



HEADWORKS HVAC REPLACEMENT

for the

North Davis Sewer District

Bidding Requirements, Contract Forms, Conditions of the
Contract, and Technical Specifications

JANUARY 2024

NORTH DAVIS SEWER DISTRICT

PROVIDING

HEADWORKS HVAC REPLACEMENT

CONTRACT DOCUMENTS

INCLUDING

**BIDDING REQUIREMENTS, CONTRACT FORMS, CONDITIONS OF THE CONTRACT,
AND TECHNICAL SPECIFICATIONS**

**4252 WEST 2200 SOUTH
SYRACUSE, UTAH 84075**

Bids will be received at the office of the North Davis Sewer District located at
4252 West 2200 South, Syracuse, Utah 84075 until 12:00 pm
On: February 5, 2024



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Bidding Requirements

ADVERTISEMENT FOR BIDS

NORTH DAVIS SEWER DISTRICT
4252 West 2200 South
Syracuse, Utah 84075

Separate sealed BIDS for Providing Service for HEADWORKS HVAC REPLACEMENT will be received by NORTH DAVIS SEWER DISTRICT at the District Offices, 4252 West 2200 South, Syracuse, Utah, 84075, until 12:00 pm local time on February 5, 2024, and then at said office publicly opened and read aloud.

The Service to be provided Includes:

HEADWORKS HVAC REPLACEMENT PER TECHNICAL SPECS

Term of the Service(s) Contract is for duration 180 DAYS after the commencement date stated in the Notice to Proceed. The District intends to award the contract at the next regularly scheduled Board of Trustees meeting following the bid opening and issue a Notice of Award.

The CONTRACT DOCUMENTS will be available on January 25, 2024 and may be examined at the following location after that date. Copies of the Contract Documents may be downloaded at ndsd.org.

NORTH DAVIS SEWER DISTRICT
4252 West 2200 South
Syracuse, Utah 84075
(801) 825-0712

The Bidder shall guarantee the total bid price for a period of Six (6) Months from the date of bid opening.

All communications relative to this bid and purchase shall be directed to Myron Bachman, 4252 West 2200 South Syracuse Utah, phone 801-728-6830, or e-mail mbachman@ndsd.org prior to the opening of bids.

The Owner reserves the right to reject any and all bids, to waive any informality in a bid, and to make award to lowest responsible bidder as it may serve the interest of the Owner.

Published: January 26th, and 27th, 2024.



INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS

Terms used in these Instructions to Bidders have the meanings assigned to them in the General Conditions. The term “Bidder” means one who submits a Bid directly to Owner, as distinct from a sub-bidder, who submits a bid to a Bidder. The term “Successful Bidder” means the lowest, qualified, responsible and responsive Bidder to whom Owner (on the basis of Owner’s evaluation as hereinafter provided) makes an award. The term “Bidding Documents” includes the Advertisement, Instructions to Bidders, the Bid Form, and the proposed Contract Documents (including all addenda issued prior to receipt of Bids). “Owner” means the North Davis Sewer District.

2. COPIES OF BIDDING DOCUMENTS

- 2.1** Complete sets of the Bidding Documents may be obtained by visiting [website address of Bidding Documents] and downloading the complete bid documents.
- 2.2** Complete sets of the Bidding Documents must be used in preparing Bids; Owner assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of bidding documents.
- 2.3** Owner in making copies of Bidding Documents available on the above terms does so only for the purpose of obtaining Bids for the Service to be provided and does not confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS

To demonstrate qualifications to provide the services specified in the Contract Documents, each bidder must submit company profile, references of previous similar experience, present commitments and such other data as set forth in the Supplementary Conditions. Each Bid must contain evidence of Bidder’s qualification to legally do business in the jurisdiction where the Project is located.

4. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

- 4.1** It is the responsibility of each Bidder before submitting a Bid, to (a) examine the Contract Documents thoroughly, (b) visit the site to become familiar with local conditions that may affect cost, performance, or furnishing of the services to be provided, (c) consider federal, state and local Laws, ordinances, rules, and regulations that may affect cost, performance, or furnishing of the services provided, (d) study and carefully correlate bidder’s observances with the Contract Documents, and (e) notify Owner of all conflicts, errors, or discrepancies in the Contract Documents.



INSTRUCTIONS TO BIDDERS

- 4.2** The submission of a Bid will constitute an incontrovertible representation by the Bidder that Bidder has complied with requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Services required by the Contract Documents and such means, methods, techniques, sequences or procedures of providing services as may be indicated in or required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the services to be provided.

5. INTERPRETATIONS AND ADDENDA

- 5.1** All questions about the meaning or intent of the Contract Documents are to be directed to Owner. Interpretations or clarifications considered necessary by Owner in response to such questions will be issued by Addenda; mailed, faxed or delivered to all parties; and recorded by Owner as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations of clarifications will be without legal effect.
- 5.2** Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner.

6. CONTRACT TERM

- 6.1** The term of the contract to provide services specified in the contract documents is set forth in the Bid Form and the Agreement.

7. SUBCONTRACTORS, SUPPLIERS AND OTHERS

- 7.1** All bidders shall submit, with their Bid: a list of all Subcontractors, Suppliers and other persons and organizations proposed for those portions of providing services specified in Contract Documents for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar experience and other evidence of qualification for each such Subcontractor, Supplier, person, or organization. If Owner, after due investigation, has objection to any proposed subcontractor, suppliers, other person or organization, Owner may before the Notice of Award is given request the apparent Successful Bidder to submit an acceptable substitute without an increase in Bid price. If apparent Successful Bidder declines to make any such substitution, Owner may award the contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers and other persons, and organizations. Any Subcontractor, Supplier, other person, or organization listed and to whom Owner does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner, subject to revocation of such acceptance after the effective date of Agreement as provided in the General Conditions.



INSTRUCTIONS TO BIDDERS

- 7.2 No Bidder shall be required to employ any Subcontractor, Supplier, other person, or organization against whom he has reasonable objection.

8. BID FORM

- 8.1 The Bid Form is included with the Bidding Documents; additional copies may be obtained from Owner.
- 8.2 All pertinent blanks on the Bid Form must be completed in ink or by typewriter.
- 8.3 Bids by corporations must be executed in the corporate name by the president or vice-president (or other corporate office accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.
- 8.4 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.
- 8.5 All names must be typed or printed below the signature.
- 8.6 The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).
- 8.7 The address and telephone number for communications regarding the Bid must be shown. A FAX number and E-mail address, where available, shall also be shown.

9. SUBMISSION OF BIDS

- 9.1 Bids shall be submitted at the time and place indicated in the Advertisement and shall be enclosed in an opaque sealed envelope, marked with the name of the title of Services to be Provided and address of the Bidder and accompanied by other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.
- 9.2 Prospective Bidders are furnished one copy of the Bidding Documents with one each of the Bid Forms. The Bidding Documents may be retained by the Bidder. The Bid Form is to be completed and submitted to Owner.



INSTRUCTIONS TO BIDDERS

10. MODIFICATION AND WITHDRAWAL OF BIDS

10.1 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

10.2 If, within twenty-four hours after Bids are opened, any Bidder files a duly signed, written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid. Thereafter, that Bidder will be disqualified from further bidding on the Services to be provided under the Contract Documents.

11. OPENING OF BIDS

Bids will be opened and (unless obviously non-responsive) read aloud publicly. A bid summary of the amounts of the Bids and major alternates (if any) will be made available to Bidders after the opening of Bids.

12. BIDS TO REMAIN SUBJECT TO ACCEPTANCE

All Bids shall remain subject to acceptance for sixty (60) days after the day of the Bid opening, but Owner may, in its sole discretion, release any Bid prior to that date.

13. AWARD OF CONTRACT

13.1 Owner reserves the right to reject any and all Bids, to waive any and all irregularities and to negotiate contract terms with the Successful Bidder, and the right to disregard all nonconforming, nonresponsive, unbalanced or conditional Bids. Also, Owner reserves the right to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Owner to make an award to the Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner.

Discrepancies between the Unit Price in figures and the Unit Price in words will be resolved in favor of the Unit Price in words. Discrepancies in the multiplication of units of Work and Unit Prices will be resolved in favor of the Unit Prices.

Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.



INSTRUCTIONS TO BIDDERS

- 13.2** In evaluating Bids, Owners will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form. It is Owner's intent to accept alternates (if any are accepted) in the order in which they are listed in the Bid Form, but Owner may accept them in any order or combination.
- 13.3** Owner may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of Providing Services as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Supplementary Conditions. Owner also may consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in Providing Services when such data is required to be submitted prior to the Notice to Proceed.
- 13.4** Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and establish the responsibility, qualifications, and financial ability of Bidders, Proposed Subcontractors, Suppliers, and other persons and organizations to perform and furnish the Required Services in accordance with the Contract Documents to Owner's satisfaction.
- 13.5** If the Contract is to be awarded, it will be awarded to the lowest responsible bidder whose evaluation by Owner indicates to Owner that the award will be in the best interest of the District.
- 13.6** If the contract is to be awarded, Owner will give the Successful Bidder a Notice of Award as soon as possible after the next meeting of the Board of Trustees.

14. SIGNING OF AGREEMENT

When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by two unsigned counterparts of the Agreement and all other written Contract Documents attached. Within fifteen days thereafter, Supplier shall sign and deliver two counterparts of the Agreement and attached documents to Owner with any required bonds. Within ten days thereafter, Owner shall deliver one fully signed counterpart to Supplier.

15. LICENSE REQUIREMENTS

All Bidders must meet the requirements of the Utah State Business License Law, and any other legal requirements to Provide Services specified in Contract Documents.



INSTRUCTIONS TO BIDDERS

16. NOTICE TO PROCEED

The District intends to award the contract at the Board of Trustees next meeting following the Bid Opening and issue a Notice of Award as soon as possible thereafter. After signed Agreements along with any required bonds and insurance certificates have been submitted to Owner a notice to Proceed will be issued.



BID FORMS AND BIDDER'S PROPOSAL

Providing: HEADWORKS HVAC REPLACEMENT

THIS BID IS SUBMITTED TO:

NORTH DAVIS SEWER DISTRICT
4252 West 2200 South
Syracuse, Utah 84075

Bid opening will be conducted at the office of:

NORTH DAVIS SEWER DISTRICT
4252 West 2200 South
Syracuse, Utah 84075
February 5, 2024 at 12:00 pm

1. The undersigned BIDDER proposes and agrees, if the bid is accepted, to enter into an Agreement with OWNER in the form included in the Contract Documents to perform and furnish all Services (which includes providing services and etc.) as specified or indicated in the Contract Documents for the Contract Price during the Contract term indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. BIDDER accepts all of the terms and conditions of the Advertisement for Bids and Instructions to Bidders. This Bid will remain open for sixty (60) days after the day of Bid opening. BIDDER will sign the Agreement and submit other documents required by the Contract Documents with fifteen days after the date of OWNER'S Notice of Award.
3. In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:
 - A. BIDDER has examined copies of all the Contract Documents and of the following addenda (receipt of all which is hereby acknowledged):

Date: _____	Number: _____
Date: _____	Number: _____
Date: _____	Number: _____

Also copies of the Advertisement for Bids and the Instruction to Bidders.



BID FORMS AND BIDDER'S PROPOSAL

7. The terms used in this Bid which are defined in the General Conditions and included as part of the Agreement, have the meanings assigned to them in the General Conditions.
8. Quantities, if used, are approximate and are for comparison of bids only. Payment will be based upon actual services furnished, in accordance with the Contract Documents. The OWNER reserves the right to add or take away Services Required as it deems necessary.
9. By submitting a Bid, BIDDER agrees to waive any claim it has or may have against the OWNER and its employees, arising out of or in connection with the administration, evaluation or recommendation of any bid.



BID FORMS AND BIDDER'S PROPOSAL

BID FORM

The bid for the HEADWORKS HVAC REPLACEMENT is divided into two line items, 1 being HVAC Unit, and 2 being installation cost as per technical specs:

TOTAL HVAC UNIT ONLY BID PRICE:

\$ _____

(TOTAL BID PRICE WRITTEN)

TOTAL COST INSTALLATION OF HVAC UNIT COST BID PRICE:

\$ _____

(TOTAL BID PRICE WRITTEN)



BID FORMS AND BIDDER'S PROPOSAL

OWNER'S RIGHTS RESERVED: The undersigned understands that the Owner reserves the right to reject any or all bids or to waive any irregularity or technicality in any Bid in the interest of the Owner.

10. SUBMITTED on _____, 20_____

IF BIDDER IS:

An Individual

By: _____ (SEAL)
(Print or Type Individual's Name Under Signature)

Doing Business As: _____

Business Address: _____

Phone Number: _____ E-mail Address: _____

A Partnership



BID FORMS AND BIDDER'S PROPOSAL

By: _____ (SEAL)
(Print or Type General Partner's Name Under Signature)

Doing Business As: _____

Business Address: _____

Phone Number: _____ E-mail Address: _____

A Corporation

By: _____
(Corporation Name)

(State of Incorporation)

By: _____
(Title)

(Print or type name of person authorized to sign)

(Corporate Seal)
Attest: _____
(Secretary)

Business Address: _____

Phone Number: _____ E-mail Address: _____



BID FORMS AND BIDDER'S PROPOSAL

A Joint Venture

By: _____
(Signature)

(Print Name & Title)

By: _____
(Signature)

(Print Name & Title)

Business Address: _____

Phone Number: _____ E-mail Address: _____

(Each Joint Venture must sign. The manner of signing for each individual, Partnership, and Corporation that is a party to the Joint Venture should be in the manner indicated above.)



BID FORMS AND BIDDER'S PROPOSAL

A Limited Liability Company

By: _____
(Print or Type Manager's Name Under Signature)

Doing Business As: _____

Business Address: _____

Phone Number: _____ E-mail Address: _____



Contract Forms

AGREEMENT

THIS AGREEMENT is entered into as of the **TBD** in the year 2024 by and between NORTH DAVIS SEWER DISTRICT_(hereinafter called OWNER) and **TBD** (hereinafter called SUPPLIER).

OWNER and SUPPLIER, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK

SUPPLIER shall provide all services as specified or indicated in the Contract Documents. The service(s) required is/are generally described as follows: furnish all material, labor, tools, and equipment for:

Headworks HVAC Replacement as defined in the Technical Specifications _____

Article 2. CONTRACT TERM

- 2.1 The term of the Contract shall be for a period of 180 days after the commencement date stated in the notice to proceed.

Article 3. CONTRACT PRICE

OWNER shall pay SUPPLIER for providing plant influent bypass pumping, piping, and operations in accordance with the Contract Documents in current funds based on the prices bid according to the SUPPLIER'S Bid Price for the actual services provided. The Contract price will be a total contract of \$**TBD**.

Article 4. PAYMENT PROCEDURE

SUPPLIER shall submit to OWNER invoice for payment of services provided at the completion of the project.



Article 5. SUPPLIER'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement, SUPPLIER makes the following representations:

- 5.1** SUPPLIER has familiarized itself with the nature and extent of the Contract Documents, site, locality, and all local conditions and Laws and Regulations (Federal, State and local laws, ordinances, rules and regulations) that in any manner may affect cost, or performance of the services specified in the Contract Documents.
- 5.2** SUPPLIER has given OWNER written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents, and the written resolution thereof by OWNER is acceptable to SUPPLIER.

Article 6. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire Agreement between OWNER and SUPPLIER concerning Service(s) required consist of the following:

- 6.1** This Agreement
- 6.2** Notice of Award
- 6.3** Notice to Proceed
- 6.4** General Conditions
- 6.5** Supplementary General Conditions (if any)
- 6.6** Technical Specifications
- 6.7** Addendum A (Additional Rental Terms and Conditions)
- 6.8** SUPPLIER'S Bid Form and Bidder's Proposal (Suppliers scope is defined in the Technical Specs)
- 6.9** Advertisement for Bids
- 6.10** Instructions to Bidders
- 6.11** The following, which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All written Amendments and other documents amending, modifying, or supplementing the Contract Documents. There are no Contract Documents other than those listed above in this Article 6. The Contract Documents may only be amended, modified or supplemented as provided in the General Conditions.



AGREEMENT

Article 7. MISCELLANEOUS

- 7.1** Terms used in this Agreement which are defined in the General Conditions will have the meanings indicated in the General Conditions.
- 7.2** No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically, but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 7.3** OWNER and SUPPLIER each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements, and obligations contained in the Contract Documents.

Article 8. OTHER PROVISIONS

Addendum A (Additional Rental Terms and Conditions)

IN WITNESS WHEREOF, OWNER and SUPPLIER have signed this Agreement in two counterparts. One counterpart each has been delivered to OWNER and SUPPLIER. All portions of the Contract Documents have been signed or identified by OWNER and SUPPLIER.



AGREEMENT

This Agreement will be effective on **TBD**.

OWNER

NORTH DAVIS SEWER DISTRICT

(Authorized Signature)

District Manager
(Title)

(Attest)

SUPPLIER

(Company Name)

(Authorized Signature)

(Title & Corporate Seal)

(Attest)



NOTICE OF AWARD

Date: **TBD**

TO: **TBD**

ADDRESS: **TBD**

SERVICE(S): HEADWORKS HVAC REPLACEMENT

CONTRACT FOR: NORTH DAVIS SEWER DISTRICT

You are notified that your Bid dated: **TBD** for the above Service(s) has been considered. You are the apparent Successful Bidder and have been awarded a Contract for the Service(s) to be provided.

The Total Contract Price of your Contract is \$**TBD**

Two copies of each of the proposed Contract Documents accompany this Notice of Award.

You must comply with the following conditions precedent within fifteen days of the date of this Notice of Award, that is by **TBD**

1. You must deliver to the OWNER two fully executed counterparts of the Agreement including all the Contract Documents.
2. You must deliver with the executed Agreement, other documents as specified in the Instruction to Bidders, General Conditions, and Supplementary Conditions.

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid in default and to annul this Notice of Award.

Within ten days after you comply with the above conditions, OWNER will return to you one fully signed counterpart of the Agreement with the Contract Documents attached.



NOTICE OF AWARD

NORTH DAVIS SEWER DISTRICT

(Authorized Signature)

District Manager

(Title)

ACCEPTANCE OF AWARD

(Supplier)

(Authorized Signature)

(Title)



NOTICE TO PROCEED

Date: **TBD**

TO: **TBD**

ADDRESS: **TBD**

SERVICE(S): HEADWORKS HVAC REPLACEMENT

CONTRACT FOR: NORTH DAVIS SEWER DISTRICT (Owner)

You are notified that the providing of Service(s) under the above Contract is to begin on or before **TBD**. By that date, you are to start performing your obligations under the Contract Documents. In accordance with the Agreement the end of the Contract Term is therefore **TBD**

NORTH DAVIS SEWER DISTRICT

(Authorized Signature)

District Manager

(Title)

(Date)



ACCEPTANCE OF NOTICE TO PROCEED

(Supplier)

(Authorized Signature)

(Title)

(Date)



Conditions of the Contract

GENERAL CONDITIONS

- (a) “Supplier” means the person or other entity submitting bid to the District to provide services specified in the Contract Documents.
- (b) “Contract” means the contract entered into between the District and the Supplier. It includes the forms of Bid, and Other Statements of Bidders, these General Conditions of the Contract for providing services and any special conditions included elsewhere in the Contract or the specifications. It includes all formal changes to any of those documents by addendum, change order, or other modification changes.
- (c) “Contracting Officer” means the person delegated the authority by the District to enter into, administer, and/or terminate this contract and designated as such in writing to the Supplier. The term includes any successor Contracting Officer and any duly authorized representative of the Contracting Officer also designated in writing. The Contracting Officer shall be deemed the authorized agent of the District in all dealings with the Supplier.
- (d) “District” means North Davis Sewer District.
- (e) “Services” means the entire services required and specified in whole or part under this Contract.
- (f) “Specifications” means the written description of the technical requirements for providing services and includes the criteria and verifications for determining whether the requirements are met.

2. Supplier’s Responsibility for Providing Services

- (a) The Supplier shall furnish all necessary labor, materials, tools, equipment, and transportation necessary for providing services specified in the Contract Documents. (Suppliers scope defined in Technical Specifications)
- (b) At all times during performance of this contract and until the term of this contract has expired, the Supplier shall directly superintend the services provided or assigned and have onsite a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Supplier.
- (c) The Supplier shall be responsible for all damages to persons or property that occur as a result of the Supplier’s fault or negligence and shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. The Supplier shall hold and save the District, its officers, and agents, free and harmless from liability of any nature occasioned by the Supplier’s performance. The Supplier shall also be responsible for all material used and services provided during the term of this contract to the extent of Supplier’s negligence.



GENERAL CONDITIONS

- (d) The Supplier shall confine all operations (including storage of materials) on District premises to areas authorized or approved by the Contracting Officer.
- (e) The Supplier shall at all times keep the work area, including storage areas, free from accumulations of waste materials and maintain clean, neat and orderly conditions satisfactory to the Contracting Officer.

3. Site Investigation and Conditions Affecting the Work

- (a) The Supplier acknowledges that it has taken steps reasonably necessary to ascertain the nature and locations of the areas where specified services will be provided, and that it has investigated and satisfied itself as to the general and local conditions which can affect the providing of service or its cost, including but not limited to, (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather or physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during process of providing services.
- (b) The District assumes no responsibility for any conclusions or interpretations made by the Supplier based on the information made available by the District. Nor does the District assume responsibility for any understanding reached or representation made concerning conditions which can affect providing the specified services by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this Contract.

4. Material and Workmanship

- (a) All equipment, material, and articles furnished under this contract shall be in good working order and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. Reference in the contract to equipment, materials, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Supplier, at its option, may use any equipment, materials, article, or process that, in the judgment of, and as approved by the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in the contract.



GENERAL CONDITIONS

(b) Approval of equipment and materials.

- (1) The Supplier shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Supplier shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature and rating of the machinery and mechanical and other equipment. Before installing the work, the Supplier shall obtain the approval of the Contracting Officer. When required by this contract or by the Contracting Officer, the Supplier shall also obtain the Contracting Officer's approval of the material or articles which the Supplier contemplates incorporating into the work. When requesting approval, the Supplier shall provide full information concerning the material or articles. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.
- (2) When required by the specifications or the Contracting Officer, the Supplier shall submit appropriately marked samples (and certificates related to them) for approval at the Suppliers expense, with all shipping charges prepaid. The Supplier shall label, or otherwise properly mark on the container, the material or product represented, its place of origin, the name of the producer, the Supplier's name, and the identification of the project for which the material or product is intended to be used.

5. Permit and Codes

- (a) The Supplier shall give all notices and comply with all applicable laws, ordinances, codes, rules and regulations. Notwithstanding the requirement of the Supplier to comply with the specifications in the contract, all services provided shall comply with all applicable codes and regulations as amended by any government agency. The Supplier shall examine the specifications for compliance with applicable codes and regulations bearing on providing the services and shall immediately report any discrepancy it may discover to the Contracting Officer. Where the requirements of the specifications fail to comply with the applicable codes or regulations, the Contracting Officer shall modify the contract by change order pursuant to the clause entitled, "Changes herein to conform to the code or regulations."



GENERAL CONDITIONS

- (b) The Supplier shall secure and pay for all permits, fees, and licenses necessary for the proper performance of service specified. There are no special licenses, fees, or permits required for this project by supplier.

6. Health, Safety, and Accident Prevention

- (a) In performing the contract, the Supplier shall:

- (1) Ensure that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his/her health and/or safety as determined under construction safety and health standards promulgated by any governmental agency;
- (2) Protect the lives, health, and safety of other persons;
- (3) Prevent damage to property, material, supplies, and equipment; and,
- (4) Avoid interruptions to performance of service.

- (b) For these purposes, the Contractor shall:

- (1) Comply with regulations and standards issued by the Secretary of Labor at 29 CFR part 1926. Failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standard Act (Public Law 91-54, 83 Stat, 96), 40 U.S.C. 3701 et seq.

- (c) The Supplier shall maintain an accurate record of exposure data on all accidents incident to services performed under this contract resulting in death, traumatic injury, occupational disease, or damage to property, material, suppliers, or equipment, and shall report this data in the manner prescribed by 29 CFR Para 904.

- (d) The Contracting Officer shall notify the Supplier of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Supplier or the Supplier's representative at the site of the services, shall be deemed sufficient notice of the noncompliance and corrective action required; after receiving the notice, the Supplier shall immediately take corrective action. If the Supplier fails or refuses to take corrective action promptly, the Contracting Officer may issue an order stopping all or part of the services work until satisfactory corrective action has been taken. The Supplier shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.



GENERAL CONDITIONS

- (e) The Supplier shall be responsible for its subcontractor's compliance with the provision of this clause. The Supplier shall take such action with respect to any subcontractors as the District, as a means of enforcing such provisions.

7. Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements

- (a) The Supplier shall make the best efforts to preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the sites where services are provided and which do not unreasonably interfere with the performance of services required under this contract.
- (b) The Supplier shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during performance of this contract, or by the careless operation of equipment, or by workmen, the Supplier shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.
- (c) The Supplier shall protect from damage all existing improvements and utilities (1) at or near the site where service is performed and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Supplier.
- (d) The Supplier shall repair any grossly negligent damages to vegetation, structures, equipment, utilities, or improvements, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing them. If the Supplier fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Supplier.

8. Inspection and Acceptance of Services Performed

- (a) Definitions. As Used in this clause.
 - (1) "Acceptance" means the act of an authorized representative of the District by which the District approves the services performed under this contract. Acceptance may be partial or complete.
 - (2) "Inspection" means examining and testing the services performed under the contract to determine whether services conform to contract requirements.
- (b) The Owner or Owner's representative may at any time conduct an inspection to determine and verify that the services being provided by the SUPPLIER are in conformance with the contract document requirements and specifications.



GENERAL CONDITIONS

- (c) The Supplier shall, without charge, replace or correct services found by the District not to conform to contract requirements.

9. Prohibition against Liens

The Supplier is prohibited from placing a lien on the District's property. This prohibition shall apply to all subcontractors at any tier and all material suppliers.

10. Order of Provisions

In the event of a conflict between these General Conditions and the Specifications, the General Conditions shall prevail. In the event of a conflict between the Contract and any applicable state or local law or regulation, the state or local law or regulation shall prevail; provided that such state or local law or regulation does not conflict with, or is less restrictive than applicable federal law, regulations, or Executive order. In the event of such a conflict, applicable federal law, regulations and Executive Order shall prevail. In the event of a conflict between these General Conditions and the Contract, the terms of the Contract shall prevail.

11. Payments

- (a) The District shall pay the Supplier the price bid at the completion of the project.

12. Contract Modifications

- (a) Only the Contracting Officer has authority to modify any term or conditions of this contract. Any contract modification shall be authorized in writing.
- (b) The Contracting Officer may modify the contract unilaterally (1) pursuant to a specific authorization stated in a contract clause (e.g. Changes); or (2) for administrative matters which do not change the rights or responsibility of the parties (e.g. change in the District address). All other contract modifications shall be in the form of supplemental agreements signed by the Supplier and the Contracting Officer.

13. Suspension of Services

- (a) The Contracting Officer may order the Supplier in writing to suspend, delay, or interrupt all or any part of the providing service of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the District.



GENERAL CONDITIONS

- (b) If the performance of all or any part of providing services is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified (or within a reasonable time if not specified in this contract) an adjustment shall be made for any increases in the cost of performance of the services (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay or interruption to the extent that performance would have been so suspended, delayed or interrupted by any other cause, including the fault or negligence of the Suppliers for which any equitable adjustment is provided for or excluded under any other provision of this contract.
- (c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Supplier shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order); and, (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after termination of the suspension, delay, or interruption.

14. Disputes

- (a) "Claim" as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under the contract, unlike a claim relating to the contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim by complying with the requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.
- (b) All disputes arising under or relating to this contract, including any claims for damages for the alleged break thereof which are not disposed of by agreement, shall be resolved under this clause.
- (c) All claims by the Supplier shall be made in writing and submitted to the Contracting Officer for a written decision. A claim by the District against the Supplier shall be subject to a written decision by the Contracting Officer.



GENERAL CONDITIONS

- (d) The Contracting Officer shall, within 60 (unless otherwise indicated) days after receipt of the request, decide the claim or notify the Supplier of the date by which the decision will be made.
- (e) The Contracting Officer's decision shall be final unless the Supplier (1) appeals in writing to the Board of Trustees, (2) refers the appeal to an independent mediator or arbitrator, or (3) files suit in a court of competent jurisdiction. Such appeal must be made within thirty (30) days unless otherwise indicated after receipt of the Contracting Officer's decision.
- (f) The Supplier shall proceed diligently with performance of this Contract, pending final resolution of any request of relief, claim, appeal, or action arising under or relating to the contract, and comply with any decision of the Contracting Officer.

15. Termination of Convenience

- (a) The Contracting Officer may terminate this contract in whole, or in part, whenever the Contracting Officer determines that such termination is in the best interest of the District. Any such Termination shall be effected by delivery to the Supplier of a Notice of Termination specifying the extent to which the performance of Services under the contract is terminated, and the date upon which such termination becomes effective.
- (b) If the performance of Services are terminated, either in whole or in part, the District shall be liable to the Contractor for reasonable and proper costs resulting from such termination upon the receipt by the District of a properly presented claim setting out in detail: (1) the total cost of the services performed to date of termination less the total amount of payments made to the Supplier.
- (c) The Contracting Officer will act on the Suppliers claim within days (60 days unless otherwise indicated) of receipt of the Supplier's claim.
- (d) Any disputes with regard to this clause are expressly made subject to the provisions of the Disputes clause of this Contract.

16. Assignment of Contract

The Supplier shall not assign or transfer any interest in this contract except that claims for monies due or to become due from the District under the contract may be assigned to a bank, trust company, or other financial intuition. Such assignment of claims shall only be made with the written concurrence of the Contracting Officer. If the Supplier is a



GENERAL CONDITIONS

partnership, this contract shall insure to be benefit of the surviving or remaining member(s) of such partnership as approved by the Contracting Officer.

17. Insurance

- (a) Before providing any Services the Supplier and each Subcontractor shall furnish the District with certificates of insurance showing the following insurance is in force and will insure all operations under Contract:
- (1) Workers' Compensation, in accordance with State of Utah Compensation laws.
 - (2) Commercial General Liability with a combined single limit for bodily injury and property damage of not less than \$1,000,000.00 per occurrence to protect the Contractor and each Subcontractor against claims for bodily injury or death and damage to the property of others. This shall cover the use of all equipment, hoists, and vehicles on the site(s) not covered by Automobile Liability. The District shall be listed as a named insured on all such policies.
 - (3) Automobile Liability on owned and non-owned motor vehicles used on the site(s) or in connection therewith for a combined single limit for bodily injury and property damage of not less than \$1,000,000.00 per occurrence.
 - (4) All insurance shall be carried with companies which are financially responsible and admitted to do business in the State of Utah. If any such insurance is due to expire during term of the contract, the Supplier (including subcontractors, as applicable) shall not permit the coverage to lapse and shall furnish evidence of coverage to the Contracting Officer. All certificates of insurance, as evidence of coverage, shall provide that no coverage may be canceled or non-renewed by the insurance company until at least 30 days prior written notice has been given to the Contracting Officer.

18. Subcontractor

- (a) Definitions. As used in this Contract.
- (1) "Subcontract" means any contract, purchase order, or other purchase agreement, including modifications and change orders to the foregoing, entered into by a subcontractor to furnish supplies, materials, equipment, and services for the performance of the prime contract or a subcontract.



GENERAL CONDITIONS

- (2) “Subcontractor” means any supplier, vendor, or firm that furnishes supplies, material, equipment, or services to or for the Contractor or another Subcontractor.
- (b) The Supplier shall be a fully responsible for the acts or omissions of its subcontractors and of persons either directly or indirectly employed by them as for the acts or omissions of persons directly employed by the Supplier.
- (c) The Supplier shall insert appropriate clauses in all Subcontracts to bind Subcontractors to the terms and conditions of this contract insofar as they are applicable to work of Subcontractors.

19. Equal Employment Opportunity

During the performance of this contract, the Supplier agrees as follow:

- (a) The Supplier shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or handicap.
- (b) The Supplier shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, or handicap.

20. Interest of Members, Officers, or Employees and Former Members, Officers, or Employees

No member, officer, or employee of the District, no member of the governing body of the locality in which the project is situated, no member of the governing body of the locality in which the District was activated, and no other public official of such locality or localities who exercise any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this contract or the proceeds thereof.

21. Examination and Retention of Supplier’s Records

- (a) The District shall, until three (3) years after final payment under this contract, have access to and the right to examine any of the Supplier’s directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audits, examinations, excerpts, and transcriptions.



GENERAL CONDITIONS

- (b) The Supplier agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders not exceeding \$10,000.

- (c) The periods of access and examination in paragraph (a) and (b) above for records relating to (1) appeals under the Disputes clause of this contract, (2) litigation or settlement of claims arising from the performance of this contract, or (3) costs and expenses of this contract to which the District has taken exception shall continue until disposition of such appeals, litigations, claims, or exceptions.



Technical Specifications

TECHNICAL SPECIFICATIONS
HEADWORKS HVAC REPLACEMENT

1.0 SCOPE OF WORK

- 1.1 The District owns and operates a 34mgd average daily flow wastewater treatment plant located at 4252 West 2200 South in Syracuse, Utah. The District is desirous of entering into a Contract with an independent supplier for the supply and replacement of HVAC Unit 01-412 on the upper west roof of the headworks building.
- 1.3 Supplier will furnish all necessary labor, materials, transportation, handling, machinery, equipment, tools, crane, electrical terminations and status control wiring, roof repairs and commissioning of such unit. Supplier shall dispose of old HVAC unit appropriately.
- 1.4 All Supplier employees working on site must attend a 30-minute safety orientation provided by the District safety officer.

2.0 DURATION

This Agreement shall remain in full force and effective from **TBD**, through **TBD**.

3.0 OBLIGATION OF THE SUPPLIER

During the term of this Agreement, the Supplier shall be required to perform everything specified in the following work:

- 3.1 Supplier shall furnish a new HVAC unit meeting the specifications listed below. Remove and replace the existing HVAC unit with the new unit, adapting roof curbing, discharge ducting, electrical, instrumentation, gas line and discharge flue as needed.
- 3.4 Supplier shall include commissioning, testing and training on unit once fully commissioned.



TECHNICAL SPECIFICATIONS

PART 1 -- GENERAL

17. 1.1 THE REQUIREMENT

17.1 A. The CONTRACTOR shall remove existing malfunctioning gas fired make-up air handling unit and replace with a new gas fired make-up air handling unit, piping, valves, and appurtenances, complete and operable, in accordance with the Contract Documents.

17.2 B. **Single Manufacturer:** Where two or more heaters or appurtenances of the same type or size are required, they shall be furnished by the same Manufacturer.

18. 1.2 CONTRACTOR SUBMITTALS

18.1 A. **General:** Submittals shall be furnished in accordance with Section 01300 - Contractor Submittals.

18.2 B. The submittals shall include operation, maintenance, and inspection data, replacement part numbers and availability, and service depot location and telephone number.

19. 1.3 WORKMANSHIP AND MATERIALS

19.1 A. All work shall be in strict accordance with the State Mechanical Code, the State of Utah, City of Salt Lake City, and any other authorities having jurisdiction. The CONTRACTOR shall have the required certification and be thoroughly familiar with the local codes. The CONTRACTOR shall obtain and pay for all necessary permits.

19.2 B. Workmanship shall be first-class in every respect and all work shall be performed by workers who are thoroughly experienced in this line of work. The CONTRACTOR's attention is called to the fact that neat and workmanlike appearance in the finished installation shall be required. Care shall be taken at all times to protect floors, stairways, and walls during the make-up, erection of piping and placing of equipment. The CONTRACTOR shall remove all stains and repair all damage before final acceptance of the work.

19.3 C. All materials used in connection with the gas fired air heating system work shall be new, free from flaws and defects all fully equal to the quality specified, and where not specifically indicated shall be the best of their respective kinds, and shall conform to the applicable specifications and standards.

19.4 D. If during the construction of this project the ENGINEER finds materials that have identifying marks removed, or lacking such marks completely, he may reject such items until the CONTRACTOR has shown proof that said items conform to the letter and intent of the Specifications and the Contract Drawings. The adequacy and extent of such proof shall be determined by the ENGINEER.



TECHNICAL SPECIFICATIONS

PART 2 – PRODUCTS

2.1 SPARK PROOF INDIRECT FIRED MAKE-UP AIR HANDLING UNITS

A. AIR HANDLING UNIT

19.5 The manufacturer shall have a fully implemented and auditable quality assurance

19.6 program, equal to ISO-9002 Quality Standard. The air handling units and major components shall be products of manufacturers regularly engaged in the production of such equipment and with a minimum of ten continuous years of proven production experience.

19.7 Unless stated otherwise, the units are to be shipped to the jobsite in one piece, factory assembled.

19.8 B. Unit Construction

19.9 Unit casing shall be a minimum of 16 gauge satin coat galvanized sheet metal and the entire unit shall be coated Technicoat 10-2, as provided by Aero Marine Engineering, 708 Hwy 380 W, Bryson, Texas 76427, (800) 874-4543

19.10 All walls, roofs, and floors shall be of formed construction, with at least two breaks in each joint. Joints shall be secured by sheet metal screws or pop rivets. Wall and floor joints shall be broken in and roof joints broken out (exposed) for rigidity. All joints shall be caulked with a water-resistant seal.

19.11 Provide stainless steel liner over all insulated areas including:

19.12 a. Fan sections;

19.13 b. Coil sections;

19.14 c. Filter sections;

19.15 d. Mixing section;

19.16 e. Access sections;

19.17 The underside of the unit.



TECHNICAL SPECIFICATIONS

19.18 Units shall be provided with access doors to the following components: fans and motors; filters; dampers and operators; access plenums. Removal of screwed wall panels will not be acceptable.

19.19 Hinged access doors shall be provided, secured with leverlock handles.

19.20 Casings shall be supported on formed galvanized steel channel or structural channel supports, designed and welded for low deflections. Integral lifting lugs shall be provided for hoisting.

19.21 All units shall be integrally insulated with one-inch thick, 1-1/2 lb. Per cu. ft. density, neoprene coated fiberglass thermal insulation.

19.22 Air handling units shall be weatherproofed and equipped for installation outdoors. This shall include one-inch galvanized inlet screens; rain gutters over all access doors; all joints caulked with a water resistant sealant; roof joints turned up two-inches with three break interlocking design; outer wall panels extend a minimum of ¼-inch below floor panel.

19.23 Units mounted on roof curbs shall incorporate welded floor to base construction. Floors shall be three break upstanding design with welded corners and free of penetrations. Unit underside joints shall be caulked and tarred.

19.24 Units shall be provided with optional channel flashing constructed of 22 gauge galvanized steel, painted to match unit.

19.25 A full perimeter roof mounting curb of heavy gauge sheet metal, minimum of 12-inches high, and complete with wood nailer, neoprene sealing strip, and fully welded “Z” bar with one-inch upturn on inner perimeter, to provide a complete seal against the elements shall be provided.

19.26 Centrifugal fans shall be rated in accordance with AMCA Standard Test Code, Bulletin 210. Fan manufacturer shall be a member of AMCA. All fans and fan assemblies shall be dynamically balanced during factory test run. Fan shafts shall be selected for stable operation at least 20 percent below the first critical RPM. Fan shafts shall be provided with a rust inhibiting coating.

19.27 Forward curved, low pressure fans of 18-inches or less diameter, shall be equipped with permanently lubricated cartridge ball bearings, supported by a 3-point “spider” bearing bracket in the fan inlets. All other forward curved fan assemblies shall be equipped with greaseable pillow lock bearings, supported on a rigid structural steel frame.



TECHNICAL SPECIFICATIONS

- 19.28** Airfoil and BI fans shall be equipped with greaseable, self-aligning ball or roller type pillow block bearings.
- 19.29** The ration of blast area to nominal outlet area for forward curved fans shall be 60 percent or greater, with airfoil fans at 75 percent or greater.
- 19.30** Fan assemblies shall be provided with aluminum wheels, inlet cones and rub rings.
- 19.31** Drives shall be adjustable on fans with motors of 5 HP or smaller. All drives shall be provided with a rust inhibiting coating. The air balancer shall provide for drive change (if required) during the air balance procedure.
- 19.32** Motor shall be explosion proof.
- 19.33** Motor, fan bearings, and drive assembly shall be located inside the fan plenum to minimize bearing wear and to allow for internal vibration isolation of the fan-motor assembly, where required. Motor mounting shall be adjustable to allow for variations in belt tension.
- 19.34** Fan-motor assemblies shall be provided with vibration isolators. Isolators shall be bolted to steel channel welded to unit floor that is welded to the structural frame of the unit. The isolators shall be neoprene-in-shear type for single 9-inch to 15-inch forward curve fans. All other fans shall incorporate vertical spring type isolators with leveling bolts, bridge bearing waffled pads with minimum one-inch static deflection designed to achieve high isolation efficiency. Fans shall be attached to the discharge panel by a PVC coated polyester woven fabric, with a sealed double locking fabric to metal connection.
- 19.35 C. Gas Heat Section – Indirect Fired**
- 19.36** Heating units shall have an indirect natural gas fired heating section that is approved for both sea level and high altitude areas. The entire assembly shall be approved and labeled by a nationally recognized certification agency.
- 19.37** Operating natural gas pressure at unit manifold shall be 7-inches W.C. Gas manifolds shall be IRI approved.



TECHNICAL SPECIFICATIONS

19.38 Heat exchanged shall be a primary drum and multi-tube secondary assembly constructed of titanium stainless steel with multi-plane metal tabulators, and shall be of a floating stress relieved design. Heat exchanger shall be provided with condensate drain connection. Drain lines shall be as required by the Contractor. The heat exchanger casing shall have one-inch of insulation between the outer cabinet and inner liner. Blower assemblies close coupled to duct furnace type heat exchangers are not acceptable.

19.39 Units with optional high efficiency heat exchangers shall be tested and certified to ANSI standards to provide a minimum of 80 percent efficiency throughout the entire operating range as required by ASHRAE 90.1. The manufacturer shall be routinely engaged in the manufacture of this type of high efficiency equipment.

19.40 Units shall include 15:1 turndown ratio. The burner assembly shall be a blow through positive pressure type with an intermittent pilot ignition system to provide a high seasonal efficiency. Flame surveillance shall be with a solid state programmed flame relay c/w flame rod. The burner and gas train shall be in a cabinet enclosure. Insulation in the burner section shall be covered by a heat reflective galvanized steel liner. Atmospheric burners, or burners requiring power assisted venting are not acceptable.

19.41 Installation and venting provisions must be in accordance with C.G.A. Standard B149.1, ANSI Z223.1-NFPA54, and local authorities having jurisdiction. Type A, C, and/or PS venting is required on indoor units.

19.42 Provide the manufacturers standard flue vent unit.

19.43 D. Filters

19.44 Filter sections shall be provided with adequately sized access doors to allow easy removal of filters. Filter removal shall be from one side.

19.45 The filter modules shall be designed to slide out of the unit. Side removal one-inch filters shall slide into a formed stainless steel metal track, sealing against metal spacers at each end of the track.

19.46 One replaceable media filters shall have disposable fiberglass media type enclosed in permanent stainless steel frames with metal retainers on both sides.

19.47 Where filters are provided in air handling units for make-up air applications, only steel frame filters shall be acceptable.



TECHNICAL SPECIFICATIONS

19.48 The filter bank shall be provided with Dwyer 2000 magnehelic air filter gauge, or equal. The gauge shall be complete with static pressure tips and aluminum tubing, all factory installed. Filter gauge shall have a range of zero to two-inches. Where two or more filter banks are connected to a single gauge, multiple gauge kit with manual shut-off cocks in the air tubing shall be provided.

19.49 Where the filter gauges are provided on outdoor units, they shall be mounted inside a weatherproof enclosure with a viewing window.

19.50 E. Dampers

19.51 Damper frames shall be U-shaped galvanized metal sections securely screwed or welded to the air handling unit chassis. Pivot rods of ½-inch aluminum shall turn in bronze bushings, fabricated from self-oiling bronze. Rods shall be secured to the blade by means of straps and set screws.

19.52 Blades shall be 18 gauge stainless steel with two breaks on each edge and three breaks on centerline for rigidity. The pivot rod shall “nest” in the centerline break. Damper edges shall interlock. Maximum length of damper between supports shall be 42-inches. Damper linkage brackets shall be constructed of stainless steel.

19.53 Dampers shall include blade ends sealed with an adhesive backed foamed polyurethane gasket. Outdoor air dampers also include an all weather PVC seal, fastened with a positive lock grip and pliable overlap edge on entering air side of interlocking edges. Dampers are interlocked from the center.

19.54 Two position inlet dampers shall be parallel blade type.

19.55 F. Pre-Wired Equipment and Factory Installed Controls

19.56 Air handling units shall be factory wired and tested. Pre-wired air handling units shall bear an approved label with all the necessary identification marks, electrical data, and any necessary cautions as required by the National Electric Code.

19.57 Provide a system of motor control, including all necessary terminal blocks, motor contractors, motor overload protection, grounding lugs, control transformers, auxiliary contactors and terminals for the connection of external control device or relays.

19.58 All wiring within the unit air tunnel shall be run in liquid tight conduit.



TECHNICAL SPECIFICATIONS

19.59 Gas fired units shall also include high limit and combustion air flow switch.

19.60 Automatic controls shall be housed in a control panel mounted in or on the air handling unit, which will meet the standard of the specific installation.

19.61 Provide marine lights with Lexan bulb covers in each section provided with an access door. Lights shall be wired in EMT conduit to a switch with pilot.

19.62 G. Controls

19.63 Electronic (Modulating Gas & Combustion Air)

19.64 Solid state analyzer complete with proportional and integral control and with a discharge air sensor to maintain set point temperature and provide rapid response to incremental changes in discharge air temperature. Combustion air motor speed varies in response to the modulation of gas flow to provide optimum fuel/air mixture and efficiency at all conditions.

19.65 Combustion efficiency of high efficiency heat exchangers shall increase four to five percent from the high fire to low fire on units incorporating 15:1 turndown (HT Burner). Heat exchangers shall provide a minimum of 80 percent efficiency throughout the entire operating range.

19.66 Units that do not incorporate a variable speed combustion air blower shall have a modulating gas valve and a combustion air damper with a linear linkage connected to an actuator that has a minimum of 100 steps of control.

19.67 Controllers for heating only units shall include the following standard features:

19.68 Linear gas and combustion air flow obtained via a built in solid state linear algorithm;

19.69 Negative 40-degrees minimum operating ambient temperature;

19.70 Adjustable time Pre-purge mode;

19.71 Adjustable time Post purge mode;

19.72 Interrupted pilot;



TECHNICAL SPECIFICATIONS

- 19.73** Self check on startup to make sure air proving and discharge air sensors are operating within design tolerances;
- 19.74** Low fire start;
- 19.75** Freeze Protection
- 19.76** Controlled burner startup and shut down;
- 19.77** Diagnostic lights for ease of setup and service;
- 19.78** Blower contactor that starts fan after burner pre-purge;
- 19.79** Damper contact that allows fan to start after damper opens, damper to close after fan stops, and damper to close on flame failure;
- 19.80** Non-recycling auto bypass low limit that has built-in sensor checking;
- 19.81** Built-in alternator blower and damper functions and set back temperatures for unoccupied mode operation using a single room thermostat.
- 19.82** Heating control function shall be:
- 19.83** Modulating room control with a discharge sensor to limit the minimum and maximum discharge temperatures. Units to modulate gas and combustion air to match exact load with discharge range from 60-degrees F to 100-degrees F.
- 19.84** Make-up Air Inlet Damper Control
- 19.85** Low Limit
- 19.86** Provide a discharge air low limit equipped with an automatic bypass time delay to allow for cold weather startup. On a heating system failure this device will shutdown the fan and close the outdoor air damper. This device shall require resetting by interrupting the electrical circuit.
- 19.87 H. Control Panel**
- 19.88** A Nema 4x remote mounted control panel shall be provided for each air handling unit for the purpose of switching and visual indication of operations. Each panel shall include at least the following items:



TECHNICAL SPECIFICATIONS

- 19.89** Engraved lamicoid faceplate;
- 19.90** System ON-OFF switch;
- 19.91** System ON light;
- 19.92** Heat ON-OFF switch;
- 19.93** Heat ON-OFF-AUTO switch;
- 19.94** Heat ON light;
- 19.95** Clogged filter light with unit mounted filter air pressure switch;
- 19.96** Fire alarm circuits (where required) shall be powered from a relay in unit circuitry.
- 19.97** Factory installed and wired non-fused disconnect switch in NEMA 3 weatherproof configuration, or disconnect with integral door closure mounted on face of control panel.

19.98 I. MANUFACTURERS:

19.99 Air Handling Unit 4-112 shall be **Model DJ-60 as manufactured by Engineered Air, Greenheck, Munters, Energy Labs or System-Aire Inc. Model No.ECP40G or equal.**

20. 2.3 GAS SERVICE AND INSTALLATION

20.1 A. General

- 1. The CONTRACTOR shall provide the natural gas system and valving as indicated.*
- 2. The CONTRACTOR shall pay any fees or charges levied by the Gas Company for installation or inspection.*

20.2 B. Installation of Gas Piping



TECHNICAL SPECIFICATIONS

1. All gas piping shall be installed in strict conformance with the requirements of the local or state regulations and the following.
2. Gas piping shall be in accordance with Section 15025 - Steel Pipe. Joints for exposed piping shall be of the screwed type, with an adequate number of unions to facilitate removing of equipment and dismantling of piping for cleaning and inspection. Screw fittings shall be malleable cast iron and shall conform to ANSI.

- 20.3 C. Joint Compounds:** Joint compounds shall be resistant to the action of gas, be non-hardening, and be used sparingly on the male threads only.
- 20.4 D. Gas Piping Testing and Purging:** Before the gas piping is approved, a test for tightness shall be made and be witnessed by the ENGINEER. The system shall be subject to a test pressure of at least 1.5 times the proposed maximum operating pressure, but never less than 6 inches of mercury column or 3 psig. The system shall hold pressure after disconnecting the pressure source for a period of at least 30 min without showing any drop in pressure after the test gas in the pipe has been given time to come to equilibrium at the ambient temperature. Longer runs of piping to be used at pressures above 0.5-psig shall be tested for longer periods of time.
- 20.5 E. Test Medium:** For test purposes, air or an inert gas such as carbon dioxide, nitrogen or combustion products shall be used as the pressurizing medium. Under no circumstances shall oxygen or natural gas be used to test for tightness or to locate leaks.
- 20.6 F. Locating Leaks:** Test for leaks shall be made with approved leak detectors or by soap and water solution while the system is under pressure.
- 20.7 G. Purging:** After pressure testing, all new piping shall be fully purged with inert gas from the most distant point from the point of entry of the gas. Each major branch line shall be similarly purged from its far end. Purging shall be done only by personnel experienced in this particular operation.
- 20.8 H. Valves:** Valves shall be used in accordance with the service recommendation of the manufacturer. Valves shall conform to the requirements of ANSI B 31.8. Full opening non-lubricated plug valves shall be used in sizes larger than 2 inches, or for pressure greater than 0.5-psig. No unions or valves shall be installed on pipe lines that will be concealed in partitions, ceilings, etc. Every union or valve shall be readily accessible for inspection and repair. Plug valve shall be provided at each piece of equipment the gas system serves.

PART 3 -- EXECUTION



TECHNICAL SPECIFICATIONS

21. 3.1 **INSTALLATION**

- 21.1** A. All gas fired air heating equipment shall be installed by a qualified CONTRACTOR in strict accordance with the manufacturer's recommendations.

- 21.2** B. The gas train (manifold) for each gas burner must meet all codes and also meet FM or IRI requirements.

- 21.3** C. All costs for the installation of the gas fired air heating equipment is the responsibility of the contractor. (Crane rental and such)

— END OF SECTION —



TECHNICAL SPECIFICATIONS

