 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.

1.7 SUBMITTALS

- A. Submit one hard bound copy of preliminary draft or proposed formats and outlines of contents. Engineer will review draft and return one copy with comments.
- B. Completed Operation and Maintenance Manuals shall be submitted before Substantial Completion will be granted.
- C. Submit four hard bound copies of revised volumes of data in final form and five electronic copies on CD within ten days after receipt of preliminary draft comments.

PART 2 - PRODUCTS - Not Used.

PART 3 - EXECUTION - Not Used.

END OF SECTION

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Hydronic Heating Systems
 - 1. Cleaning of Hydronic Heating System
 - a. Piping
 - b. Terminal Units
 - c. Equipment
 - 2. General Maintenance per Owner Request
 - a. Piping
 - b. Equipment
 - 1) Valves
 - 2) Pumps
 - 3) Heat Exchangers
 - 4) Terminal Units
 - c. Insulation
 - d. Pipe hangers
 - 3. Side Stream Filter Addition
 - 4. Refilling Glycol System

1.2 SCOPE OF WORK

- A. The contractor shall clean and flush the hydronic heating systems of the specified North Slope Borough owned buildings within the villages of Atqasuk, Wainwright, and Kaktovik. All systems including piping, equipment, and terminal units must be thoroughly cleaned as necessary to remove all debris and corrosion. Clean systems with CH₂O "Clean-N-Flush" and CH₂O "Boil Out Liquid" or equal. The intent of this work is to return the hydronic systems to prime operating condition. Estimated glycol quantities and all available exhibit drawings are provided of the hydronic systems to be cleaned.
- B. All used glycol must be shipped and disposed of off-site, outside of the North Slope Borough. Glycol quantities are to be considered best estimates and may not be completely accurate of actual system volume. Contractor to verify actual

hydronic system capacity and furnish to owner. Exhibit drawings are for reference only and may not be reflective of subsequent system modifications or as-built conditions.

- C. The contractor shall install side stream filters in each of the hydronic heating systems. Side stream filters shall be located in accessible location across the main circulation pumps and shall be sized to divert 5% of the flow through the filters.
- D. Refill hydronic systems with Dowfrost HD 50/50 premixed glycol. Meter glycol and report system capacity to owner. In the event that the estimate quantity provided in the project manual has an error in excess of 20 percent from the actual glycol quantity of the system, contractor to provide total price per gallon costs to owner for reimbursement.
- E. The contractor shall make note of items requiring maintenance or items lacking in code compliance and bring them to the attention of the owner. Per the owner's request, additional work may be awarded to the contractor to repair the systems as necessary in the event of contractor identified deficiencies. The intent of the project is to return the hydronic heating systems to optimal integrity and performance.

The following is a detailed description of the hydronic heating systems requiring work and all known information about their systems:

- 1. Atqasuk Public Safety Office:
 - a. Estimated hydronic heating system capacity: 75 gallons.
 - b. System currently contains propylene glycol at a composition of 75% glycol and 25% water. The pH of the glycol is 7.2, and the glycol is a dark brown color. Corrosion in system is likely.
 - c. The ventilation fan and heating coil for the mechanical room was not working during a fall of 2007 site visit. The current condition of this equipment is not known, but this system should be investigated during this project and restored to its original operating conditions if it has not yet been repaired.
- 2. Atqasuk USDW Building:
 - a. Estimated hydronic heating system capacity: 300 gallons.
 - b. In the summer of 2009 as apart of the areawide waste heat project, a side stream filter was added to this system. As apart of this new project, new filters need to be provided to the facility, but the installation of a new side stream filter is not required.

- c. System currently contains a mixture of 14% EG, 30% PG and 56% water. The pH of the glycol is 8.0, and the glycol is red in color. Corrosion in system is possible, but not expected to be extensive.
- 3. Atqasuk Warm Storage:
 - a. Estimated hydronic heating system capacity: 500 gallons.
 - b. System currently contains propylene glycol at a composition of 57% glycol and 43% water. The pH of the glycol is 7.0, and the glycol is dark brown in color. Corrosion in system is likely.
 - c. During a site visit in the fall of 2007 a motorized two-way valve serving a heating coil for AHU-3 (located in the second floor ventilation room) was found to be broken and leaking. The current condition of this equipment is not known, but this system should be investigated during this project and restored to its original operating conditions if it has not yet been repaired.
- 4. Wainwright Public Safety Office:
 - a. Estimated hydronic heating system capacity: 75 gallons.
 - b. System currently contains propylene glycol at a composition of 57% glycol and 43% water. The pH of the glycol is 7.6, and the glycol is a brown color. Corrosion in system is highly possible, but not expected to be extensive.
- 5. Wainwright Health Clinic:
 - a. Estimated hydronic heating system capacity: 175 gallons.
 - b. System currently contains propylene glycol at a composition of 58% glycol and 42% water. The pH of the glycol is 7.6, and the glycol is dark brown in color. Corrosion in system is highly possible, but not expected to be extensive.
- 6. Kaktovik Public Safety Office:
 - a. Estimated hydronic heating system capacity: 75 gallons.
 - b. System currently contains propylene glycol at a composition of 55% glycol and 45% water. The pH of the glycol is 7.2, and the glycol is a tea brown color. Corrosion in system is possible.
 - c. The hot water generator located in the mechanical room was leaking and the floor was saturated during a fall of 2007 site visit. The current condition of this equipment is not known, but this system should be investigated during this project and restored to its original operating conditions if it has not yet been repaired.

- d. The air handler for the jail cells (AHU-1) was not working during a fall of 2007 site visit. The current condition of this equipment is not known, but this system should be investigated during this project and restored to its original operating conditions if it has not yet been repaired.
- e. The HRV located in the mechanical room was removed and the ductwork was left open to the empty HRV casing during a fall of 2007 site visit. The current condition of this equipment is not known, but this system should be investigated during this project and restored to its original operating conditions if it has not yet been repaired.

1.3 ABBREVIATIONS

- A. EG – Ethylene glycol
- B. PG – Propylene glycol

END OF SECTION

PART 1 - GENERAL

1.1 SCOPE

- A. All provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to this work.

1.2 WORK INCLUDED

- A. The work to be included in these and all other mechanical subsections shall consist of providing, installing, adjusting and setting into proper operation complete and workable systems for all items, described in the specifications or reasonably implied. This shall include the planning and supervision to coordinate the work with other crafts and to maintain a proper time schedule for delivery of materials and installation of the work.
- B. Division 1 of the specifications is to be specifically included as well as all related drawings.

1.3 REFERENCED CODES - LATEST ADOPTED EDITION

- A. NFPA 70 National Electrical Code (NEC)
- B. IMC International Mechanical Code
- C. UPC Uniform Plumbing Code
- D. IBC International Building Code

1.4 SUBMITTALS

- A. See General Conditions and the General Requirements in Division 1 regarding submittals.
- B. Submit by specification section complete and all at one time; partial submittals will not be considered. Submittals shall be in booklet form. The data shall be arranged and indexed under basic categories. A typewritten index shall be included with dividers and identifying tabs between sections and references to sections of specifications. The engineer will retain one copy for reference and checking.
- C. Catalog sheets shall be complete and the item or model to be used shall be clearly marked, and identified as to which item in the specifications is being submitted.
- D. Only submit on items specifically required by each specification section. If a submittal has not been requested, it will not be reviewed.

1.5 HANDLING

- A. See General Conditions and the General Requirements in Division 1 regarding material handling.
- B. Deliver packaged materials to job site in unbroken packages with manufacturer's label, and store to facilitate inspection and installation sequence. All items must be labeled and identified as to make, size and quality.

1.6 SUBSTITUTIONS

- A. In accordance with the General Conditions and the General Requirements in Division 1, Substitution and Product Options, all substitute items must fit in the available space, and be of equal or better quality including efficiency performance, size, and weight, and must be compatible with existing equipment. The Engineer shall be the final authority regarding acceptability of substitutes.

1.7 DIMENSIONS

- A. Before ordering any material or doing any work, the Contractor shall verify all dimensions, including elevations, and shall be responsible for the correctness of the same. No extra charge or compensation will be allowed on account of differences between actual dimensions and measurements indicated on the drawings.
- B. Any differences, which may be found, shall be submitted to the Engineer for consideration before proceeding with the work.

1.8 MANUFACTURER'S DIRECTIONS

- A. All manufactured articles shall be applied, installed and handled as recommended by the manufacturer, unless specifically called out otherwise. Advise the Engineer of any such conflicts before installation.

1.9 PERMITS, FEES, ETC.

- A. The Contractor under each division of these specifications shall arrange for a permit from the local authority. The Contractor shall pay for any inspection fees or other fees and charges required by ordinance, law, codes and these specifications.

1.10 TESTING

- A. The Contractor under each section shall at his own expenses perform the various tests as specified and required by the Engineer and as required by the State and local authorities. The Contractor shall furnish all fuel and materials necessary for making tests.

1.11 TERMINOLOGY

- A. Whenever the words "furnish", "provide", "furnish and install", "provide and install", and/or similar phrases occur, it is the intent that the materials and equipment described be furnished, installed and connected under this Division of the Specifications, complete for operation unless specifically noted to the contrary.
- B. Where a material is described in detail, listed by catalogue number or otherwise called for, it shall be the Contractor's responsibility to furnish and install the material.
- C. The use of the word "shall" conveys a mandatory condition to the contract.
- D. "This section" refers to the section in which the statement occurs.
- E. "The project" includes all work in progress during the construction period.
- F. In describing the various items of equipment, in general, each item will be described singularly, even though there may be a multiplicity of identical or similar items.

1.12 SCHEDULE OF WORK

- A. The work under the various sections must be expedited and close coordination will be required in executing the work. The various trades shall perform their portion of the work at such times as directed so as to meeting scheduled completion dates, and to avoid delaying any other trade. The Project Manager will set up completion dates. Each contractor shall cooperate in establishing these times and locations and shall process his work so as to ensure the proper execution of it.

1.13 COOPERATION AND CLEANING UP

- A. The contractor for the work under each section of the specifications shall coordinate his work with the work described in all other sections of the specifications to the end that, as a whole, the job shall be a finished one of its kind, and shall carry on his work in such a manner that none of the work under any section of these specifications shall be handicapped, hindered or delayed at any time.
- B. At all times during the progress of the work, the Contractor shall keep the premises clean and free of unnecessary materials and debris. The Contractor shall, on direction at any time from the Project Manager, clear any designated areas or area of materials and debris. On completion of any portion of the work, the Contractor shall remove from the premises all tools and machinery and all debris occasioned by the work, leaving the premises free of all obstructions and hindrances.

1.14 GUARANTEES AND WARRANTIES

- A. Unless a longer guarantee is hereinafter called for, all work, materials and equipment items shall be guaranteed for a period of one year after acceptance by the Owner. All defects in labor and materials occurring during this period, as determined by the Project Manager, shall be repaired and/or replaced to the complete satisfaction of the Project Manager. Guarantee shall be in accordance with Division 1.

1.15 COMPLETION REQUIREMENTS

- A. In accordance with the General Conditions and the General Requirements in Division 1, Project Closeout; before acceptance and final payment, the Contractor shall furnish:
 - 1. All manufacturer's guarantees.
 - 2. Guarantees.
 - 3. Operation and maintenance manuals.

1.16 INSPECTION OF SITE - REMODEL PROJECTS

- A. The bidders for the work under these sections of the specifications shall inspect the existing installations and thoroughly acquaint themselves with conditions to be met and the work to be accomplished in removing and modifying the existing work, and in installing the new work in the building referenced in the specifications. Failure to comply with this shall not constitute grounds for any additional payments in connection with removing or modifying any part of the existing installations and/or installing any new work.

1.17 RELOCATION OF EXISTING INSTALLATIONS

- A. There are portions of the existing mechanical systems, and electrical systems, which shall remain in use to serve the finished building in conjunction with the indicated new installations. Each bidder shall determine those portions of the remaining present installations, which must be relocated to avoid interference with the installations of new work of his particular trade and that of all other trades. All such existing HVAC and plumbing installations, which interfere with new installations, shall be relocated by the Contractor.

1.18 SALVAGE MATERIALS

- A. The Contractor shall remove existing equipment and other items associated with the mechanical systems where no longer required for the project. Where such items are exposed to view or uncovered by any cutting or removal of general construction and has no continuing function (as determined by the Project Manager), they shall be removed.

- B. All items or materials removed from the project shall be made available for the Owner's inspection. The Owner retains the option to claim any item or material. Contractor shall deliver any claimed item or material in good condition to the place designated by the Owner. All items not claimed become the property of the contractor and shall be removed from the site.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All equipment shall be regularly cataloged items of the manufacturer and shall be supplied as a complete unit in accordance with the manufacturer's standard specifications along with any optional items required for proper installation unless otherwise noted. Maintain manufacturer's identification, model number, etc. on all equipment at all times.
- B. Where more than one of an item is to be provided, all of the items shall be identical manufacture, make, model, color, etc.

2.2 RESTRICTED MATERIALS

- A. No solder containing lead shall be used on this project.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. All work shall comply with the latest adopted applicable codes and ordinances including, but not limited to, the IMC, UPC, IBC, NFPA and IFC Standards; all local and state amendments to all codes and standards.
- B. Obtain and pay for all inspection fees, connection charges and permits as a part of the Contract.
- C. Compliance with codes and ordinances shall be at the Contractor's expense.

3.2 MEASUREMENTS

- A. Verify all measurements on the job site.
- B. Locate all equipment and fixtures on the centers of walls, openings, spaces, etc., unless specified otherwise.
- C. Check all piping, ducts, etc. to clear openings.
- D. Rough-in dimensions shall be per manufacturer's recommendations.

3.3 OPERATING INSTRUCTIONS

- A. Before the facility is turned over to the Owner, instruct the Owner or Owner's personnel in the operation, care and maintenance of all systems and equipment under the jurisdiction of the Mechanical Division. These instructions shall also be included in a written summary in the Operating Maintenance Manuals.
- B. The Operation and Maintenance Manuals shall be utilized for the basis of the instruction.

3.4 OPERATING AND MAINTENANCE MANUALS

- A. Submit maintenance manuals to the Engineer covering all equipment, fixtures, devices, etc. installed by the Contractor.
- B. The maintenance manuals shall be bound in a loose leaf three ring binder with reinforced holes in the sheets so as to prevent lost pages. The manual shall contain, but not limited to, the following types of information:
 - 1. Cover sheet with name, address, telephone number of Contractor, General Contractor and major equipment suppliers.
 - 2. Catalog cuts of all equipment, fixtures, etc. installed (Marked to identify the specific items used).
 - 3. Manufacturer's maintenance and overhaul instruction booklets including exploded views.
 - 4. Identification numbers of all parts and nearest sources for obtaining parts and services.
 - 5. Written summary of instructions to Owner.
- C. A periodic maintenance form that includes all of the equipment shall be provided with the maintenance manual. The form shall list each piece of equipment and how often maintenance is required (daily, weekly, monthly, annually). Opposite each task shall be squares for check-off for a full year (initials) to verify that the tasks are being done.

3.5 CUTTING, FITTING, REPAIRING, PATCHING AND FINISHING

- A. Arrange and pay for all cutting, fitting, repairing, patching and finishing of work by other trades where it is necessary to disturb such work to permit installation of mechanical work. Perform work only with craftsmen skilled in their respective trades.
- B. Avoid cutting, insofar as possible, by setting sleeves, frames, etc. and by requesting openings in advance. Assist other trades in securing correct location and placement of rough-frames, sleeves, openings, etc. for piping.

- C. Cut all holes neatly and as small as possible to admit work. Include cutting where sleeves or openings have been omitted. Perform cutting in a manner so as not to weaken walls, partitions or floors. Drill holes required to be cut in floors without breaking out around holes.

3.6 INSTALLATION OF EQUIPMENT

- A. Unless otherwise indicated, mount all equipment and install in accordance with manufacturer's recommendations and approved submittals.
- B. Maintain manufacture recommended minimum clearances for access and maintenance.
- C. Where equipment is to be anchored to structure, furnish and locate necessary anchoring and vibration isolation devices.
- D. Furnish all structural steel, such as angles, channels, beams, etc. required to support all piping, equipment and accessories installed under this Division. Use structural supports suitable for equipment specified or as indicated. In all cases, support design will be based upon data contained in manufacturer's catalog.

END OF SECTION

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Piping insulation.
- B. Jackets and accessories.

1.2 RELATED WORK

- A. Section 230500 - Basic Mechanical Materials and Methods.
- B. Section 232112 – Hydronic Systems

1.3 REFERENCES

- A. ANSI/ASTM C195 - Mineral Fiber Thermal Insulation Cement.
- B. ANSI/ASTM C533 - Calcium Silicate Block and Pipe Thermal Insulation.
- C. ANSI/ASTM C547 - Mineral Fiber Preformed Pipe Insulation.
- D. ANSI/ASTM C552 - Cellular Glass Block and Pipe Thermal Insulation.
- E. ANSI/ASTM C553 - Mineral Fiber Blanket and Felt Insulation.
- F. ANSI/ASTM C578 - Preformed, Block Type Cellular Polystyrene Thermal Insulation.
- G. ANSI/ASTM C612 - Mineral Fiber Block and Board Thermal Insulation.
- H. ASTM C449 - Mineral Fiber Hydraulic-setting Thermal Insulating and Finishing Cement.
- I. ASTM C610 - Expanded Perlite Block and Pipe Thermal Insulation.
- J. UL 723 - Surface Burning Characteristics of Building Materials.

1.4 QUALITY ASSURANCE

- A. Applicator: Company specializing in piping insulation application with three years minimum experience.
- B. Materials: Flame spread/smoke developed rating of 25/50 in accordance with UL 723.

1.5 SUBMITTALS

- A. Submit product data under provisions of Division 1.

- B. Include product description, thickness for each service, and locations.
- C. Submit manufacturer's installation instructions.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Maintain ambient temperatures and conditions required by manufacturers of adhesive, mastics, and insulation cements.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Armstrong.
- B. Certain-Teed.
- C. IMCOA.
- D. Knauf.
- E. Owens-Corning.
- F. Pittsburgh - Corning.
- G. Rubatex.
- H. Schuller.
- I. Substitutions: Under provisions of Division 1.

2.2 INSULATION - PIPING

- A. Type A: Glass fiber, rigid, molded, non-combustible insulation; ANSI/ASTM C547; 'k' value of 0.24 at 75° F, rated to 850° F, vapor retarder jacket of Kraft paper bonded to aluminum foil; Schuller "Micro-Lok" or equal.
- B. Type B: Flexible unicellular polyolefin; ASTM C534; 'k' value of 0.24 at 75° F ASTM C518; moisture vapor transmission of zero perm-inch ASTM E96; rated to 210° F; IMCOA "Imcolock" or equal.

2.3 FIELD APPLIED JACKET

- A. Vapor Barrier Jackets: Kraft reinforced foil vapor barrier with self-sealing adhesive joints.
- B. PVC Jackets: One piece, pre-molded type, Schuller Zeston 2000, fitting covers and jacketing material.

2.4 INSULATION ACCESSORIES

- A. Adhesives: Waterproof and fire-retardant type.
- B. Indoor Jacket: 6 oz./sq. yd. canvas or presized glass cloth, minimum 7.8 oz./sq. yd.
- C. Outdoor Jacket: Coated glass fiber sheet, 30 lb/sq. yd.
- D. Lagging Adhesive: Fire resistive to NFPA 255.
- E. Joint Tape: Glass fiber cloth, open mesh.
- F. Tie Wire: Annealed steel, 16 gauge.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Install materials after piping has been tested and approved.
- B. Clean surfaces for adhesives.
- C. Prepare surfaces in accordance with manufacturer's recommendations.

3.2 INSTALLATION - PIPING

- A. Install materials in accordance with manufacturer's recommendations, building codes and industry standards.
- B. Continue insulation vapor barrier through penetrations except where prohibited by code.
- C. Locate insulation and cover seams in least visible locations.
- D. Neatly finish insulation at supports, protrusions, and interruptions.
- E. For insulated pipes conveying fluids above ambient temperature, secure jackets with self sealing lap or outward clinched, expanded staples. Bevel and seal ends of insulation at equipment, flanges, and unions.
- F. Provide insert between support shield and piping on piping 1-½" inches diameter or larger. Fabricate of Schuller Thermo-12 or other heavy density insulating material suitable for temperature. Insulation inserts shall not be less than the following lengths:

1-½" to 2-½" pipe size	10" long
3" to 6" pipe size	12" long

- G. For pipe exposed in mechanical equipment rooms or in finished spaces below 10 feet above finished floor, finish with Schuller Zeston 2000 PVC jacket and fitting covers or metal jacket.

3.3 SCHEDULE - PIPING

PIPING	TYPE	PIPE SIZE Inch	MINIMUM INSULATION THICKNESS Inch
Heating Glycol/Water Supply and Return	A, B	All Sizes	1"

END OF SECTION

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Hydronic system piping.
- B. Hydronic system specialties.
- C. Heat generation.
- D. Heat transfer.

1.2 RELATED WORK

- A. Section 230500 – Common Work Results for HVAC

1.3 REFERENCES

- A. ANSI/AWS D1.1 - Structural Welding Code.
- B. ANSI/NFPA 70 - National Electrical Code.
- C. ANSI/UL 778 - Motor Operated Water Pumps.
- D. ASTM A53 - Pipe, Steel, Black and Hot-Dipped Zinc Coated, Welded and Seamless.
- E. ASTM A120 - Pipe, Steel, Black and Hot-Dipped Zinc Coated (Galvanized), Welded and Seamless, for Ordinary Uses.
- F. ASTM A234 - Pipe Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures.
- G. ASTM B32 - Solder Metal.
- H. ASTM B88 - Seamless Copper Water Tube.
- I. HI (Hydronics Institute) - Testing and Rating Standard for Cast Iron and Steel Heating Boilers.

1.4 REGULATORY REQUIREMENTS

- A. Conform to ANSI/ASME B31.9.

1.5 QUALITY ASSURANCE

- A. Valves: Manufacturer's name and pressure rating marked on valve body.
- B. Welding Materials and Procedures: Conform to applicable state labor regulations.
- C. Welders Certification: In accordance with ANSI/ASME SEC 9.

1.6 SUBMITTALS

- A. Submit product data under provisions of Division 1.
- B. Include data on: Hydronic Specialties; compression tank, air vents, air separators, pump discharge valves, flow control and balance valves, pumps, relief valves, boilers, coils, radiation, unit heaters, cabinet unit heaters, fans, dampers, air inlets and outlets, air handlers, filters.
- C. Include welders certification of compliance with ANSI/ ASME SEC 9.

1.7 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data under provisions of Division 1.
- B. Include installation instruction, operating instruction, assembly views, lubrication instructions, wiring diagrams and replacement parts list.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site under provisions of Division 1.
- B. Store and protect products under provisions of Division 1.
- C. Deliver and store valves in shipping containers with labeling in place.

1.9 EXTRA STOCK

- A. Provide one 55 gallon sealed drum of pre-mixed glycol/water solution per hydronic system.
- B. Provide one extra case of 30 – 20 micron filter cartridges for each hydronic system in addition to new filters installed at time of substantial completion.

PART 2 - PRODUCTS

2.1 SIDE STREAM FILTERS

- A. Side stream filter to be “Maxim Chemical International Ltd. LMO Series Filters” or equal.

- B. Provide one (1) Maxim LM010-3/4" NPS side stream filter housing (or as necessary to filter 5% of the system's flow rate) and (1) Maxim – dome spinner visual flow indicator per closed system. Provide one case of 30 - 20 micron filter cartridge for each system. Mount filter and flow indicator across all circulating pumps complete with isolating ball valves.

2.2 HEATING WATER AND GLYCOL PIPING, ABOVE GROUND

- A. Copper Tubing: ASTM B88, Type L, hard drawn.
 - 1. Fittings: ANSI/ASME B16.18 cast bronze or ANSI/ASME B16.22 wrought copper.
 - 2. Joints: ASTM B32, solder, Grade 95TA or ANSI/AWS A5.8, BCuP silver braze; Flux: ASTM B813.

2.3 FLANGES, UNIONS, AND COUPLINGS

- A. Pipe Size 2 Inches and Under: 150 psig malleable iron unions for threaded ferrous piping; bronze unions for copper pipe, soldered joints.
- B. Pipe Size Over 2 Inches: 150 psig forged steel slip-on flanges for ferrous piping; bronze flanges for copper piping; 1/16 inch thick preformed neoprene bonded to fiber.

2.4 GATE VALVES AND GLOBE VALVES

- A. Will not be permitted. Use ball or butterfly valves.

2.5 ACCEPTABLE MANUFACTURERS - ALL VALVE TYPES

- A. Milwaukee.
- B. Nibco.
- C. Crane.
- D. Hammond.
- E. Substitutions: Under provisions of Division 1.

2.6 BALL VALVES

- A. Up to 2 Inches: Bronze two piece body, full port, forged brass, chrome plated ball, Teflon seats and stuffing box ring, lever handle and balancing stops, solder or threaded ends with union. Seat material to be compatible with fluid handled.
- B. Over 2 Inches: Cast steel, two piece body, full port chrome plated steel ball, Teflon seat and stuffing box seals, lever handle, flanged. Seat material to be compatible with liquid handled.

2.7 SWING CHECK VALVES

- A. Up to 2 Inches: Bronze 45° swing disc, solder ends.
- B. Over 2 Inches: Iron body, bronze trim, 45° swing disc, renewable disc and seat, flanged ends.

2.8 SPRING LOADED CHECK VALVES

- A. Iron body, bronze trim, stainless steel spring, renewable composition disc, screwed, wafer or flanged ends.

2.9 ACCEPTABLE MANUFACTURERS - AIR VENTS

- A. Taco.
- B. Armstrong.
- C. Bell & Gossett.
- D. Substitutions: Under provisions of Division 1.

2.10 AIR VENTS

- A. Manual Type: Disk type vent with built-in check valve for manual or automatic operation, discs replaceable without draining system, 1/8 inch shank, rated at 50 psi; Hoffman No. 500 or equal.
- B. Float Type: Brass or semi-steel body, copper float, stainless steel valve and valve seat; 1/8 inch NPT connection to atmosphere with drain piping suitable for system operating temperature and pressure; with isolating valve. Hoffman No. 79 or equal.
- C. High Capacity Automatic Air Vent: Cast iron body, stainless steel and brass trim, EPDM diaphragm, rated for 250° F, 2 PSIG through 150 PSIG, 3/4 inch system connection, 3/8 inch NPT connection to atmosphere with drain piping. Provide with isolation valve and strainer upstream of vent. Armstrong AAE-750 or equal.

2.11 ACCEPTABLE MANUFACTURERS - BALANCE VALVES

- A. Armstrong.
- B. Bell & Gossett.
- C. Substitutions: Under provisions of Division 1.

2.12 BALANCE VALVES

- A. Angle or straight pattern, inside screw globe valve for 125 psig working pressure, with bronze body and integral union for screwed connections, renewable

composition disc, plastic wheel handle for shut-off service, and lockshield key cap and set screw memory bonnet for balancing service.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt on inside and outside before assembly.
- C. Prepare piping connections to equipment with flanges or unions.
- D. After completion, fill, clean, and treat systems.

3.2 INSTALLATION - PIPING

- A. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- B. Provide clearance for installation of insulation, and access to valves and fittings.
- C. Ensure adequate clearances to permit performance of servicing and maintenance of equipment.
- D. Install valves with stems upright or horizontal, not inverted.

3.3 APPLICATION - PIPING

- A. Install unions at equipment or apparatus connections.
- B. Install ball or butterfly valves for shut-off and to isolate equipment, part of systems, or vertical risers.
- C. Install ball or butterfly valves for throttling, bypass, or manual flow control services.
- D. Provide spring loaded check valves on discharge of water pumps.
- E. Provide 3/4 inch ball drain valves at main shut-off valves, low points of piping, bases of vertical risers, and at equipment.
- F. Use grooved mechanical couplings and fasteners only in accessible locations.

3.4 INSTALLATION AND APPLICATION - HYDRONIC SPECIALTIES

- A. Install specialties in accordance with manufacturer's instructions to permit intended performance.

3.5 CLEANING

- A. Clean work under provisions of Division 1.

END OF SECTION

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Propylene glycol solution.

1.2 RELATED WORK

- A. Section 232116 – Heating, Ventilating and Air Conditioning (HVAC).
- B. Section 232515 – System Cleaning

1.3 SUBMITTALS

- A. Submit product data under provisions of Division 1.
- B. Submit glycol strength test results.

1.4 EXTRA STOCK

- A. Provide one 55 gallon sealed drum of pre-mixed glycol/water solution per hydronic heating system.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Dow Chemical Co.
- B. Substitutions: No substitutions permitted for glycol solution.

2.2 GLYCOL SOLUTION

- A. Glycol Solution: Dowfrost HD pre-mixed 50/50 as manufactured by Dow Chemicals, no substitutions.
- B. Maximum corrosion rates of inhibited glycol to be as follows:
 - 1. Copper: 0.04 mils penetration per year.
 - 2. Solder: 0.06 mils penetration per year.
 - 3. Brass: 0.08 mils penetration per year.
 - 4. Mild Steel: 0.04 mils penetration per year.
 - 5. Cast Iron: 0.05 mils penetration per year.
 - 6. Aluminum: +0.36 mils per year.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide necessary piping to complete installation. Inspect existing hydronic system.
- B. Thoroughly clean and flush system before adding glycol solution in accordance with Section 232513.
- C. Feed glycol to system through make-up line with pressure regulator venting system high points. Set to fill at 5 psi when cold and adjust to 12 psi when hot.
- D. Perform tests determining strength of glycol solution before system is turned over to Owner. Provide test prior to end of first year of operation and replenish as required.

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Cleaning of piping systems.
- B. Chemical feeder equipment.
- C. Treatment for closed systems.

1.2 RELATED SECTIONS

- A. Section 232112 – Hydronic Systems
- B. Section 232514 – Glycol System

1.3 SUBMITTALS

- A. Submit product data under provisions of Division 1.
- B. Submit product data indicating chemical treatment materials, chemicals, and equipment.
- C. Submit manufacturer's installation instructions under provisions of Division 1.
- D. Submit manufacturer's field reports under provisions of Division 1.
- E. Submit reports indicating start-up of treatment systems is completed and operating properly.
- F. Submit reports indicating analysis of system water after cleaning and after treatment.

1.4 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data under provisions of Division 1.

1.5 REGULATORY REQUIREMENTS

- A. Conform to applicable codes for addition of non- potable chemicals to building mechanical systems.

1.6 MAINTENANCE MATERIALS

- A. Submit maintenance materials under provisions of Division 1.
- B. Provide sufficient chemicals for treatment and testing during warranty period.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. DOW CHEMICAL COMPANY
- B. CH2O INCORPORATED
- C. ESP COMPANY
- D. JENCO INSTRUMENTS, INCORPORATED
- E. Substitutions: Under provisions of Division 1.

2.2 MATERIALS

- A. System Cleaner:
 - 1. Liquid compound with emulsifying agents and detergents to remove iron oxides and calcium deposits; CH2O - Clean-N-Flush - equipment cleaner.
 - 2. Liquid alkaline compound with emulsifying agents and detergents to remove grease and petroleum products; CH2O - Boil Out Liquid – cleaning compound for hot & chilled water piping, & condenser water systems.
- B. Closed System Treatment (hydronic solution):
 - 1. Sequestering agent to reduce deposits and adjust pH; polyphosphate. Administer treatment per glycol solution manufacturer's guidelines.
 - 2. Corrosion inhibitors; liquid boron-nitrite, sodium nitrite and borax, sodium tolyltriazole, low molecular weight polymers, phosphonates, sodium molybdate, or sulphites. Administer treatment per glycol solution manufacturer's guidelines.

2.3 TEST EQUIPMENT

- A. Provide one refractometer and one pH tester and necessary accessories per village.
- B. Provide the following glycol solution testing equipment:
 - 1. Refractometer; ESP Company – Glycol Tester – Model: RHB-82G.
 - 2. pH Tester; Jenco Instruments, Inc. – Jenco VisionPlus – Model: pH 618F.
 - 3. pH Tester Accessories; Jenco Instruments, Inc. – Jenco 6B10 Buffer Capsules, Jenco 6B4 Buffer Capsules, Jenco 6B7 Buffer Capsules.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Systems shall be operational, filled, started, and vented prior to cleaning. Use water meter to record capacity in each system.
- B. Place terminal control valves in open position during cleaning.

3.2 CLEANING SEQUENCE

- A. Add CH₂O Inc. - Clean-N-Flush to closed systems at concentration as recommended by manufacturer.
- B. Hot Water Heating Systems: Apply heat while circulating, slowly raising temperature to 160° F and maintain for duration as recommended by manufacturer. Remove heat and circulate to 100° F or less; drain systems as quickly as possible and refill with clean water. Circulate for 6 hours at design temperatures, then drain. Refill with clean water and repeat until system cleaner is removed.
- C. Use neutralizer agents on recommendation of system cleaner supplier and approval of Engineer.
- D. Remove, clean, and replace strainer screens.
- E. Inspect, remove sludge, and flush low points with clean water after cleaning process is completed. Include disassembly of components as required.
- F. Add CH₂O Inc. – Boil Out Liquid to closed systems at concentration as recommended by manufacturer.
- G. Hot Water Heating Systems: Apply heat while circulating, slowly raising temperature to 160° F and maintain for duration as recommended by manufacturer. Remove heat and circulate to 100° F or less; drain systems as quickly as possible and refill with clean water. Circulate for 6 hours at design temperatures, then drain. Refill with clean water and repeat until system cleaner is removed.
- H. Use neutralizer agents on recommendation of system cleaner supplier and approval of Engineer.
- I. Remove, clean, and replace strainer screens.
- J. Inspect, remove sludge, and flush low points with clean water after cleaning process is completed. Include disassembly of components as required.
- K. Feed glycol solution to system through make-up line with pressure regulator, venting system high points. Set to fill at 2 psig. Pressure system cold at 5 psig, adjust when hot to 12 psig.

- L. Submit a written and signed statement to the Owner that the above referenced cleaning procedures have been completed.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

END OF SECTION

Part 4

Prototypical Design Exhibit Drawings

NOTE:

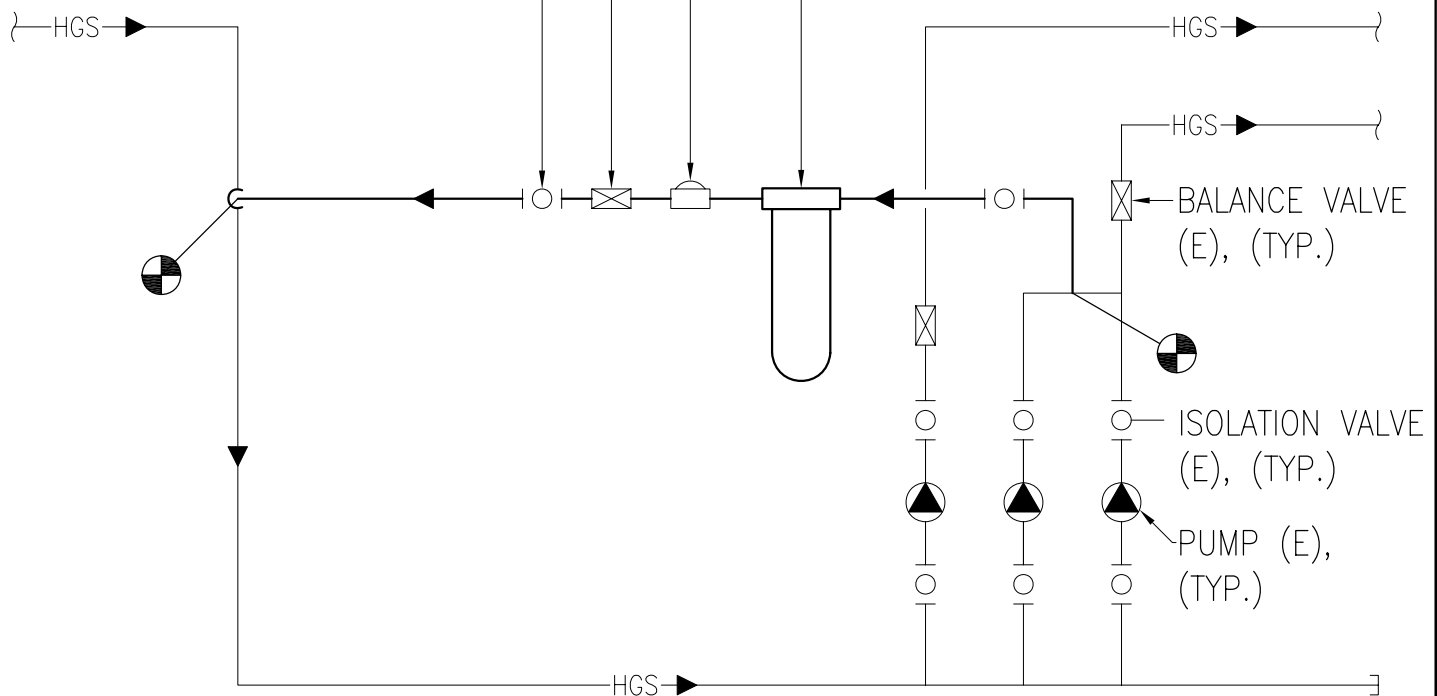
TO ENSURE ADEQUATE PRESSURE DROP AND FLOW FOR SIDESTREAM FILTER, INSTALL ACROSS SYSTEM PUMPS. BALANCE FLOW TO DIVERT 5% OF SYSTEM FLOW THROUGH FILTER. INSTALL IN ACCESSIBLE LOCATION.

INSTALL NEW SIDE STREAM FILTER

INSTALL NEW FLOW INDICATOR VALVE

INSTALL NEW BALANCE VALVE

INSTALL NEW ISOLATION VALVE



1

SIDESTREAM FILTER INSTALLATION

NO SCALE

CHECKED
MRF

DATE
10/15/10

NSB AREAWIDE GLYCOL REPLACEMENT
ATQASUK, WAINWRIGHT & KAKTOVIK
CIP# 18-069

RSA

Mechanical and Electrical
Consulting Engineers

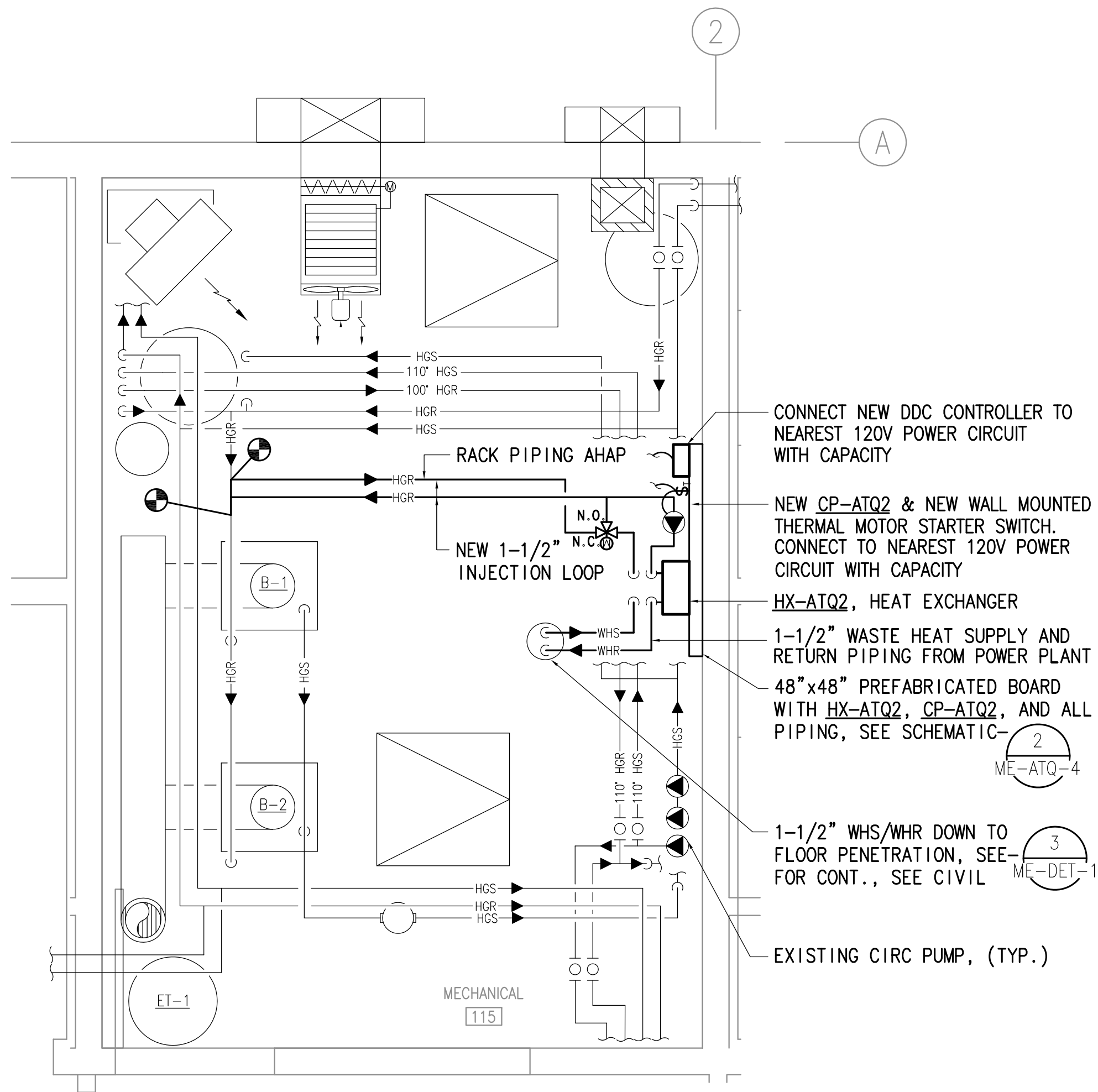
2522 Arctic Boulevard
Anchorage, AK 99503
(907) 276-0521

191 Swanson Avenue
Wasilla, Alaska 99654
(907) 357-1521

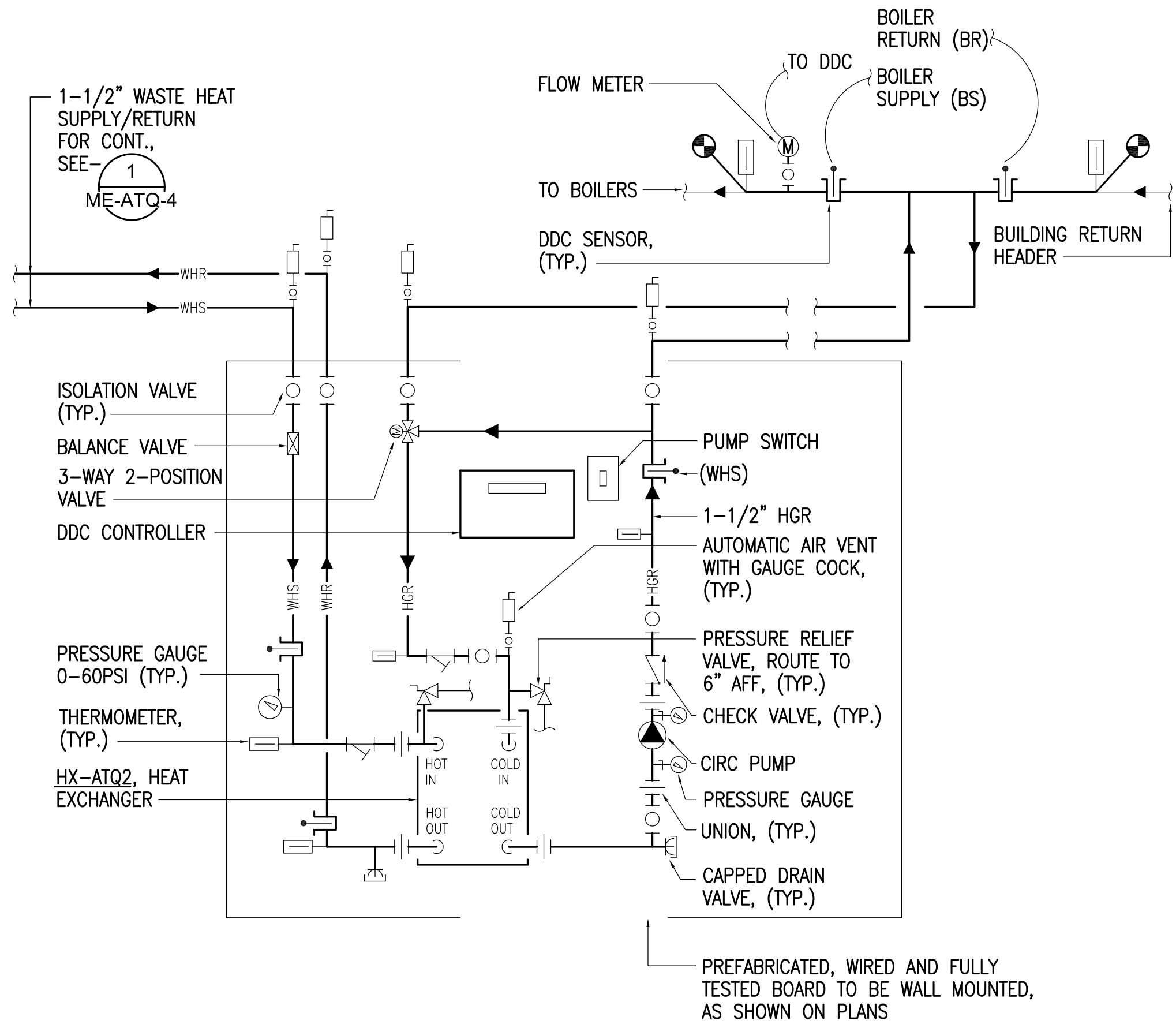
SHEET

SKM-1

L0184-SKM.DWG



1 MECHANICAL ROOM PLAN - PUBLIC SAFETY BUILDING
1/2" = 1'-0"



2 HEAT EXCHANGER PIPING SCHEMATIC
NO SCALE

PROTOTYPE DESIGN
EXHIBIT DRAWINGS

HEAT EXCHANGER SCHEDULE															
SYMBOL	MODEL	TYPE	CAPACITY (MBH)	SURFACE AREA (SQ. FT.)	HOT SIDE					COLD SIDE					REMARKS
HX-ATQ2	FLAT PLATE/10X20-20	BRAZED PLATE	107	23.6	12	180	160	4.8	50% P.G.	12	145	165	3.9	50% P.G.	

PUMP SCHEDULE									
SYMBOL	MODEL	SERVICE	GPM	FT. HD	MOTOR DATA			REMARKS	
CP-ATQ2	GRUNDFOS/UPS26-96F	INJECTION LOOP	12	15	HP	VOLTS	PH		
					1/12	120	1		

ELECTRICAL LEGEND			
\$	FRACTIONAL HORSEPOWER MOTOR STARTER	#10	NUMBER AND SIZE OF WIRES (NO MARKS = 3 #12)
■	PANEL	A-2	HOMERUN TO PANEL (PANEL AND CIRCUIT No.)
—	CONDUIT, CONCEALED	1	NOTE TAG (No. INDICATES NOTE)

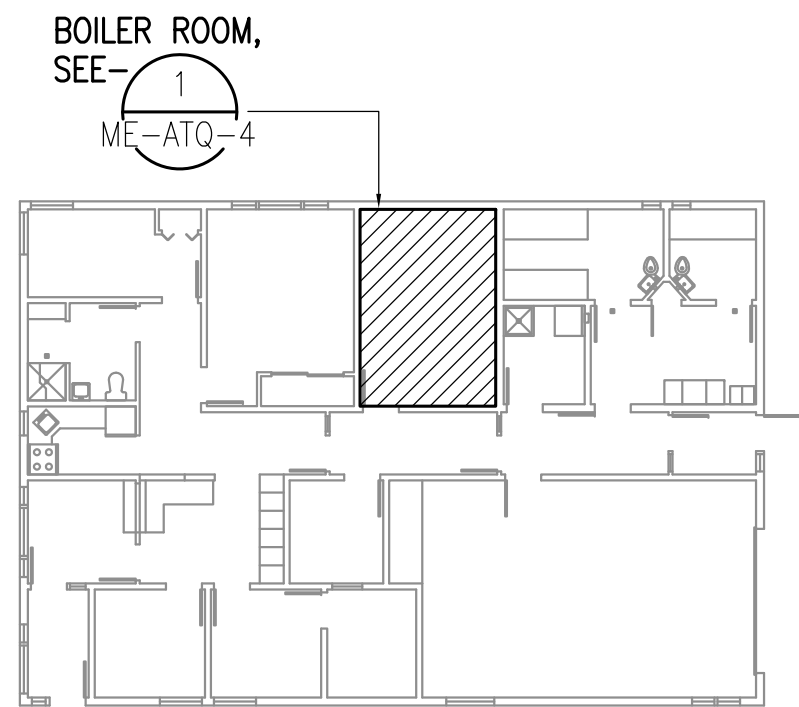
SEQUENCE OF OPERATION

CP-ATQ2 PUMP SHALL OPERATE CONTINUOUSLY. PROVIDE WALL-MOUNTED SWITCH FOR LOCAL CONTROL.

3-WAY VALVE LOCAL DDC CONTROLLER SHALL OPEN/CLOSE 2-POSITION 3-WAY VALVE TO CONTROL THE FLOW OF WASTE HEAT INTO THE BOILER RETURN HEADER. CONTROLLER SHALL CONTINUOUSLY COMPARE THE BOILER RETURN HEADER TEMPERATURE (BR) TO THE AVAILABLE WASTE HEAT SUPPLY TEMPERATURE (WHS). SECOND BOILER RETURN HEADER SENSOR (BS) AND FLOW METER SHALL BE USED TO COMPUTE AND TREND BTU/HR RECOVERED FROM WASTE HEAT.

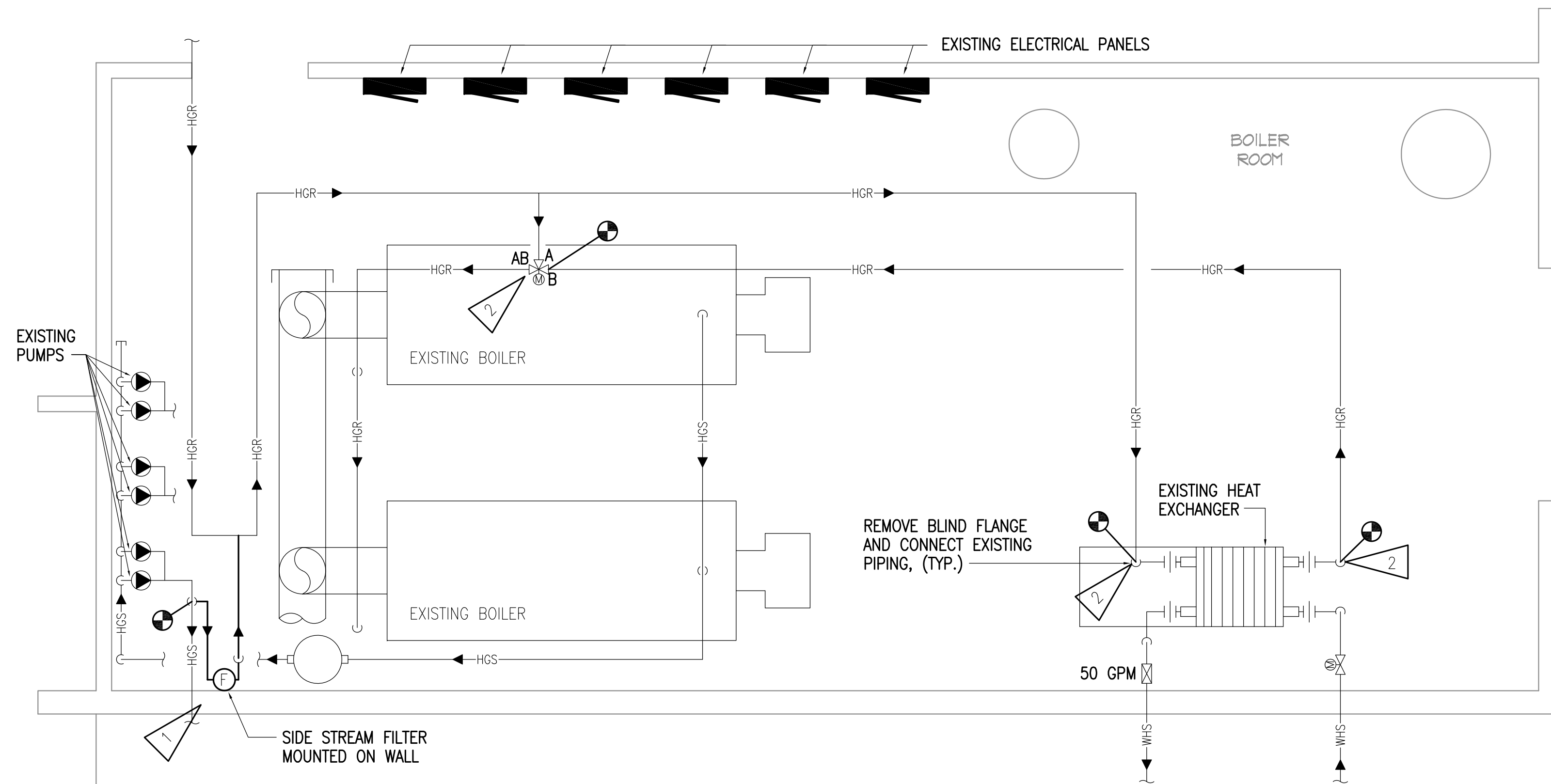
IF WHS > (BR + 5°F), 3-WAY VALVE SHALL OPEN TO INJECT WASTE HEAT INTO THE BOILER LOOP. PROVIDE 5°F DEADBAND, ADJUSTABLE TO MINIMIZE CYCLING.

IF WHS < BR, 3-WAY VALVE SHALL CLOSE SUCH THAT HEAT IS NOT INJECTED BACK INTO THE WASTE HEAT LOOP.



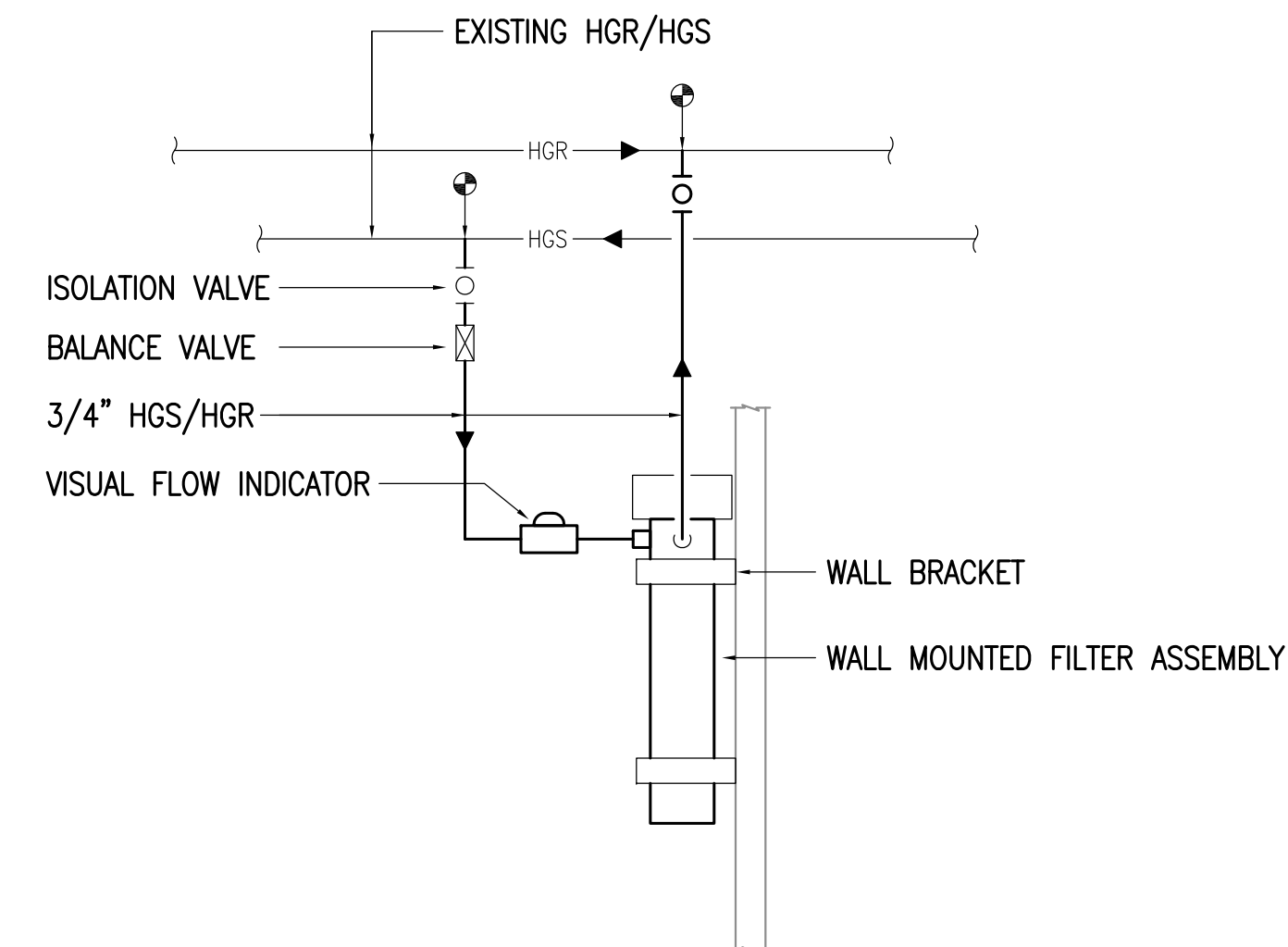
KEYPLAN - PSO
1/16"=1'

3" 2" 1" 0"



- NOTE: ALL EQUIPMENT AND PIPING IS INSTALLED, BUT IS NOT OPERATIONAL. USDW BUILDING GLYCOL MAY BE CONTAMINATED. CONTRACTOR TO PERFORM THE FOLLOWING WORK:
1. INSTALL SIDESTREAM FILTER ON BOILER GLYCOL LOOP, SEE-  ME-ATQ-2
 2. CONNECT BLIND FLANGED GLYCOL PIPING IN THREE PLACES SHOWN ON THESE DRAWINGS BY REMOVING BLIND PLATES.
 3. PROVIDE GLYCOL TO MATCH EXISTING, AS REQUIRED TO FILL SYSTEM.
 4. VERIFY PROPER OPERATION OF EXISTING PUMPS AND CONTROL SYSTEM. EXISTING CONTROL SYSTEM IS BARBER COLEMAN NETWORK 8000 DDC. THE CONTROL PANEL IS LOCATED IN THE POWER PLANT. VERIFY GRAPHICS ARE INTEGRATED INTO THE EXISTING CONTROL SYSTEM FOR BUILDINGS CURRENTLY CONNECTED TO WASTE HEAT.
 5. BALANCE WASTE HEAT FLOW TO HEAT EXCHANGER TO THE INDICATED FLOW.

SEQUENCE OF OPERATION:
EXISTING CONTROLLER MODULATES
3-WAY VALVE TO MAINTAIN
INJECTION LOOP SUPPLY
TEMPERATURE ABOVE BOILER
RETURN TEMPERATURE.



2 SIDESTREAM FILTER
NOT TO SCALE

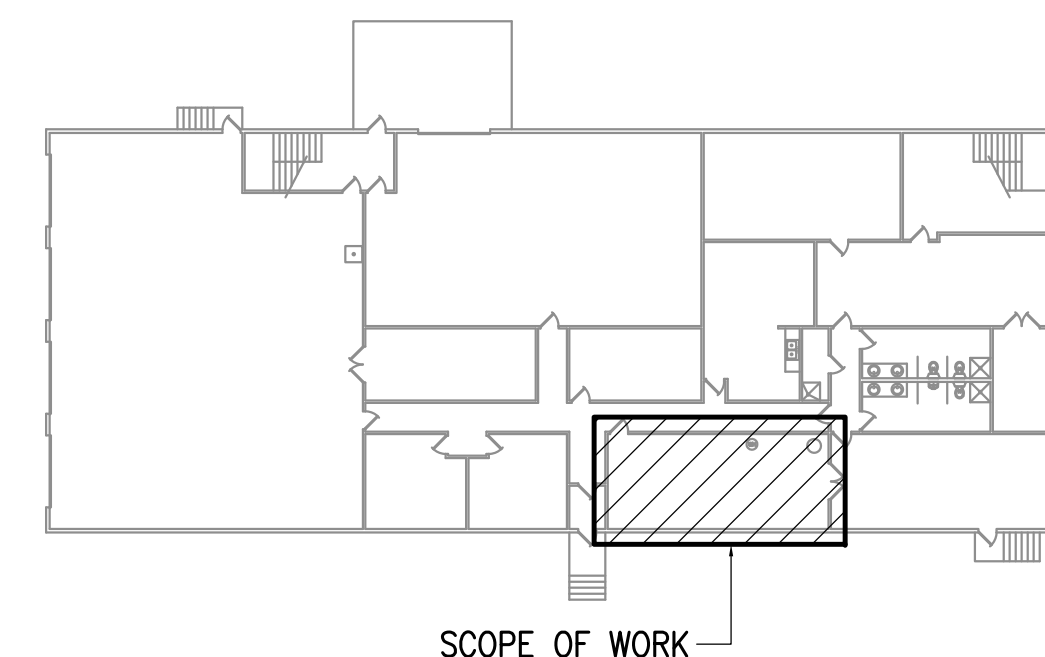
1 MECHANICAL ROOM PLAN - USDW BUILDING

1/2" = 1'-0"

EQUIPMENT

SIDESTREAM FILTER SCHEDULE				
SYMBOL	MFGR / MODEL	FILTERED FLOW % OF TOTAL SYSTEM	TYPE	REMARKS
SSF-1	MAXIM / LM10x3/4	5%	SIDESTREAM	PROVIDE VISUAL FLOW METER AND ONE CASE OF 30-20 MICRON FILTER CARTRIDGES, INSTALL AND START-UP PER MANUFACTURER'S INSTRUCTIONS.

PROTOTYPE DESIGN
EXHIBIT DRAWINGS



KEYPLAN - USDW



North Slope Borough
Areawide Waste Heat Recovery
USDW Building
Atkasuk, Alaska
CIP No. 13-222

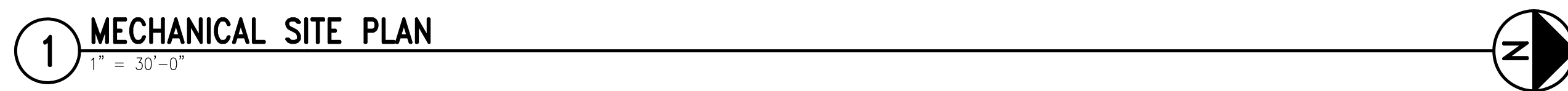
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CHECKED BY: MJM
DATE: 01/29/2009
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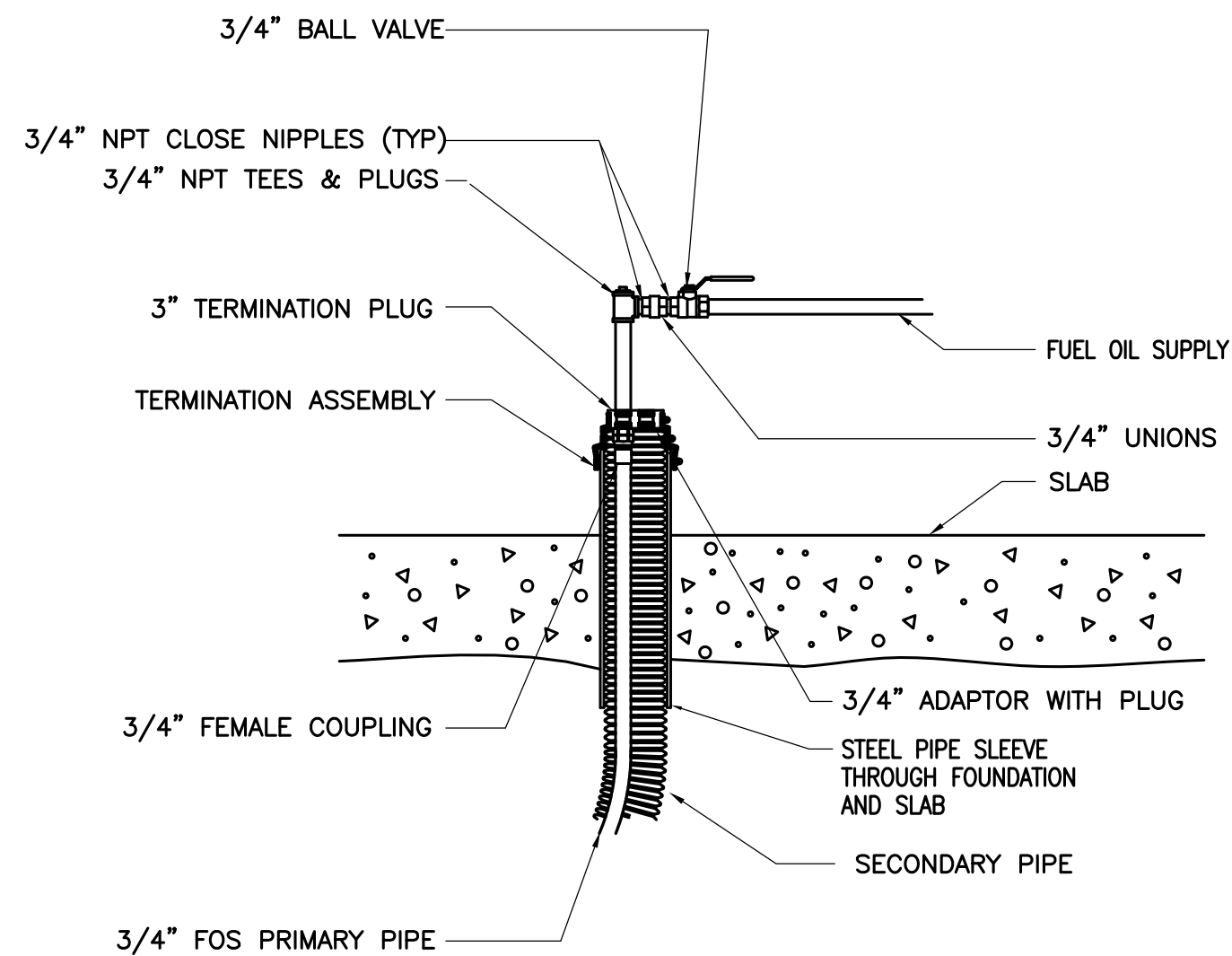
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USDW REMODEL
PLAN, SCHEMATIC,
AND SCHEDULES

SHEET:
ME-ATQ-2

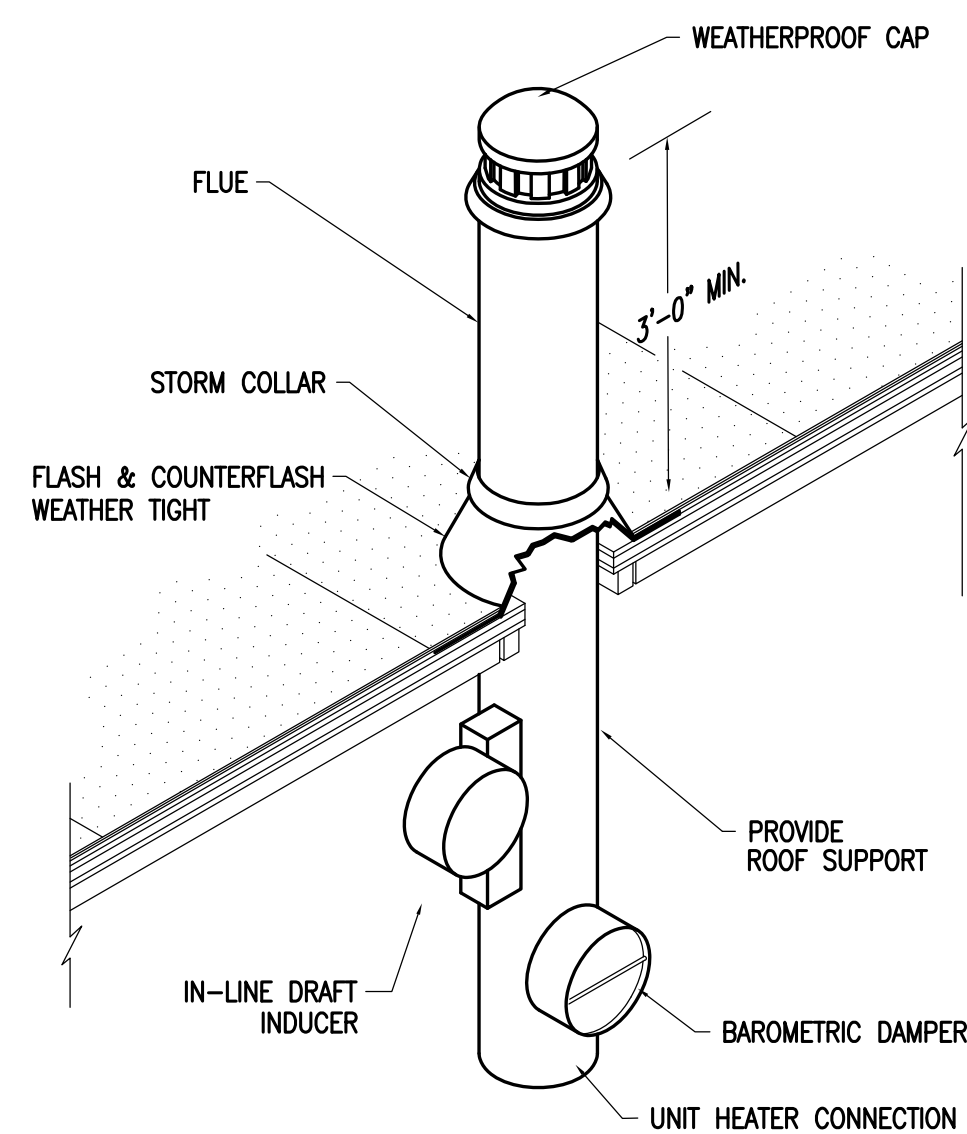
RSA
Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
191 Swanson Avenue, Suite 100
Vashille, Alaska 99681
Phone (907) 276-0021 Fax (907) 276-1751



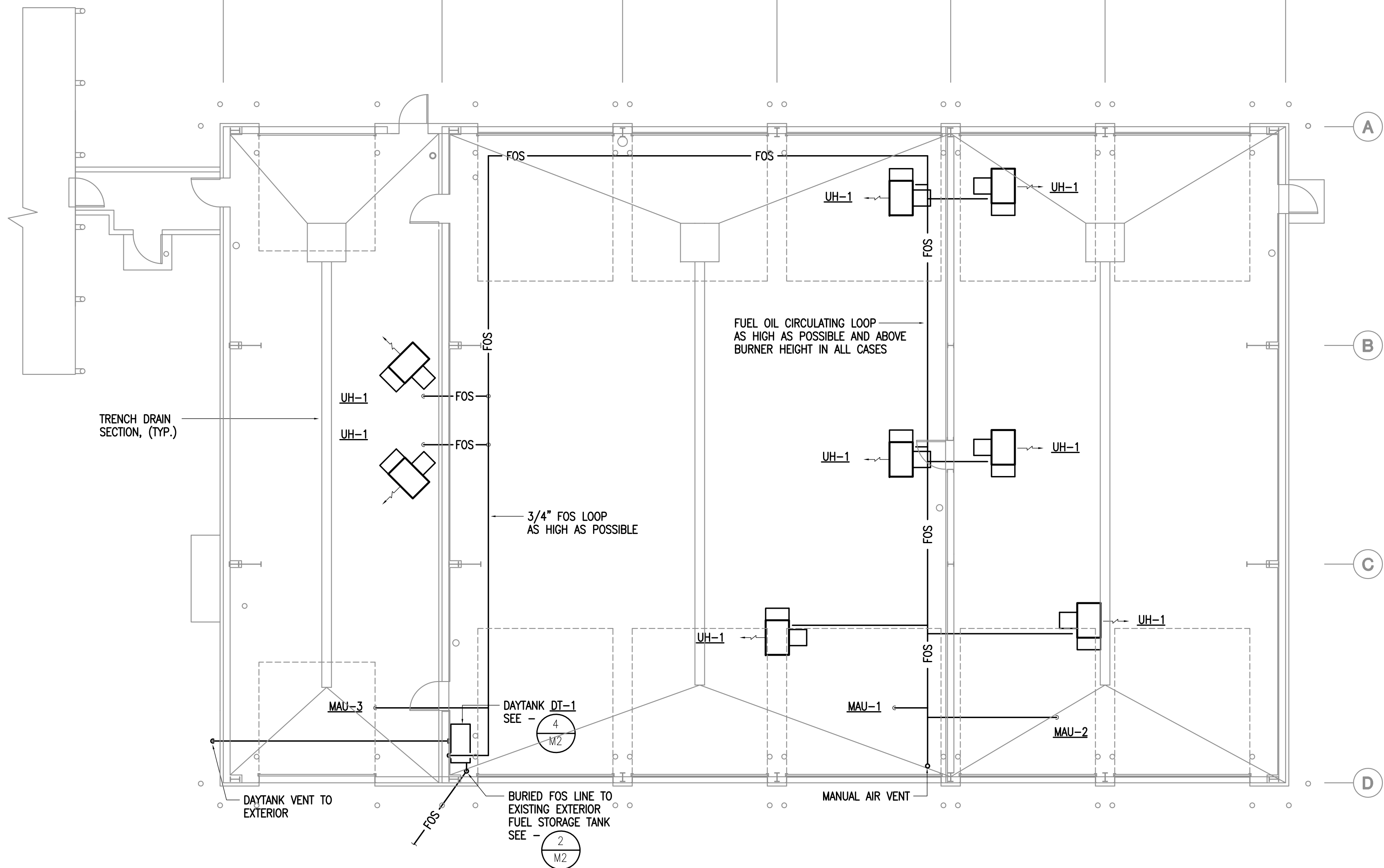
PROTOTYPE DESIGN EXHIBIT DRAWINGS



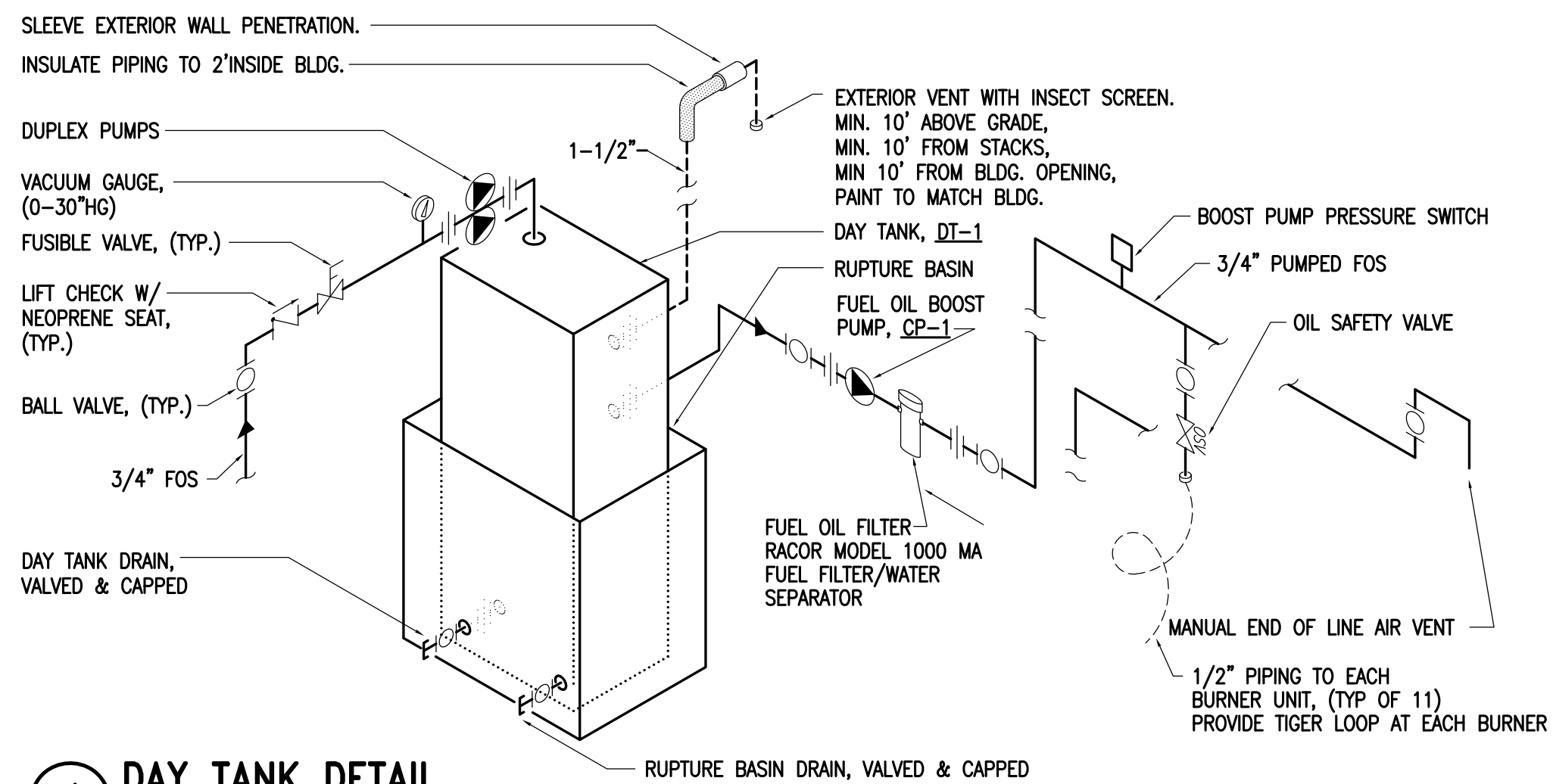
2 BURIED TO ABOVE GRADE TRANSITION DETAIL
NO SCALE



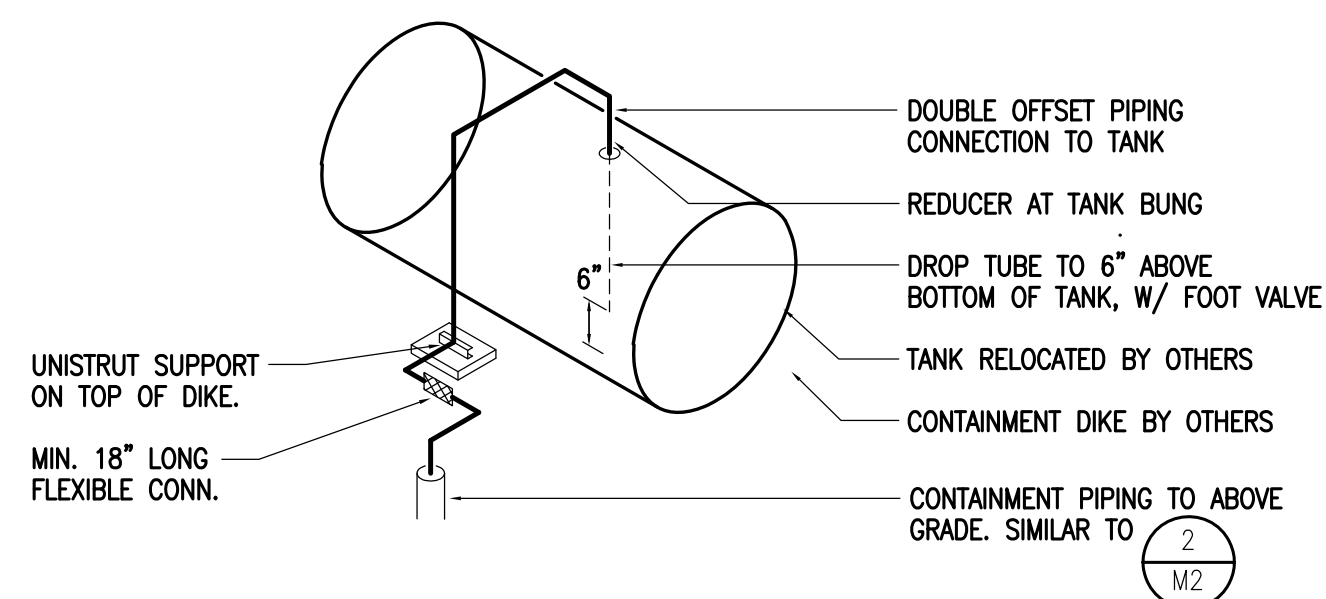
3 FLUE PENETRATION DETAIL
NO SCALE



1 FLOOR PLAN
SCALE: 1/8" = 1'-0"



4 DAY TANK DETAIL
NO SCALE



5 FUEL TANK PIPING CONNECTION DETAIL
NO SCALE

PROTOTYPE DESIGN EXHIBIT DRAWINGS

DSGN LEE F. HOLMES						VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	CH2MHILL kumin associates, inc. 2532 Arctic Boulevard, Suite 200 Anchorage, Alaska 99503 Phone (907) 276-2521 Fax (907) 276-1791	NORTH SLOPE BOROUGH CIPM DEPARTMENT ANCHORAGE, ALASKA	EQUIPMENT WARM STORAGE ATQASUK, ALASKA CIPM #08-154 MECHANICAL PLUMBING PLAN	CONSTRUCTION DOCUMENT SUBMITTAL SHEET DWG M2 DATE APRIL 1999 PROJ 152063
DR TH										
CHK MWB										
APVD	NO.	DATE	REVISION	BY	APVD					

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	CW	HW	WASTE	VENT	TRAP	BASIS OF DESIGN	BASIC MODEL	COLOR/FINISH	TRIM/REMARKS
P-1	WATER CLOSET	1/2		3	2	—	AMERICAN STANDARD	2320.100 YORKVILLE	WHITE	FURNISH OPEN FRONT SEAT AND LID, 1.6 GALLON PER FLUSH, FLR. MTD., WALL OUTLET
P-2	WATER CLOSET/LAVATORY – PENAL	1	1/2	3	2	—	ACORN	1418	STAINLESS	SLOAN ROYAL 110 FLUSH VALVE, 1.6 GALLON PER FLUSH, WALL OUTLET, INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
P-3	LAVATORY – WALL MOUNT	1/2	1/2	1-1/2	1-1/4	1-1/4	AMERICAN STANDRAD	0355.012 LUCERNE	WHITE	DELTA MODEL 520-WF-MPU FAUCET W/ METAL POP-UP DRAIN, WALL CARRIER W/ CONCEALED ARM SUPPORTS
P-4	KITCHEN SINK	1/2	1/2	2	1-1/2	1-1/2	JUST	DL-1829-A-GR	STAINLESS	DELTA MODEL 420 FAUCET, 8" SWING SPOUT, HOSE SPRAY, BASKET STRAINER
P-5	LAUNDRY SINK	1/2	1/2	2	1-1/2	1-1/2	MUSTEE	19F	WHITE	MUSTEE FAUCET #93.600, WATTS #8B VACUUM BREAKER.
P-6	SHOWER STALL	1/2	1/2	2	1-1/2	2	AQUA GLASS	SC3692	WHITE	DELTA FAUCET RPW111HDF PRESSURE BALANCED, ADJUSTABLE STOPS, HAND HELD SPRAYHEAD WITH ON-OFF, 69" METAL BRAIDED HOSE, VACUUM BREAKER, 24" WALL BAR, PHENOLIC SEAT, TYPE 304 18 GAUGE GRAP BARS, 1" S.S. CURTAIN ROD WITH COMMERCIAL GRADE VINLY SHOWER CURTAIN, TEXTURED FLOOR.
P-7	WASHER ROUGH-IN	1/2	1/2	2	1-1/2	2	GUY GRAY	T200	WHITE	TOP SUPPLY
FD-1	FLOOR DRAIN	—	—	2	1-1/2	2	J.R. SMITH	DX2010A	—	ROUND TOP, WIDE FLANGE

BOILER SCHEDULE

SYMBOL	MFGR/MODEL	MEDIUM	GROSS INPUT GPH	I-B-R OUTPUT MBH	FUEL	BURNER HP	POWER	REMARKS
B-1	WEIL-MCLAIN/B-WC0-4	50% PROPYLENE GLYCOL	1.25	131	#1 FUEL OIL	1/8	115/60/1	TRIM PER PLANS AND SPECS
B-2	WEIL-MCLAIN/B-WC0-4	50% PROPYLENE GLYCOL	1.25	131	#1 FUEL OIL	1/8	115/60/1	TRIM PER PLANS AND SPECS

PUMP SCHEDULE

SYMBOL	MFGR/MODEL	SERVICE	PUMPED MEDIUM	GPM	HEAD FT.	MOTOR DATA HP	POWER	RPM	REMARKS
CP-1	GRUNDFOS/UPC 50-160	HGS/HGR CIRCULATION	50% P.G.	24.1	34	3/4	115/60/1	—	SET ON SPEED 2
WP-1	GOULDS/JS07	DOMESTIC CW SUPPLY	WATER	12.0	115	3/4	115/60/1	—	

RADIATION SCHEDULE

SYMBOL	MFGR/MODEL	#ROWS	ELEMENT	ENCLOSURE	GPM	MEDIUM	EGT DEG F	LGT DEG F	EAT DEG F	BTU/LF	REMARKS
FT-1	EMBASSY/COMMERCIAL 6-ST	1	3/4" CU TUBE, 2"x3-1/4"x0.010" AL FINS, 58 FPF	18 Go.	PER PLANS	50% P.G.	190	170	65	760	
FT-2	EMBASSY/COMMERCIAL 6-ST	1	3/4" CU TUBE, 2"x3-1/4"x0.010" AL FINS, 58 FPF	ELEMENT ONLY	PER PLANS	50% P.G.	190	170	65	760	

EXPANSION/PRESSURE TANK SCHEDULE

SYMBOL	MFGR/MODEL	MEDIUM	TANK VOLUME (GALS) TOTAL	ACCEPTANCE	DIMENSIONS	REMARKS
ET-1	AMTROL/EXTROL 60	50% PROPYLENE GLYCOL	7.6	2.4	11" DIA. x 15-1/2" LONG	AMERICAN 1-1/2" AIR PURGER, AMERICAN #732 FLOAT TYPE AIR VENT
ET-2	AMTROL/THERM-X-TROL ST-12	DOMESTIC HOT WATER	4.4	0.73 AF	11" DIA. x 15" LONG	LISTED FOR POTABLE WATER
PT-1	AMTROL/WEIL-X-TROL WX-250	DEMESTIC COLD WATER	44.0	33.9	22" DIA. X 35-5/8" LONG	16.3 GAL DRAWDOWN AT 40 PSI

HOT WATER GENERATOR SCHEDULE

SYMBOL	MFGR/MODEL	MEDIUM	DOMESTIC HOT WATER RECOVERY GPH	CAPACITY GAL	HEATING SURFACE	EW T DEG F	LWT DEG F	MEDIUM	FLOW GPM	EGT DEG F	REMARKS
HWG-1	AMTROL/WH-7L-DW	WATER	173	41	20 SQ.FT.	40	110	50% P.G.	5	190	DOUBLE WALL HEAT EXCHANGER

GLYCOL PUMP SCHEDULE

SYMBOL	MFGR/MODEL	SERVICE	PUMPED MEDIUM	GPM	HEAD FT.	MOTOR DATA HP	POWER	RPM	REMARKS
—	JOHNSTONE SUPPLY/ORDER STOCK #WB8-959 MF.G. PART #360	GLYCOL SYSTEM FILL	50% P.G.	3.3	30	1/10	115/60/1	—	PORTABLE SELF PRIMING UTILITY PUMP, SOLID BRASS AND CHROME PLATED BODY W/ STAINLESS STEEL SHAFT. PROVIDE PUMP TO NSB PSO MAINTENANCE PERSONEL.

FAN SCHEDULE

SYMBOL	MFGR/MODEL	TYPE	SERVICE	CFM	T.S.P IN. W.C.	MOTOR DATA WATTS	AMPS	POWER	RPM	DRIVE	SONES	REMARKS
EF-1	GREENHECK/SP-7	EXHAUST	BATHROOM	95	.375	80	1.1	115/60/1	950	DIRECT	2.7	CONTROL WITH WALL SWITCH
EF-2	GREENHECK/CSP-127A	EXHAUST	HOLDING CELLS	425	.125	217	3.1	115/60/1	1550	DIRECT	5.1	BOTTOM ACCESS, ROOF CAP, TOP DISCHARGE, INSTALL ON WARM SIDE OF CEILING INSULATION
EF-3	GREENHECK/SP-7	EXHAUST	COMMUNICATIONS ROOM	95	.375	129	1.1	115/60/1	950	DIRECT	2.7	WALL MOUNTED SPEED CONTROL SWITCH MODEL #3W

AIR INLET OUTLET SCHEDULE

SYMBOL	MFGR/MODEL	TYPE	MATERIAL	FINISH	CFM	NECK SIZE (IN.)	REMARKS
A	vanEE/S06	SUPPLY	POLYAMID AND POLYPROPYLENE	WHITE	PER PLANS	PER PLANS	AIR FLOW ADJUSTABLE BY TURNING INNER CORE
B	vanEE/EX6	EXHAUST	POLYAMID AND POLYPROPYLENE	WHITE	PER PLANS	PER PLANS	AIR FLOW ADJUSTABLE BY TURNING INNER CORE
C	TITUS/SG-SS-HV	SUPPLY	STEEL	—	PER PLANS	PER PLANS	PROVIDE PLENUM ASSY. WITH PLENUM INLET DAMPER ASSY.
D	TITUS/SG-3300	EXHAUST	STEEL	—	PER PLANS	PER PLANS	PROVIDE REAR ACCESS DAMPER ASSY. & WALL SLEEVE, LENGTH AS REQUIRED.
E	TITUS/T-700	TRANSFER	STEEL	WHITE	PER PLANS	PER PLANS	DOOR MOUNTED.

TANK SCHEDULE

SYMBOL	MFGR/MODEL	MEDIUM	TANK VOLUME (GALS)	DIMENSIONS	LABEL	REMARKS
DT-1	SIMPLY/SDE25	FUEL OIL	25	12"W x 23"H x 24" W	UL	RUPTURE BASIN, PUMP SET, SEE SPECIFICATION FOR ASSY. AND OPTIONS
T-1	ACE TANK/AC00275U1B1	FUEL OIL	275	27"W x 44"H x 60"L	UL	SINGLE WALL ABOVE GROUND OVAL FUEL TANK W/ SADDLES, TAPPINGS PER PLANS, RED OXIDE PRIMER FINISH, 14 GAUGE STEEL CONSTRUCTION
T-2	ACE TANK/AC00300U1K1	SEWAGE	300	38"D x 61"L	—	SINGLE WALL, 10 GAUGE STEEL CONSTRUCTION, SKID MOUNTED, TAPPINGS PER DRAWINGS, 4" SPRAY POLYURETHANE EXTERIOR INSULATION WITH FIRE RESISTIVE COATING, 5 WATTS PER FOOT SELF LIMITING HEAT TRACE WRAPPED AT 6" O.C. AROUND TANK DIAMETER UNDER INSULATION. INTERIOR COAL TAR EPOXY COATING. FDA APPROVED, SUPPLY SUPPORT CRADLE
WT-1	CHEM-TAINER/TN3846LA	WATER	225	38"D x 46"L	—	

HEAT RECOVERY VENTILATOR SCHEDULE

SYMBOL	MFGR/MODEL	STANDARD CFM	BOOST CFM	TSP @ BOOST IN. W.C.	MOTOR DATA AMPS	POWER	LABEL	REMARKS
HRV-1	vanEE/2000 SOLO	—	189	0.4	2.1	115/60/1	U.L.	BUILT-IN BALANCING DAMPERS AND PRESSURE TAPS, AUTO DEFROST, PROVIDE BALANCING START-UP REPORT BY MFGR APPROVED TECHNICIAN, FURNISH W/ vanEE REMOTE HUMIDISTAT/WALL CONTROL (ELECTRO MODEL)

UNIT HEATER SCHEDULE

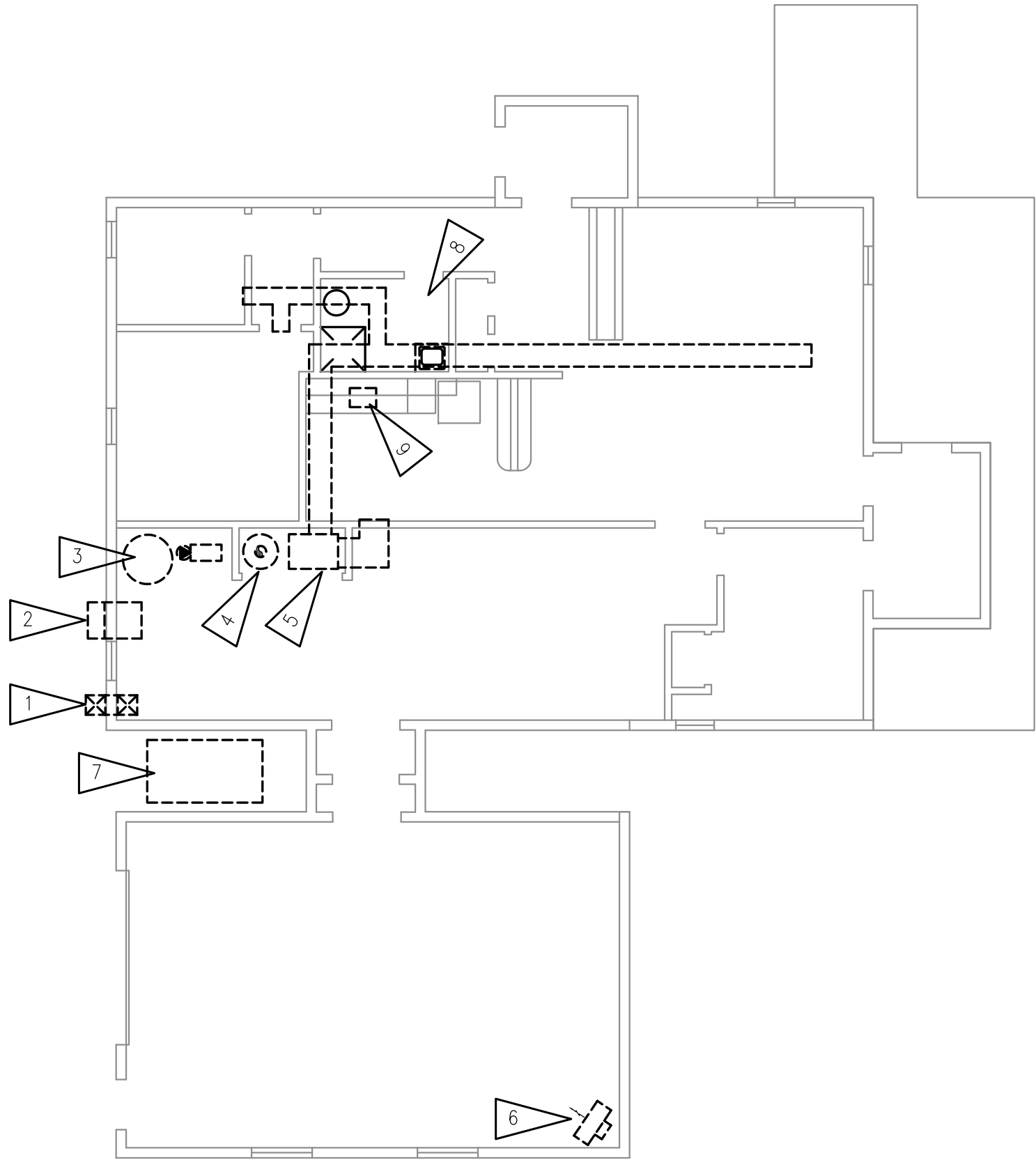
SYMBOL	MFGR/MODEL	CAPACITY MBH	GPM	MEDIUM	EGT DEG F	LGT DEG F	WPD FT HD	CFM	RPM	MOTOR DATA HP	POWER	REMARKS
UH-1	STERLING / HS-60	44.1	5.0	50% P.G.	190	170	0.17	900	1070	1/30	115/60/1	COIL RUNS WILD, T'STAT CYCLES FAN MOTOR
KS-1	EMBASSY/HAV-48	4.8	1.0	50% P.G.G	190	170	0.26	40	—	3 AMPS	115/60/1	

AIR HANDLER SCHEDULE

SYMBOL	MFGR/MODEL	AREA SERVED	COIL TAG	FAN SIZE	TYPE	CFM	ARRANGEMENT	TSP / ESP IN. W.C.	FILTERS SQ. FT.	MFGR/MODEL	MOTOR DATA HP	POWER	REMARKS
AHU-1	PAGE/SGF-52A	HOLDING CELLS	HC-1	5.25	FC	310	SMALL CABINET	0.75	1.41	FARR/50-30	1/4	115/60/1	FLAT FILTER SECTION, HEATING COIL SECTION, CEILING HUNG, UPBLAST DISCHARGE.

HEATING COIL SCHEDULE

SYMBOL	MFGR/MODEL	LOCATION	SIZE	CFM	AIR P.D. IN. WC.	FACE VEL. FPM	EAT DEG F	LAT DEG F	GPM	MEDIUM	EGT DEG F	LGT DEG F	WPD FT HD	REMARKS
HC-1	PAGE/B-3-WB	AHU-1	8"x13"	310	0.15	382	-50	72	4.5	50% P.G.	190	170	1.7	



1 DEMOLITION PLAN

1/8" = 1'

PIPING LEGEND

---	DARK DASHED LINE DENOTES DEMOLITION
---	DARK LINE DENOTES NEW WORK
— —	WASTE
---	VENT PIPING
---	COLD WATER
---	HOT WATER
—FOS—	FUEL OIL SUPPLY
—FOR—	FUEL OIL RETURN
—HGS—	HEATING GLYCOL SUPPLY
—HGR—	HEATING GLYCOL RETURN
—○—	PIPE UP
—○—	PIPE DOWN
—○—	TEE UP
—○—	TEE DOWN
—┐—	CAP
— — —	UNION
—▶—	DIRECTION OF FLOW
— ○ —	ISOLATION VALVE
— ⊗ —	2-WAY CONTROL VALVE
— Z —	CHECK VALVE
— X —	BALANCE/SHUT-OFF VALVE
— F —	FUSIBLE VALVE
— DSV —	OIL SAFETY VALVE
— △ —	PRESSURE/TEMPERATURE RELIEF VALVE
— └┐ —	HOSE BIBB
— ▶ —	PUMP
— — —	CLEANOUT

DUCTWORK LEGEND

①	THERMOSTAT OR SENSOR
⊗ ⊗	SUPPLY/COMBUSTION AIR UP & DOWN
⊗ ⊗	EXHAUST AIR UP & DOWN
⊗ ⊗	ROUND DUCT UP & DOWN
▭	VOLUME DAMPER
12/24	DUCT SIZE (FIRST FIGURE – SIDE SHOWN) (SECOND FIGURE – SIDE NOT SHOWN)
▭	INSULATED DUCTWORK
\$p	SWITCH WITH PILOT LIGHT

LOGIC

5 M2	DETAIL NUMBER SHEET LOCATED ON
5 M2	DIRECTION OF VIEW SECTION NUMBER SHEET LOCATED ON
FT-1 190	RADIATION DESIGNATOR LENGTH GPM
1	SHEET NOTES
A 4"ø 200	NECK SIZE CFM DIFFUSER OR GRILLE TYPE

PROTOTYPE DESIGN EXHIBIT DRAWINGS

PROJECT RECORD DRAWINGS

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SCHEDULES, LEGENDS, AND DEMOLITION PLAN

North Slope Borough Public Safety Building

Kaktovik, Alaska

Bezek – Durst – Seiser architecture and planning

job no.: 96028.30

cip no.: 14-66

RISA Engineering, Inc.

MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS

date: 08/05/96

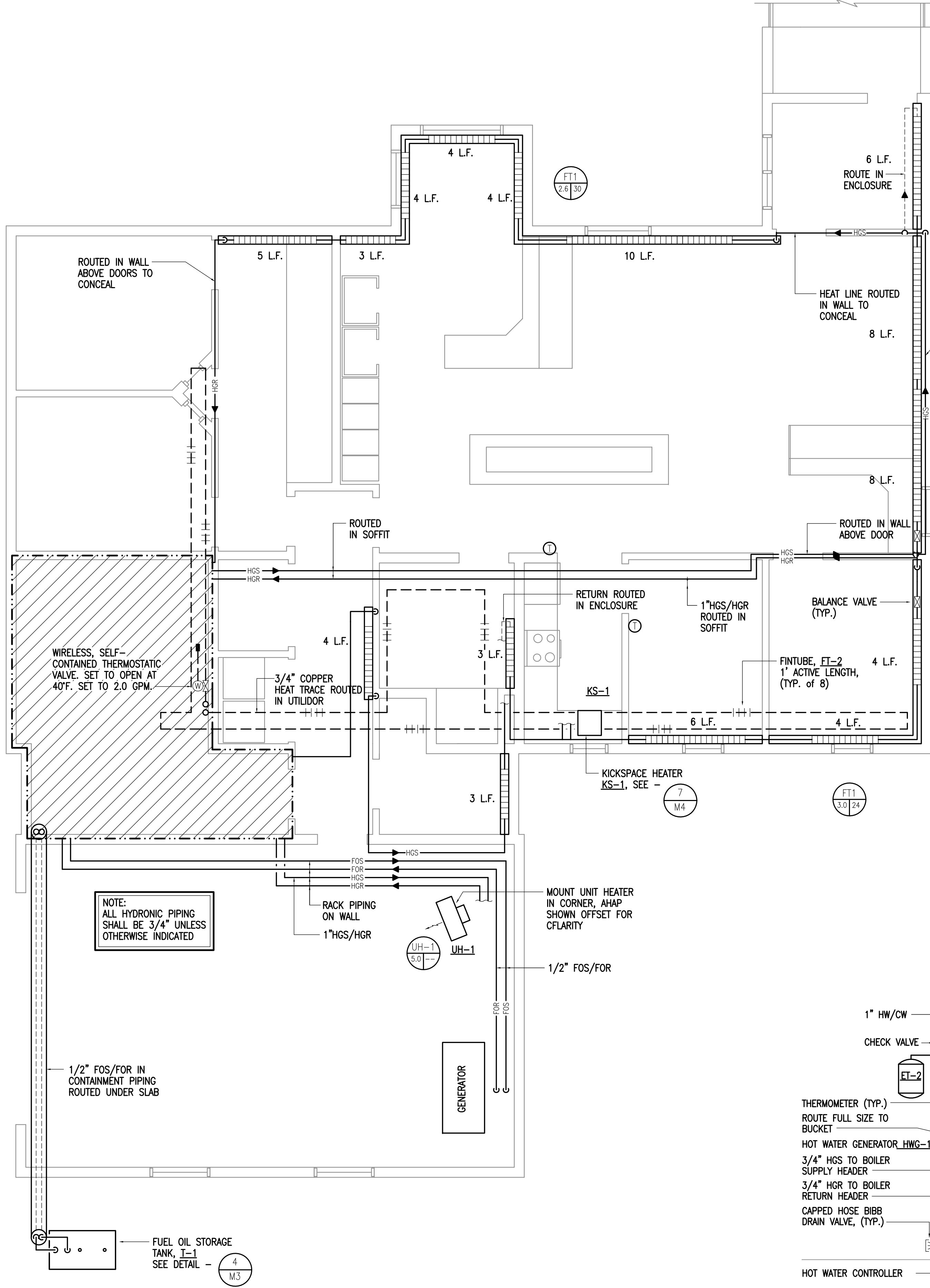
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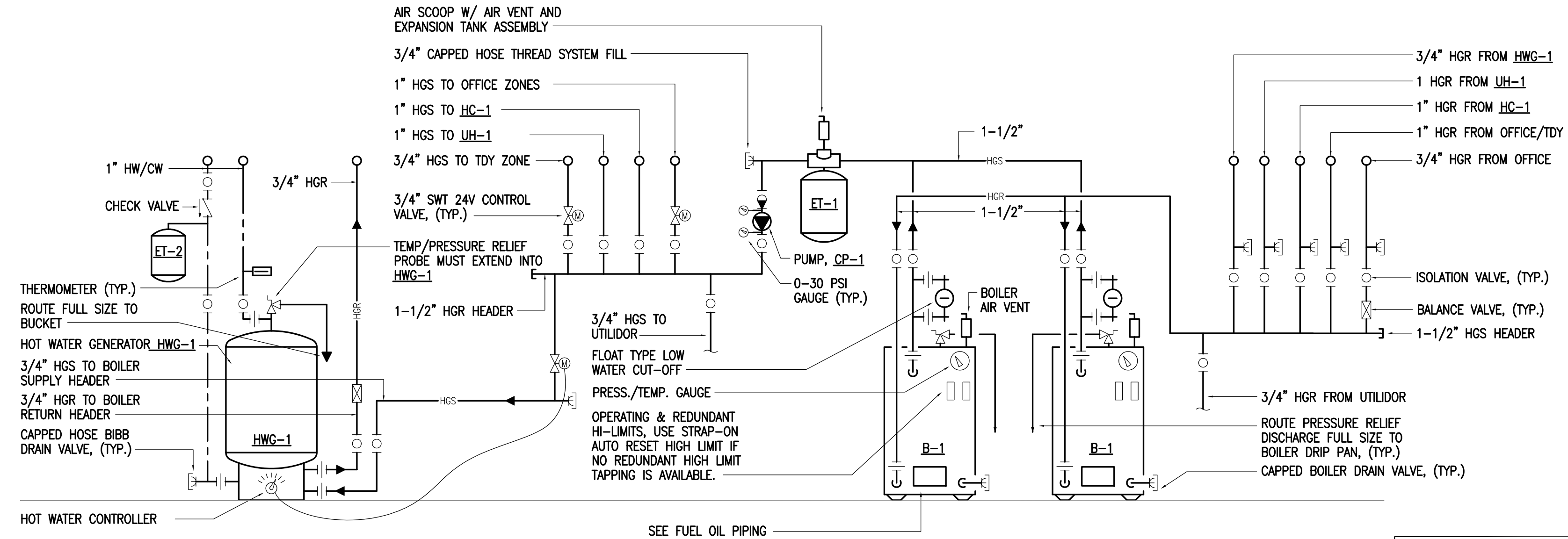
PROTOTYPE DESIGN
EXHIBIT DRAWINGS

MECHANICAL PLAN, DETAILS
AND SCHEMATICS

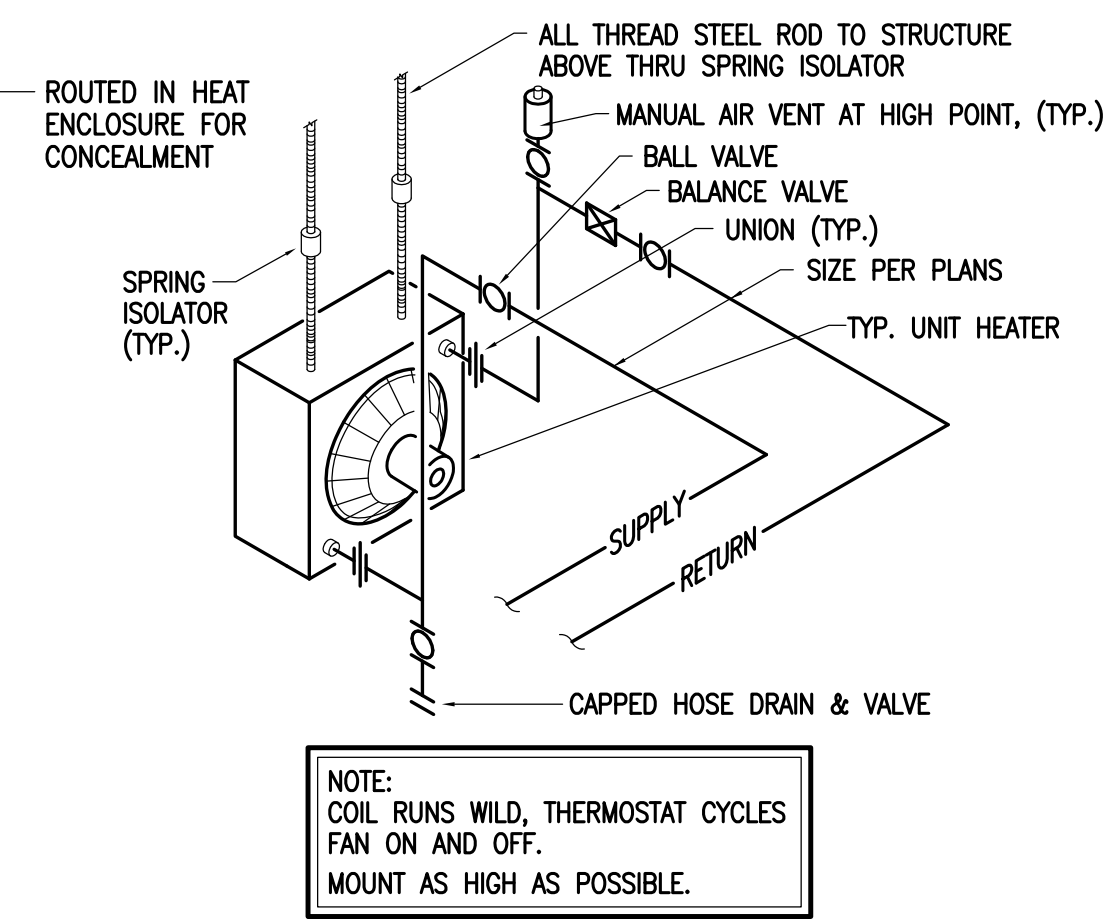
1 HEATING PLAN
1/4" = 1'



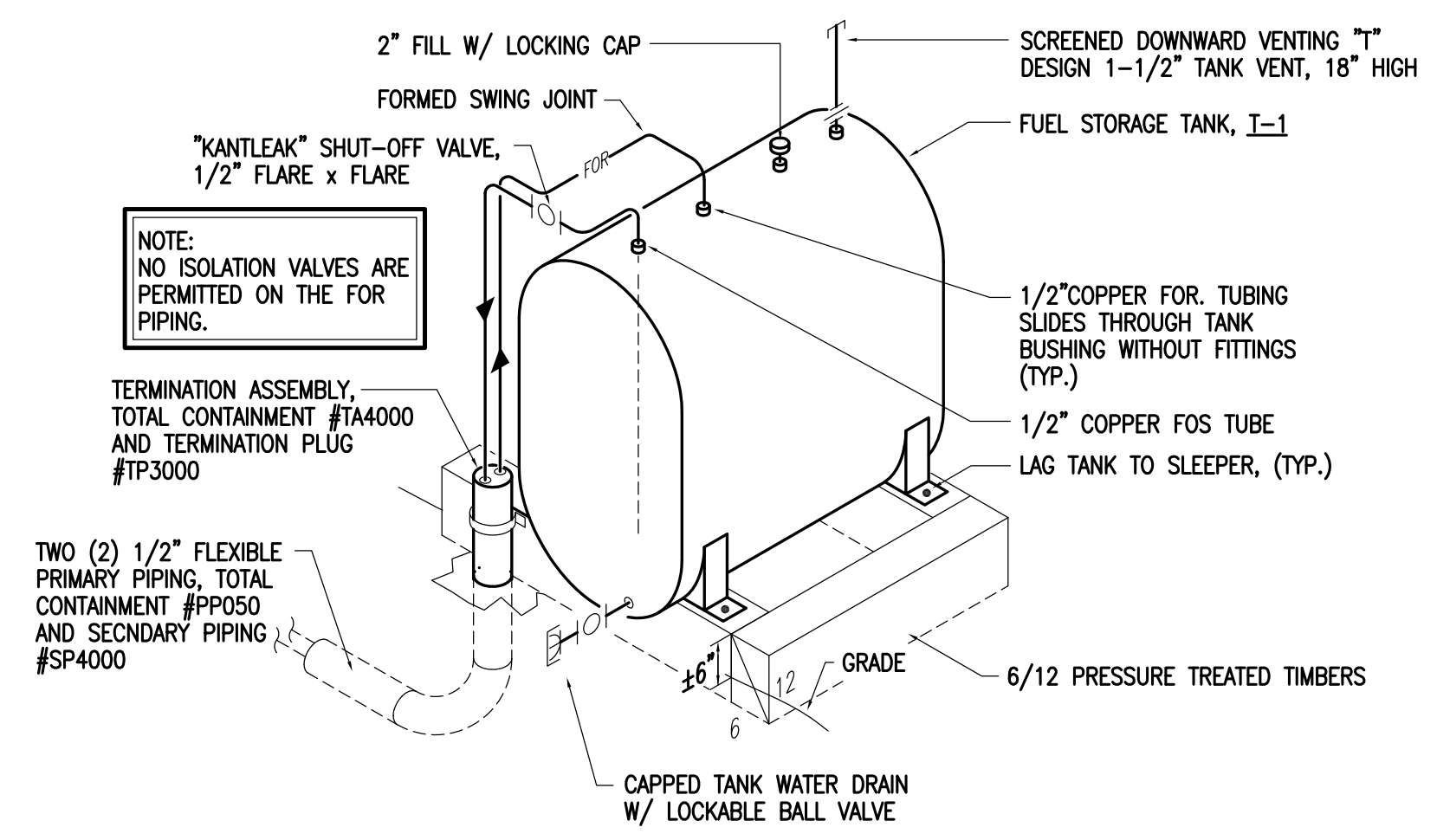
2 BOILER AND HOT WATER GENERATOR PIPING SCHEMATIC
NO SCALE



3 UNIT HEATER DETAIL
NO SCALE



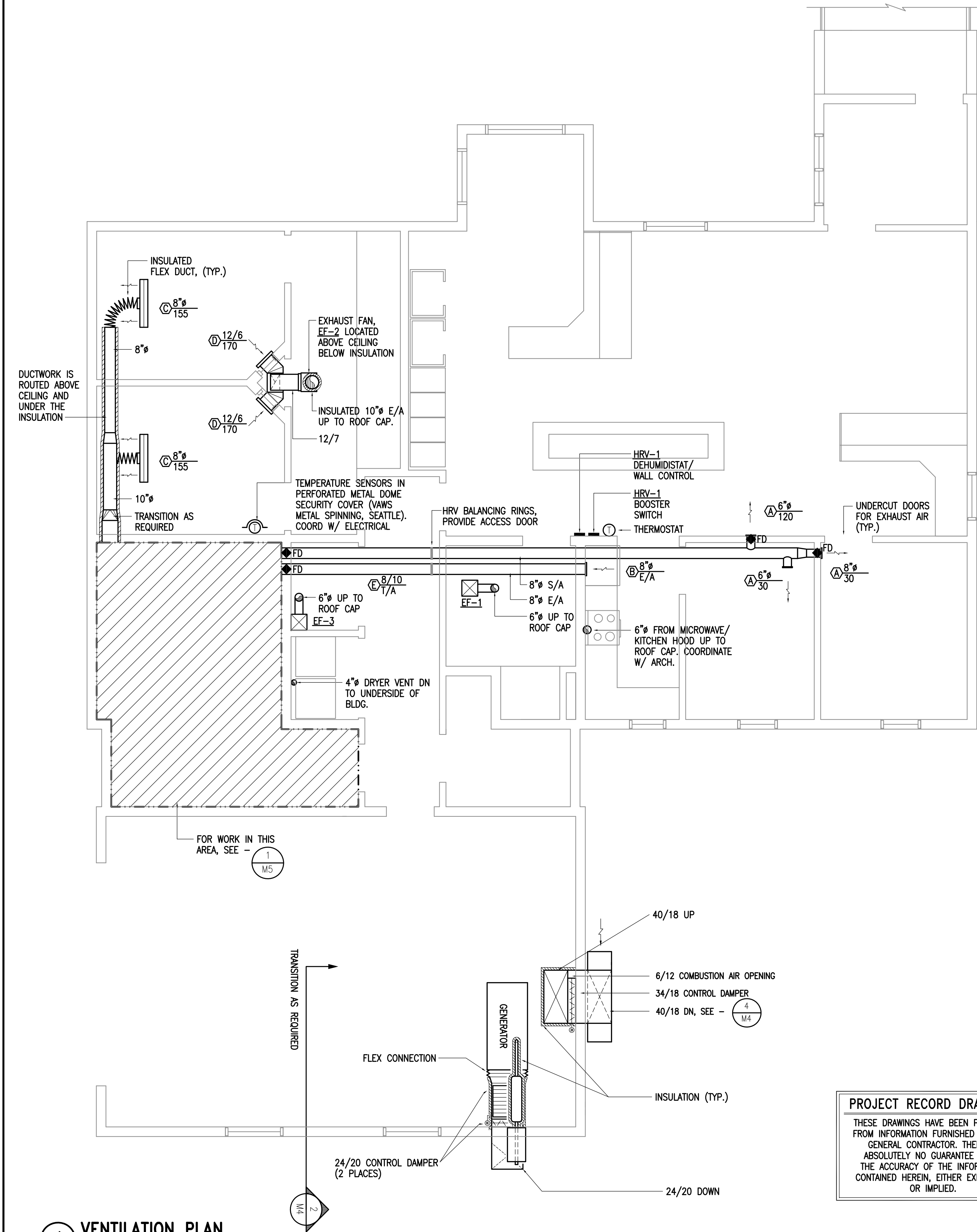
4 FUEL OIL STORAGE TANK PIPING DETAIL
NO SCALE



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1 VENTILATION PLAN

1/4" = 1'

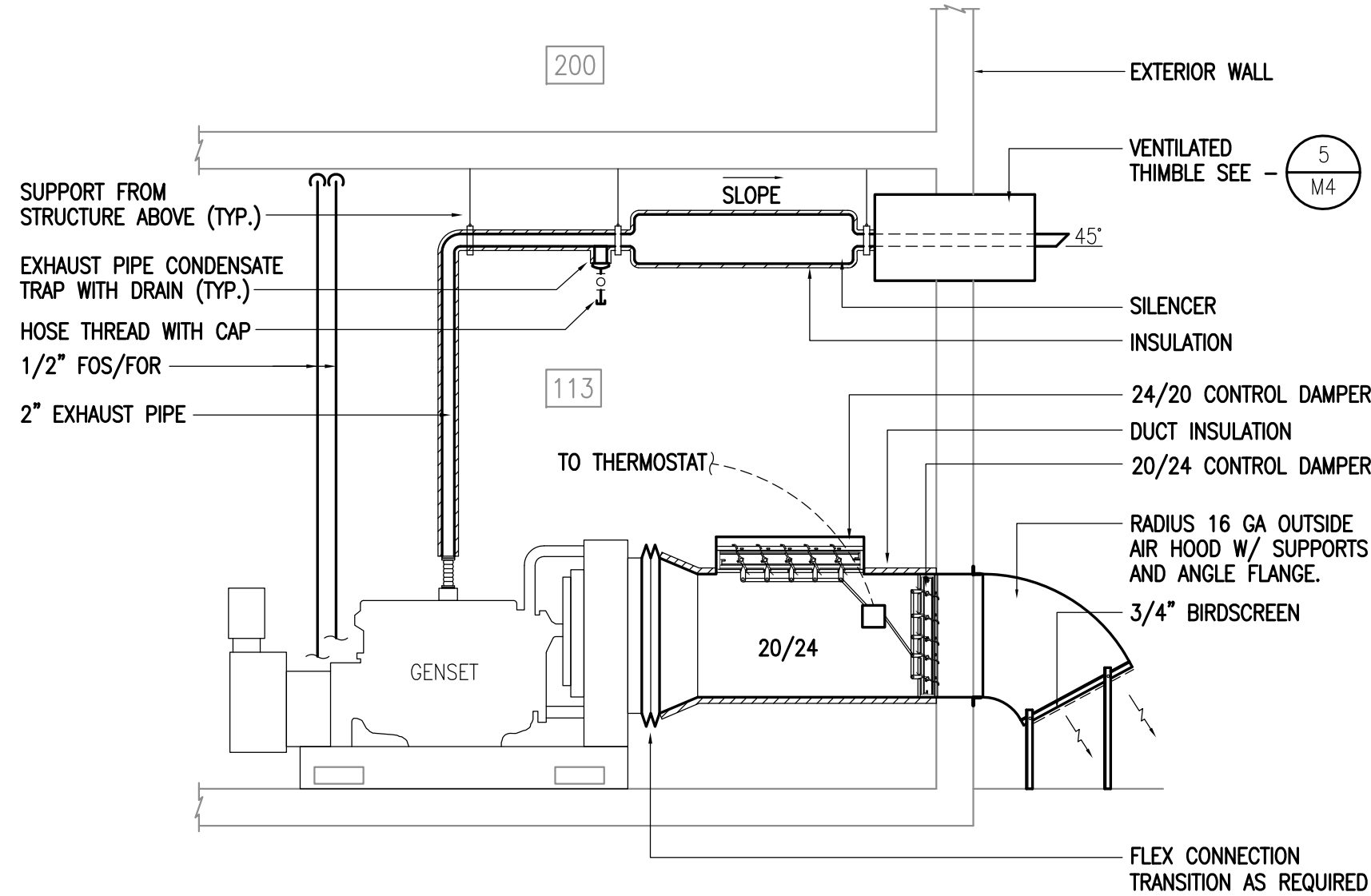


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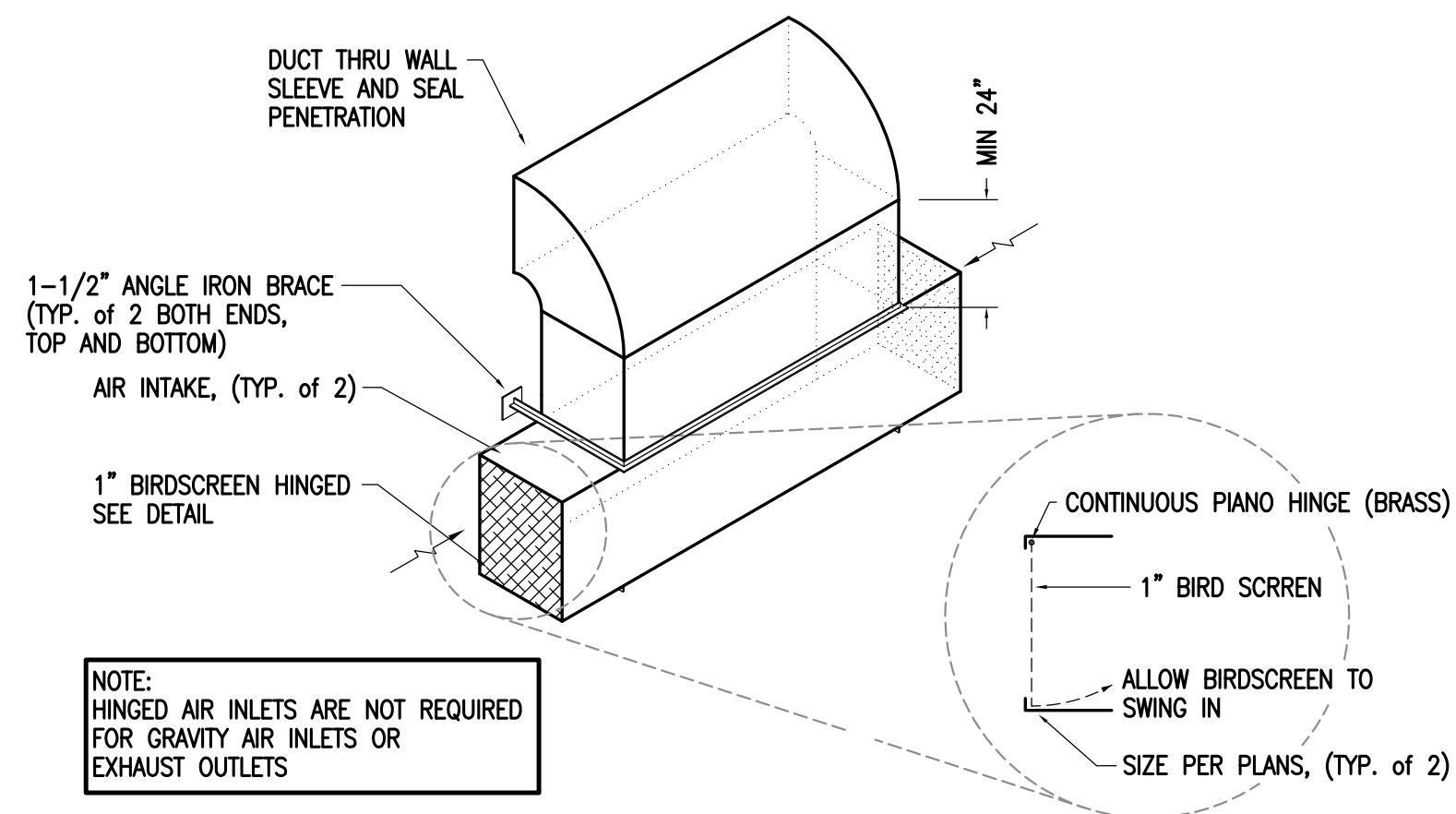
GENERATOR DAMPER SEQUENCE OF OPERATIONS

1. OUTSIDE AIR DAMPER 4/M4 OPENS WHEN GENERATOR STARTS.
2. RADIATOR PLENUM DAMPERS OPEN/CLOSE IN SEQUENCE TO MAINTAIN ROOM SETPOINT.



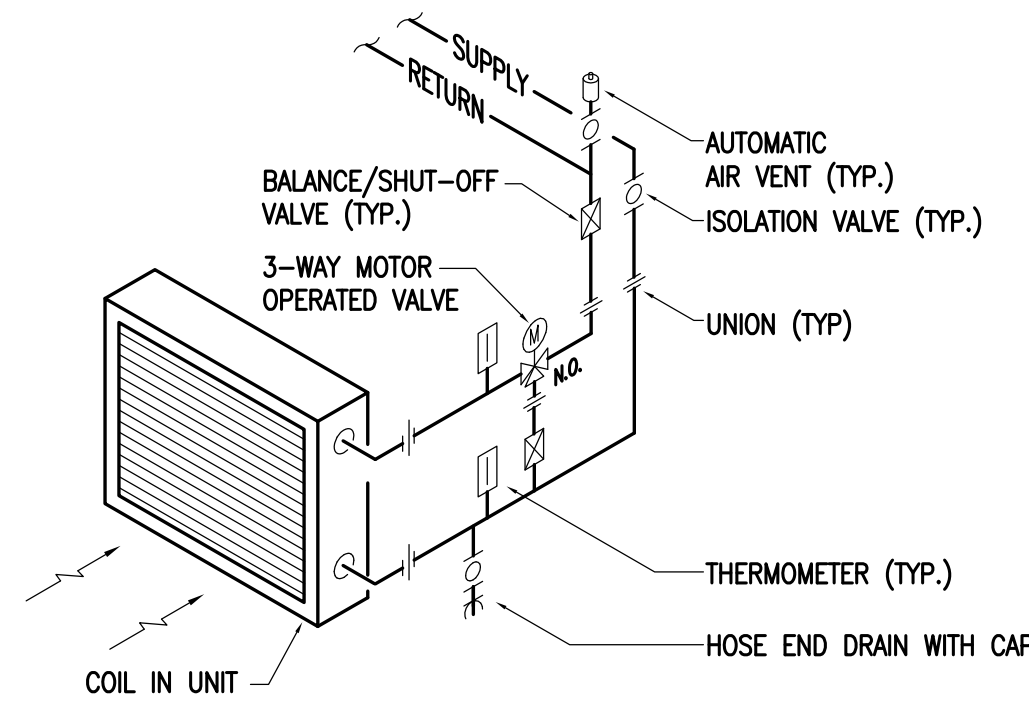
2 GENERATOR SECTION

NO SCALE



4 ARCTIC TEE DETAIL

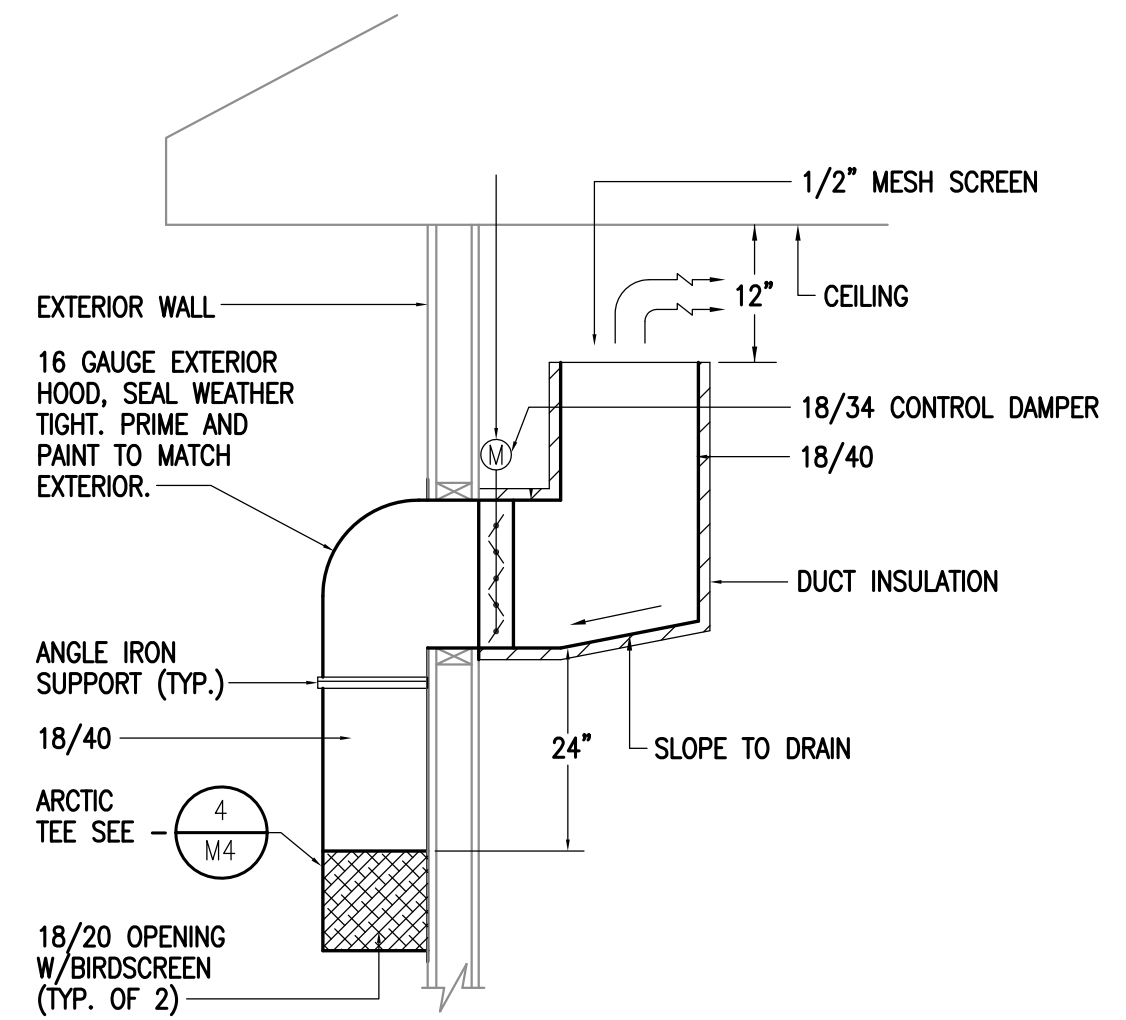
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6 HEATING COIL PIPING DETAIL

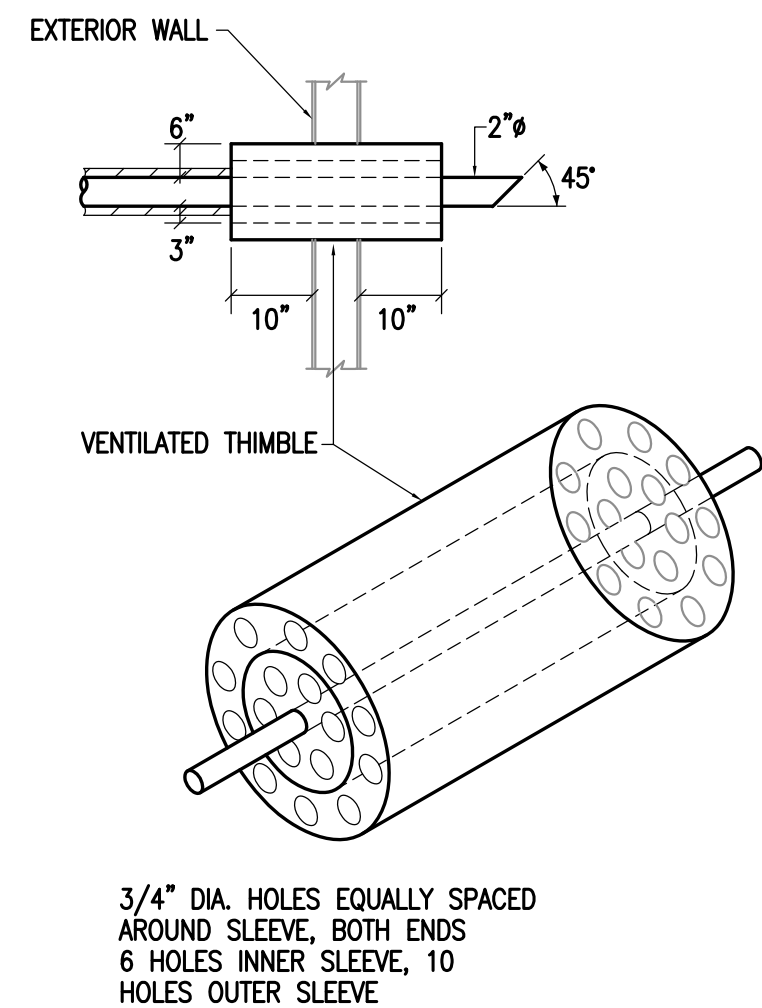
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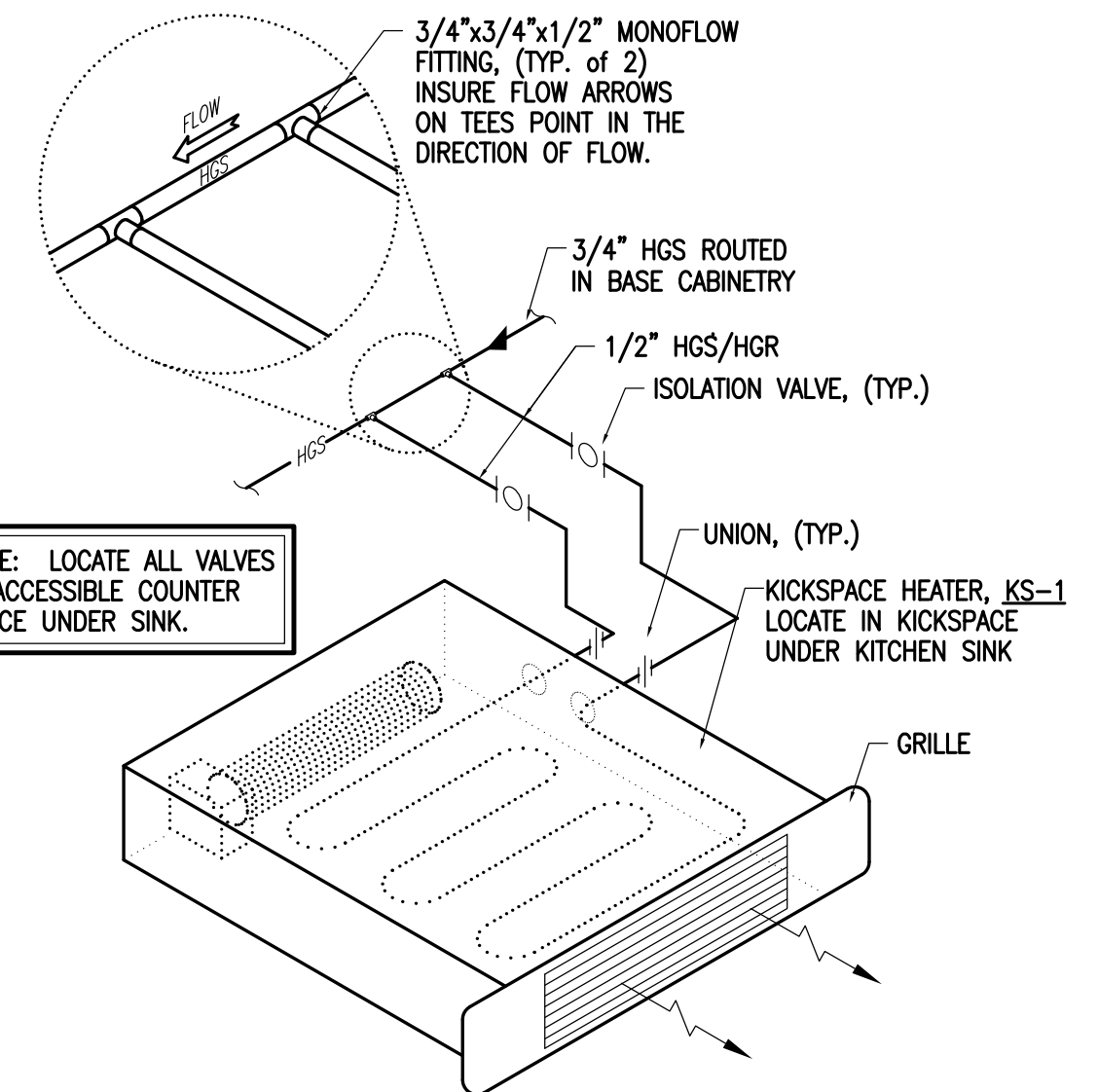
3 GENERATOR COMBUSTION AIR DETAIL

NO SCALE



5 VENTILATED THIMBLE DETAIL

NO SCALE



7 KICKSPACE HEATER DETAIL

NO SCALE

VENTILATION PLAN, DETAILS AND SECTIONS

North Slope Borough Public Safety Building
Kaktovik, Alaska

3330 c street, suite 200
anchorage, alaska 99503

Bezek - Durst - Seiser
architecture and planning
job no.: 96028.30
cip no.: 14-66

RISA Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS

date: 08/05/96

sheet: **M4**

1 ENLARGED MECHANICAL ROOM PLAN

2 FUEL OIL PIPING DETAIL

AHU-1 SEQUENCE OF OPERATION:

1. JAIL CELL OCCUPIED/UNOCCUPIED SWITCH SELECTS THERMOSTAT SENSOR. SET OCCUPIED SENSOR TO 72°F, UNOCCUPIED SENSOR TO 60°F.
2. IN OCCUPIED MODE EXHAUST FAN EF-1 STARTS AND OUTSIDE AIR DAMPER OPENS. AHU-1 FAN RUNS CONTINUOUSLY, AND HEAT COIL VALVE MODULATES TO MAINTAIN ROOM SENSOR SETPOINT.
3. IN UNOCCUPIED MODE, EF-1 IS OFF, FAN IS OFF, OUTSIDE AIR DAMPER IS CLOSED. ON CALL FOR HEAT, EF-1 STARTS, AHU-1 FAN STARTS, HEAT COIL MODULATES TO MAINTAIN SETPOINT, SET 5° DEADBAND. SUGGESTED CONTROL DEVICE: SIEBE PEM-1

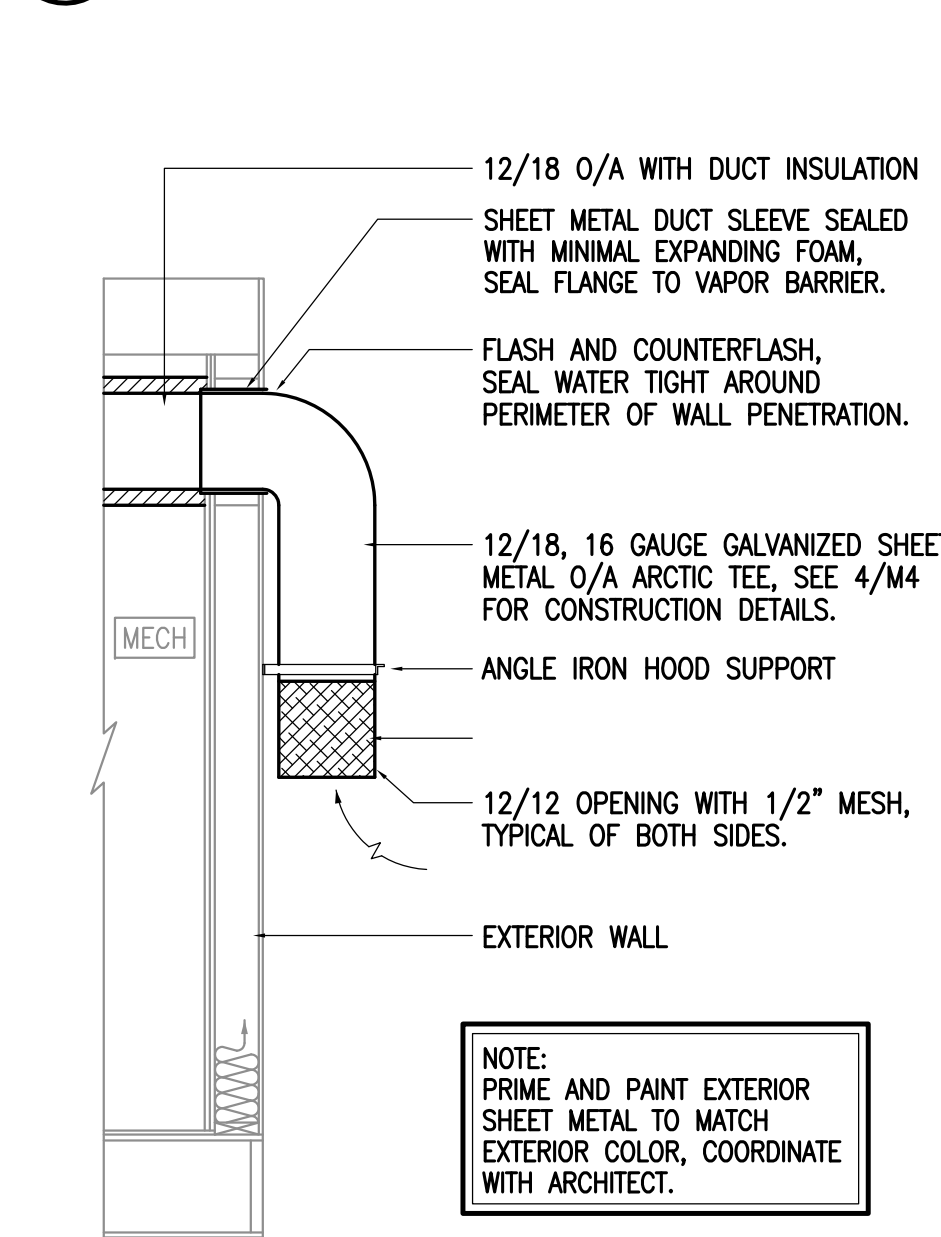
BOILER SEQUENCE OF OPERATION:

- BOILER B-1 OPERATING AQUASTAT SET FOR 190°. SHUNT T-T TERMINAL TO MAINTAIN HOT BOILER.
- BOILER B-2 OPERATING AQUASTAT SET FOR 170°. SHUNT T-T TERMINAL TO MAINTAIN HOT BOILER.
- CP-1 RUNS CONTINUOUSLY.

3 TYPICAL FIRE DAMPER DETAIL

4 TYPICAL RATED PIPING PENTRATION

6 COMBUSTION AIR DETAIL



5 BOILER FLUE DETAIL

7 AHU-1 OUTSIDE AIR DUCTWORK

ENLARGED MECHANICAL ROOM PLANS AND DETAILS

North Slope Borough Public Safety Building
Kaktovik, Alaska

Bezek - Durst - Seiser
architecture and planning
3330 c street, suite 200
anchorage, alaska 99503

job no.: 96028.30
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date: 08/05/96
sheet: **M5**

**PROTOTYPE DESIGN
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