



EDINBURG CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
 PURCHASING DEPARTMENT
 411 North 8th/DRAWER 990
 EDINBURG, TEXAS 78541
 PH: (956) 289-2311
 FX: (956) 383-7687

Request for COMPETITIVE SEALED PROPOSALS

NO: 20-50

TITLE: BARRIENTES BOILERS
REPLACEMENT

This Proposal includes the following forms:

- Intent to Bid
- Vendor Check List
- Standard Terms & Conditions
- Felony Conviction Notification
- Conflict of Interest Questionnaire
- Certification of Interested Parties Example
- Deviation Form
- Authorization for W-9/Direct Deposit
- Special Terms & Conditions
- ATTACHMENT: Proposal Forms
- ATTACHMENT: Construction Documents

CLOSING TIME/DATE:

Closing Time: 3:30 P.M.

Closing Date: February 14, 2020

BUYER:

ClauDina Longoria, Senior Buyer

Phone: 956-289-2311, Ext.2135

Fax: 956-383-7687

Email: d.longoria@ecisd.us

DELIVER BIDS TO:

Edinburg CISD

Office of the Purchasing Coordinator

411 North 8th Ave, 2nd Floor

Edinburg, TX 78541

Amaro Tijerina 1/31/20
 Purchasing Coordinator Date

DATE WEBBED: January 31, 2020

*Do not deliver Bids/CSPs/RFPs/RFQs to other ECISD locations. All Bids/CSPs/RFPs/RFQs must be delivered to the delivery address above on or before the Bids/CSPs/RFP/RFQs closing time/date. Purchasing will not be responsible for late submittals as per Board Policy CH (LOCAL).

Vendor Certification

The undersigned, by his/her signature, represents the he/she is authorized to bind the bidder to fully comply with the terms and conditions on this bid, including all forms and attachments included herein, for the amount(s) shown on the accompanying bid form(s), if accepted within sixty (60) calendar days after bid opening. **Note: Bidder is strongly encouraged to read the entire Solicitation prior to submitting. Failure to provide the above information in its entirety may be grounds for disqualification of response.**

Firm Name: _____

Telephone 1-800- _____

Address: _____

Or: _____

City: _____

Fax: _____

State: _____ Zip: _____

Web Address: _____

Email: _____

(Signature of Person Authorized to Sign Bid)

Date: _____

Title: _____

Printed Name: _____

(Please print or type name above)

I can deliver in _____ days. Early Payment Discount _____% if Paid in _____ Days, Net 30

INTENT TO BID

Fax, this **page only**, if solicitation was not faxed or e-mailed directly to your company. All other solicitation documents must be enclosed in a sealed envelope and mailed to the Purchasing Department.

This page is required if solicitation was downloaded without receiving an invitation by the District. Please complete and fax to 956-383-7687 immediately in order to be added to the vendor list and receive addendums or updates regarding this solicitation. It is the intent of the Purchasing Department to ensure that all interested vendors receive addendums or updates, but it will be the vendor's responsibility to check the Purchasing site periodically. If there are addendums posted on the site and your company has not been notified by fax or e-mail, it will be the vendor's responsibility to download from Purchasing site and make sure to include with their packet.

The Edinburg CISD Purchasing solicitations and addendums are available on line at www.ecisd.us.

NAME: _____

TITLE: _____

ORGANIZATION: _____

STREET ADDRESS: _____

STREET ADDRESS 2: _____

CITY: _____

STATE: _____

ZIP CODE: _____

WORK PHONE: _____

FAX: _____

E-MAIL: _____

WEB SITE: _____

VENDOR CHECK LIST

- | | | | | |
|---|-----|-----|-----|----|
| 1. Signed Standard Terms & Conditions | ___ | Yes | ___ | No |
| 2. Signed Felony Conviction Notification | ___ | Yes | ___ | No |
| 3. Signed Conflict of Interest Questionnaire | ___ | Yes | ___ | No |
| 4. Signed Deviation Form | ___ | Yes | ___ | No |
| 5. Read and understood Special Terms & Conditions | ___ | Yes | ___ | No |
| 6. Filled out Bid Form | ___ | Yes | ___ | No |
| 7. Completed & submitted W9/Authorization for Direct Deposit Form | ___ | Yes | ___ | No |
| 8. Signed Certification of Interested Parties (Form 1295) | ___ | Yes | ___ | No |
| 9. Completed & signed Vendor Check List | ___ | Yes | ___ | No |

I have read all the specifications and general bid requirements and do hereby certify that all items submitted meet all specifications, conditions, and instructions of said solicitation, and will follow District policy DBD (Local). The signature below confirms that our company will enter into a binding contract with Edinburg CISD for item(s) awarded to our company.

Company Name

Print/Type Signature Name

Authorized Signature

Date

Official Title

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STANDARD TERMS & CONDITIONS

(REVISED SEPTEMBER 2018)

PLEASE READ THE FOLLOWING CAREFULLY, AND RETURN THE SIGNATURE PAGE WITH YOUR BID OR PROPOSAL.

The following terms and conditions are requirements that are binding upon the vendor awarded the bid and they communicate the Edinburg School District's expectations in regard to the bidder's performance in connection with the district's purchase.

1. **Seller of Package Goods:** Seller will package goods in accordance with good commercial practice. Each shipping container shall be clearly and permanently packed as follows:
 - a. Seller's name and address;
 - b. Consignee's name, address and purchase order or purchase release number and the supply agreement number if applicable;
 - c. Container number and total number of containers, e.g. box 1 of 4 boxes; and the number of the container bearing the packing slip.
 - d. Seller shall bear cost of packaging unless otherwise provided.
 - e. Goods shall be suitably packed to secure lowest transportation costs and to conform to requirements of common carriers and any applicable specifications.
 - f. Buyer's count or weight shall be final and conclusive on shipments not accompanied by packing lists.
2. **Shipment under Reservation Prohibited:** Seller is not authorized to ship the goods under reservation and no tender of a bill of lading will operate as a tender of goods.
3. **Title and Risk of Loss:** The title and risk of loss of the goods shall not pass to Buyer until Buyer actually receives and takes possession of the goods at the point or points of delivery.
4. **Delivery Terms and Transportation Charges:** F.O.B. Destination Freight Prepaid unless terms are specified otherwise in bid:
5. **No Placement of Defective Tender:** Every tender or delivery of goods must fully comply with all provisions of this contract as to time of delivery, quality and the like. If a tender is made which does not fully conform, this shall constitute a breach and Seller shall not have the right to substitute a conforming tender provided, where the time for performance has not yet expired, the Seller may reasonably notify Buyer of his intention to cure and may then make a conforming tender within the contract time but not afterward.
6. **Place of Delivery:** The place of delivery shall be that set forth on the purchase order. Any change thereto shall be effected by modification as provided for in Clause 20, "Modifications," hereof. The terms of this agreement are "no arrival, no sale."
7. **Invoices:** Seller shall submit separate invoices, in duplicate, on each purchase order after each delivery. Invoices shall indicate the purchase order number, shall be itemized and transportation charges, if any, shall be listed separately. A copy of the bill of lading, and the freight weight bill when applicable, should be attached to the invoice. Mail to:

Edinburg Consolidated Independent School District
Attn.: Accounts Payable Department
Drawer 990
Edinburg, Texas 78540-0990
8. **Payments:** The payment shall not be due until the above instruments are submitted after delivery. Suppliers should keep the Accounts Payable Department advised of any changes in your remittance addresses.
9. **Taxes:** Do not include Federal Excise, State or City Sales Tax. School District shall furnish tax exemption certificate, if required.
10. **Gratuities:** The Buyer may, by written notice to the Seller, cancel this contract without liability to Seller if it is determined by Buyer that gratuities, in the form of entertainment, gifts, or otherwise, were offered or given by the Seller, or any agent, or representative of the Seller, to any officer or employee of the School District with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending or the making or any determinations with respect to the performing of such a contract. In the event this contract is canceled by Buyer pursuant to this provision, Buyer shall be entitled, in addition to any other rights and remedies, to recover or withhold the amount of the cost incurred by Seller in providing such gratuities.
11. **Special Tools and Test Equipment:** If the price stated on the face hereof includes the cost of any special tooling or special test equipment fabricated or required by Seller for the purpose of filling this order, such special tooling equipment and any process sheets related thereto shall become the property of the Buyer and to the extent feasible shall be identified by the Seller as such.
12. **Warranty Price:** The price to be paid by the Buyer shall be that contained in Seller's bid which Seller warrants to be no higher than Seller's current prices on orders by others for products of the kind and specification covered by this agreement for similar quantities under similar or like conditions and methods of purchase. In the event Seller breaches this warranty, the prices of the items shall be reduced to the Seller's current prices on orders by others, or in the alternative, Buyer may cancel this contract without liability to Seller for breach or Seller's actual expense. The Seller warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for commission, percentage, brokerage, or contingent fee excepting bona fide employees of bona fide established commercial or selling agencies maintained by the Seller for the purpose of securing business. For breach or violation of this warranty, the Buyer shall have the right in addition to any other right or rights to cancel this contract without liability and to deduct from the contract price, or otherwise recover the full amount of such commission, percentage, brokerage or contingent fee.

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13. **Warranty Products:** Seller warrants that the goods furnished will conform to the specifications, drawings and descriptions listed in the bid invitation and to the sample(s) furnished by Seller, if any. In the event of a conflict between the specifications, drawings and descriptions, the specifications shall govern. Seller shall not limit or exclude any implied warranties and any attempt to do so shall render this contract voidable at the option of the Buyer.
14. **Safety Warranty:** Seller warrants that the product sold to Buyer shall conform to the standards promulgated by the U.S. Department of Labor under the Occupational Safety and Health Act (OSHA) of 1970. In the event the product does not conform to OSHA standards, Buyer may return the product for correction or replacement at the Seller's expense. In the event Seller fails to make the appropriate correction within 15 working days, correction made by Buyer will be at Seller's expense.
15. **No Warranty by Buyer against Infringements:** As part of this contract for sale, Seller agrees to ascertain whether goods manufactured in accordance with the specifications attached to this agreement will give rise to the rightful claim of any third person by way of infringement or the like. Buyer makes no warranty that the production of goods according to the specification will not give rise to such a claim, and in no event shall Buyer be liable to Seller for indemnification in the event that Seller is sued on the grounds of infringement or the like. If Seller is of the opinion that an infringement or the like will result, the Seller will notify Buyer to this effect in writing within two weeks after the signing of this agreement. If Buyer does not receive notice and is subsequently held liable for the infringement or the like, Seller will hold Buyer harmless. If Seller in good faith ascertains that production of the goods in accordance with the specifications will result in infringement or the like, this contract shall be null and void except that Buyer will pay Seller the reasonable cost of his search as to infringements.
16. **Right of Inspection:** Buyer shall have the right to inspect the goods at delivery before accepting them.
17. **Cancellation:** Buyer shall have the right to cancel for default all or any part of the undelivered portion of this order if Seller breaches any of the terms hereof including warranties of Seller or if the Seller becomes insolvent or commits acts of bankruptcy. Such right of cancellation is in addition to and not in lieu of any other remedies, which Buyer may have in law or equity.
18. **Termination:** The performance of work under this order may be terminated in whole or in part by the Buyer in accordance with this provision. Termination of work there under shall be effected by the delivery to the Seller of a "Notice of Termination" specifying the extent to which performance of work under the order is terminated and the date upon which such termination becomes effective. Such right of termination is in addition to and not in lieu of rights of Buyer set forth in Clause 15, herein.
19. **Force Majeure:** If by reason of Force Majeure, either party hereto shall be rendered unable wholly or in part to carry out its obligations under this Agreement then such party shall give notice and full particulars of Force Majeure in writing to the other party within a reasonable time after occurrence of the event or cause relied upon, and the obligation of the party giving such notice, so far as it is affected by such Force Majeure, shall be suspended during the continuance of the inability then claimed, except as hereinafter provided, but for no longer period, and such party shall endeavor to remove or overcome such inability with all reasonable dispatch. The term Force Majeure as employed herein, shall mean acts of God, strikes, lockouts, or other industrial disturbances, act of public enemy, orders of any kind of government of the United States or the State of Texas or any civil or military authority; insurrections; riots; epidemics; landslides; land sinkage; lighting; earthquake; fires; hurricanes; storms; floods; washouts; droughts; arrests; restraint of government and people; civil disturbances; explosions, breakage or accidents to machinery, pipelines or canals, or other causes not reasonably within the control of the party claiming such inability. It is understood and agreed that the settlement of strikes and lockouts shall be entirely within the discretion of the party having the difficulty, and that the above requirement that any Force Majeure shall be remedied with all reasonable dispatch shall not require the settlement of strikes and lockouts by acceding to the demands of the opposing party or parties when such settlement is unfavorable in the judgment of the party having the difficulty.
20. **Assignment Delegation:** No right or interest in this contract shall be assigned or delegation of any obligation made by Seller without the written permission of the Buyer. Any attempted assignment or delegation by Seller shall be wholly void and totally ineffective for all purposes unless made in conformity with this paragraph.
21. **Waiver:** No claim or right arising out of a breach of this contract can be discharged in whole or in part by a waiver or renunciation of the claim or right unless the waiver or renunciation is supported by consideration and is in writing signed by the aggrieved.
22. **Modifications:** This contract can be modified or rescinded only by a writing signed by both parties to the contract or their duly authorized agents.
23. **Interpretation Parole Evidence:** This writing is intended by the parties as a final expression of their agreement and is intended also as a complete and exclusive statement of the terms of their agreement. No course of prior dealings between the parties and no usage of the trade shall be relevant to supplement or explain any term used in this agreement. Acceptance or acquiescence in a course of performance rendered under this agreement shall not be relevant to determine the meaning of this agreement even though the accepting or acquiescing party has knowledge of the performance and opportunity for objection. Whenever a term defined by the Uniform Commercial Code is used in this agreement, the definition contained in the Code is to control.
24. **Applicable Law:** This agreement shall be governed by the Uniform Commercial Code. Wherever the term "Uniform Commercial Code" is used, it shall be construed as meaning the Uniform Commercial Code as adopted in the State of Texas effective and in force on the date of this agreement.
25. **Advertising:** Seller shall not advertise or publish, without Buyer's prior consent, the fact that Buyer has entered into this contract, except to the extent necessary to comply with proper requests for information from an authorized representative of the federal, state or local government.

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26. **Right to Assurance:** Whenever one party to this contract in good faith has reason to question the other party's intent to perform he/she may demand that the other party give written assurance of his/hers business intent to perform. In the event that a demand is made and no assurance is given within five (5) days, the demanding party may treat this failure as an anticipatory repudiation of the contract.
27. **Venue:** Both parties agree that venue for any litigation arising from this contract shall lie in Hidalgo County, Texas.
28. **Prohibition Against Personal Interest in Contracts:** Any board member which has any substantial interest, either direct or indirect, in any business entity seeking to contract with the district, shall, before any vote or decision on any matter involving the business entity, file an affidavit stating the nature and extent of interest and shall abstain from any participation in the matter. This is not required if the vote or decision will not have any special effect on the entity other than its effect on the public. However, if a majority of the governing body are also required to file, and do file similar affidavits, then the member is not required to abstain from further participation. Vernon's Texas Codes Annotated, Local Government Code. Chapter 171.
29. **Penalties for Non-Performance:** If, at any time, the contractor fails to fulfill or abide by the terms, conditions, or specifications of the contract, the Edinburg Consolidated Independent School District reserves the right to:
- Purchase on the open market and charge the contractor the difference between contract and actual purchase price, or
 - Deduct such charges from existing invoice totals due at the time, or
 - Cancel the contract within thirty (30) days written notification of intent
30. **Right to Investigate:**
- Capacity
 - Financial Information
 - Business Records (Federally Funded Contracts)
31. **Bidder Qualification:** Bidders not on the District's bid list, may be required to prove their qualifications concerning the following criteria:
- Financial capabilities
 - Bonding status
 - Contractual history (references)
 - Ability to fulfill and abide by the terms and specifications
 - Quality and stability of product and sources
32. **District Bid Forms:** Bid proposal not submitted on District's bid forms will be rejected. Faxed or e-mail submittals will not be accepted. These forms of submittals will be destroyed or deleted and the vendor will be notified immediately.
33. **Addendums:** In the event that it becomes necessary to clarify or revise this solicitation, such clarification or revision will be by an addendum. Any addendum will be posted on the District's Purchasing Website. It will be the vendor's responsibility to check the site for any and all addendums. Any addendums to this solicitation shall become part of this solicitation. It is also at the Districts discretion to fax or email addendums as deemed necessary.
34. **Delinquent School Taxes:** The Edinburg CISD shall not do business with any individual or company that is delinquent in the payment of their school taxes. In accordance with law, the District shall not enter into a contract or other transaction with a person indebted to the District, nor shall the District award a contract to or enter into a transaction with an apparent low Contractor or successful proposer indebted to the District.
- _____ I am not a delinquent taxpayer to the Edinburg CISD.
- _____ I am a delinquent taxpayer to Edinburg ISD (your bid may be disqualified if your debt is not cleared prior to award.)
35. **"OR EQUAL" Products:** Whenever an article or material is defined by describing a proprietary product or by using the name of a manufacturer, the term "or equal", if not inserted, shall be implied. The specified article or material shall be understood as indicating the type, function, minimum standard of design, efficiency, and quality desired and shall not be construed as to exclude other manufactured products of comparable quality, design and efficiency. The District reserves the right to waive any or all technicalities, and shall be the sole judge in determining equality, technicalities and formalities. Bidders offering substitute items must indicate manufacturer's name and model number.
36. **Deviation(s)** – Any deviation(s) to the specification(s) shall be listed on a separate sheet(s) of paper and attached to the bid response form identifying the section number, component(s) with deviation(s) and a clearly defined explanation for the deviation(s). It is the bidder's responsibility to submit a bid that meets all mandatory specifications stated within. Because of the variations in manufacturer's construction, the bidder must compare their product bid with the required listed minimum specifications and identify any deviations. Failure to properly identify deviations may render the bidder's proposal non-responsive and not capable of consideration for award. Bidders should note that a descriptive brochure of the model bid may not be sufficient or acceptable as proper identification of deviations from the written specifications.
37. **Right to award:** The District reserves the right to award the bid in its entirety, partially, or reject it. The District reserves the right to buy any and/or all supplies from any vendor.
38. **Right to increase or decrease quantities:** The District reserves the right to increase or decrease the number of articles called for in any item of the specifications or to eliminate items entirely. Bidder's proposal will be adjusted in accordance with the unit price quoted therein.
39. **Renewal Option for Term Contracts:** There will be a renewal option to extend this term contracts, if applicable, for an additional one (1) year period if all parties agree to the renewal in writing and all bid prices, discounts, terms and conditions remain the same. In no instance shall this extension be considered automatic.

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- 40. **Warranty & Guarantees:** Except as otherwise specified, the bidder warrants and guarantees all work against defects in materials, equipment or workmanship for one (1) year from the date of final acceptance. Upon receipt of written notice from the District of the discovery of any defects, the bidder shall remedy the defects and replace any property damaged there from occurring within the warranty and guarantee period.
- 41. **Evaluation Factors:** The bid award shall be based on the following evaluation factors:
 - a. the purchase price;
 - b. the reputation of the vendor and of the vendor's goods or services;
 - c. the quality of the vendor's goods or services;
 - d. the extent to which the goods or services meet the district's needs;
 - e. the vendor's past relationship with the district;
 - f. the total long-term cost to the district to acquire the vendor's goods or services
- 42. **Non-Collusive Bidding Certification:** By submission of this bid or proposal, the bidder certifies that:
 - a. This bid or proposal has been independently arrived at without collusion with any other bidder or with any competitor;
 - b. This bid or proposal has not been knowingly disclosed and will not be knowingly disclosed, prior to the opening of bids, or proposals for this project, to any other bidder, competitor or potential competitor;
 - c. No attempt has been or will be made to induce any other person, partnership or corporation to submit or not to submit a bid or proposal;
 - d. The person signing this bid or proposal certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties being applicable to the bidder as well as to the person signing in its behalf.
- 43. **EEOC Non-Discrimination Statement:** It is the policy of Edinburg CISD not to discriminate on the basis of sex, age, handicap, religion, race, color, or national origin in its educational programs.
- 44. **Conflict of Interest Disclosure:** Pursuant to Chapter 176, Texas Local Government Code, vendors doing or seeking to do business with Edinburg CISD must submit a Conflict of Interest disclosure form if they have a business relationship as defined by Section 176.001 (1-a) with a local government entity and meet the disclosure requirements of Section 176.006(a). A person commits an offense (Class C misdemeanor) if they knowingly violate Section 176.006, Local Government Code.
- 45. **Certificate of Interested Parties:** All Bids, CSPs, RFPs, RFQs prior to award or award of Contract by the School Board will require that the Texas Ethics Commission (TEC) Form 1295 Electronic (on line) Vendor filing procedure be completed by Vendor. All Vendors being recommended to the Board of Trustees for award or renewal of award on Agenda must register and obtain a TEC Certification for the specific award. This certification Form 1295 must be electronically submitted, printed and notarized. Notarized form must be submitted as a required form for this solicitation. There is no charge for this TEC online process.

Texas Ethics Commission (TEC) Form 1295 must be completed (by firm – on line "New Form 1295 Certificate of Interested Parties Electronic Filing Application" site at: https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm). The TEC website includes Question/Answers and Video instructions.
- 46. **Declaration of Business Location – Texas Education Code 44.031 (b)(8).** By signing below, Contractor certified the Contractor's or the Contractor's ultimate parent company or majority owner:
 - ____ A. Has its principal place of business in the State of Texas; OR ____ B. Employs at least 500 persons in the State of Texas
 - ____ C. Principal Place of business is not in the State of Texas: _____(City,State)
- 47. **Owner(s) Name of Business:** By signing below, Contractor certified the owner(s) name of the business submitting bid is/are: (Please print name(s) below. If not applicable, please indicate N/A.)

- 48. **Texas Historically Underutilized Business (HUB) - Texas Education Code 44.031(b)(6) or Small and Minority Firms, Women's Business Enterprises and Labor Surplus Area Firm:** Contractor certified the Bidder's company is HUB certified with the State of Texas.
 - ____ I am an Active certified HUB vendor. HUB expiration date: _____
 - ____ Small and Minority Firms, Women's Business Enterprises and Labor Surplus Area Firms
 - ____ I am neither.
- 49. **Criminal History Record Information Review of Certain Contract Employees:** By signing below, the Contractor agrees to comply with Section 22.0834. Criminal History Record Information Review of Certain Contract Employees, Texas Education Code if awarded a contract through this solicitation. The undersigned Contractor, if awarded a contract, shall obtain criminal history record information through the

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criminal history clearinghouse as provided by Section 411.0845, Government Code relating to an employee or applicant who has or will have continuing duties related to the contracted services; and the employee or applicant has or will have direct contact with students. The contractor agrees to certify of the receipt of criminal history record information before or immediately after employing or securing the services of the employee or applicant that has or will have continuing duties related to the contracted services if the employee or applicant has or will have direct contact with students. The Contractor further agrees that if awarded a contract, shall assume all expenses associated with the criminal background check and shall immediately remove any employee or agent who was convicted of a felony, or misdemeanor involving moral turpitude, as defined by Texas law, from District property or the location where students are present.

_____ None of my employees and any of the subcontractors has or will have continuing duties related to the contracted services; and has or will have direct contact with students. I further certify that my company has taken precautions or imposed conditions to ensure that my employees and any subcontractor will not have continuing duties related to the contracted services; and will not have direct contact with students throughout the term of the Contract.

OR

_____ Some or all of my employees and/or my subcontractors will have continuing duties related to the contracted services; and will have direct contact with students. I further certify that:

1. I have obtained all required criminal history record information regarding all of my employees and/or my subcontractors. None of my employees and/or my subcontractors has any conviction or other criminal history information if a the time of the offense, the victim was under 18 or enrolled in a public school: (a) a felony offense under Title 5, Texas Penal Code; (b) an offense for which a defendant is required to register as a sex offender under Chapter 62, Texas Code of Criminal Procedures; or (c) an equivalent offense under federal law or the laws of another state. IF AVAILABLE, ATTACH A COPY OF YOUR FAST PASS RECEIPT.
2. If you received information that any of my employees and/or subcontractors subsequently has a reported criminal history, I will immediately remove the covered employee from contract duties and notify the District in writing immediately.
3. I will provide the District with the names and any other requested information regarding any of my employees and/or subcontractors so the District may obtain criminal history record information if awarded a contract.
4. If the District objects to the assignment of any of my employees and/or subcontractors, I agree to discontinue using the individual to provide services to the District.

50. **Contract Provisions for contracts under Federal Awards:** By submission of this bid, Contractor agrees to comply with the following provisions.

- 50.1 Contracts for more than the simplified acquisition threshold currently set at \$150,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulation Council (Councils) as authorized by 41 U.S.C.1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.
- 50.2 All contracts in excess of \$10,000 must address termination for cause and for convenience including the manner by which it will be effected and the basis for settlement.
- 50.3 Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."
- 50.4 Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$12,000 must include a provision for compliance with the Davis-Bacon Act (40 U.S.C 3141-3144, and 3146-3148 as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Finance and Assisted Construction"). In accordance with the statue, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145) as supplemented by Department of Labor regulations (20 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or sub-recipient must be prohibited from including, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The entity must repair all suspected or reported violation to the Federal awarding agency.
- 50.5 Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no

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laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

- 50.6 Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the recipient or sub recipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or sub recipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.
- 50.7 Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and sub grants of amounts in excess of \$150,000 must contain a provision that requires the award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).
- 50.8 Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.
- 50.9 Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the award.
- 50.10 A an entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.
51. Debarment and Suspension (Executive Orders 12549 and 12689): By signing below Contractor certified that neither it nor its principals are currently listed on the government-wide exclusions in SAM as debarred, suspended, or otherwise excluded by agencies or declared ineligible under statutory or regulatory authority other than Executive Order 12549. Contractor further agrees to immediately notify the District if he/she is later listed on the government-wide exclusions in SAM, or is debarred, suspended, or otherwise excluded by agencies or declared ineligible under statutory or regulatory authority other than Executive Order 12549.
52. Vendor must comply with H.B. No. 89 Chapter 2270. Prohibition on Contracts with Companies Boycotting Israel.

I, the undersigned authorize agent for the company named below, certify that the information concerning Section 1-52 listed above has been reviewed by me and the information furnished is true to the best of my knowledge. I further certify that I agree to comply with Sections 1-52 listed above.

Print/Type Signature Name

Official Title

Authorized Signature

Date

FELONY CONVICTION NOTIFICATION

State of Texas Legislative Senate Bill No. 1, Section 44.034, Notification of Criminal History, Subsection (a), states "a person or business entity that enters into a contract with a school district must give advance notice to the district if the person or an owner or operator of the business entity has been convicted of a felony. The notice must include a general description of the conduct resulting in the conviction of a felony."

Subsection (b) states "a school district may terminate a contract with a person or business entity if the district determines that the person or the person or business entity failed to give notice as required by Subsection (a) or misrepresented the conduct resulting in the conviction. The district must compensate the person or business entity for services performed before the termination of the contract."

This Notice Is Not Required of a Publicly-Held Corporation

I, the undersigned agent for the firm named below, certify that the information concerning notification of felony convictions has been reviewed by me and the following information furnished is true to the best of my knowledge.

Vendor's Name

Authorized Company Official's Name (Printed)

A. My firm is a publicly-held corporation; therefore, this reporting requirement is not applicable.

Signature of Company Official

B. My firm is not owned nor operated by anyone who has been convicted of a felony:

Signature of Company Official

C. My firm is owned or operated by the following individual(s) who has/have been convicted of a felony:

Names of Felon(s)

Details of Conviction(s)

Signature of Company Official

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor or other person doing business with local governmental entity

This questionnaire reflects changes made to the law by the H.B. 1491 80th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code by a person who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the person meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.

A person commits an offense if the person knowingly violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of person doing business with local governmental entity.

2

Check this box if you are filing an update to a previously filed questionnaire.

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than September 1 of the year for which an activity described in Section 176.006 (a), Local Government Code, is pending and not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3

Name of local government officer with whom filer has employment or business relationship.

_____ Name of Officer

This section (item 3 including subparts A, B, C & D) must be completed for each officer with whom the filer has an employment or other business relationship as defined by Section 176.001(1-a), Local Government Code. Attached additional pages to this form CIQ as necessary.

- A. Is the local government officer named in this section receiving or likely to receive taxable income, other than investment income, from the filer of the questionnaire?
 Yes No
- B. Is the filer of the questionnaire receiving or likely to receive taxable income, other than investment income,
 Yes No
- C. Is the filer of this questionnaire employed by a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?
 Yes No
- D. Describe each employment or business relationship with the local government officer named in this section

4

_____ Signature of person doing business with the governmental entity

_____ Date

CERTIFICATION OF INTERESTED PARTIES – FORM 1295

Definitions and Instructions for Completing Form 1295

Edinburg Consolidated Independent School District is required to comply with House Bill 1295, which amended the Texas Government Code by adding Section 2252.908, Disclosure of Interested Parties. Section 2252.908 prohibits Edinburg CISD from entering into a contract resulting from a Bid, CSP, RFP, RFQ, Inter-local Cooperative Quote with a business entity unless the business entity submits a Disclosure of Interested Parties – Form 1295 to Edinburg CISD at the time the business entity submits the signed contract. The Texas Ethics Commission has adopted rules requiring the business entity to file Form 1295 electronically with the Texas Ethics Commission.

As a “business entity,” vendors must electronically complete, print, manually fill out Unsworn Declaration portion and sign. Once form is completed, submit with your proposals or contracts even if no interested parties exist.

Proposers must file Certificate of Interested Parties – Form 1295 with the Texas Ethics Commission using the following online application: https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

- Proposers must use the filing application on the Texas Ethics Commission's website (see link above) to enter the required information on Form 1295.
- Proposers must print a copy of the completed form, which will include a certification of filing containing a unique certification number.
- The Form 1295 must be printed and then signed by an authorized agent of the business entity.
- The completed Form 1295 with the certification of filing must be filed with Edinburg Consolidated Independent School District by including a copy of the completed form with the proposal response.
- Edinburg CISD must acknowledge the receipt of the filed Form 1295 by notifying the Texas Ethics Commission of the receipt of the filed Form 1295 no later than the 30th day after the date the contract binds all parties to the contract.
- After Edinburg CISD acknowledges the Form 1295, the Texas Ethics Commission will post the completed Form 1295 to its website within seven (7) business days after receiving notice from Edinburg CISD.

Instructions to Vendors:

1. **Read these instructions,**
2. **Go to the Ethics Commission Website https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm,**
3. **Register and complete Form 1295 online - include the bid/proposal # and the contract/(Bid,CSP,RFQ,RFP name,**
4. **Print a copy of the submitted Form 1295 and sign - it will have a certification # in the top right corner,**
5. **Include a copy of the completed, signed Form 1295 with the proposal response.**

Definitions:

- **Interested Party:** a person who:
 - 1) has controlling interest in a business entity with whom Edinburg CISD contracts; or
 - 2) actively participates in facilitating a contract or negotiating the terms of a contract, including a broker, intermediary, adviser, or attorney for the business entity.
- **Controlling Interest** means:
 - 1) an ownership interest or participating interest in a business entity by virtue of units, percentage, shares, stock, or otherwise that exceeds 10 percent;
 - 2) membership on the board of directors or other governing body of a business entity of which the board or other governing body is composed of not more than 10 members; or
 - 3) service as an officer of a business entity that has four or fewer officers, or service as one of the four officers most highly compensated by a business entity that has more than four officers.
- **Intermediary:** a person who actively participates in the facilitation of the contract or negotiating the contract, including a broker, advisor, attorney, or representative of or agent for the business entity who:
 - 1) receives compensation from the business entity for the person's participation;
 - 2) communicates directly with the governmental entity or state agency on behalf of the business entity regarding the contract; and
 - 3) is not an employee of the business entity.
- **Business Entity:** includes an entity through which business is conducted with a governmental entity or state agency, regardless of whether the entity is a for-profit or nonprofit entity.

Resources:

Form 1295 Frequently Asked Questions:

- https://www.ethics.state.tx.us/whatsnew/FAQ_Form1295.html

Instructional Video – First Time Business User:

- <https://www.ethics.state.tx.us/filinginfo/videos/Form1295/FirstLogin-Business/Form1295Login-Business.html>

Instructional Video – How to Create a Certificate:

- <https://www.ethics.state.tx.us/filinginfo/videos/Form1295/CreateCertificate/CreateCertificate.html>

CSP 20-50, BARRIENTES BOILERS REPLACEMENT

A person or business entity entering into a contract and/or agreement with ECISD is required by the new Government Code Statute 2252.908, to complete Form 1295 "Certificate of Interested Parties". This form must be submitted online at http://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm. Once the online submission has been processed and a claim number has been issued, the form must be printed with the claim number, Unsworn Declaration must be manually filled out and signed. Submit form along with this solicitation documents. IF Form 1295 is not submitted along with this solicitation documents, your response may be considered "non-responsive" and may be disqualified.

CERTIFICATE OF INTERESTED PARTIES		FORM 1295		
1 of 1				
Complete Nos. 1 - 4 and 6 if there are interested parties. Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.		OFFICE USE ONLY		
1 Name of business entity filing form, and the city, state and country of the business entity's place of business.		Certificate Number:		
Vendor Name		Date Filed:		
2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.		Date Acknowledged:		
Edinburg CISD				
3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.				
Use District's Proposal # & Proposal Title located on cover page of solicitation				
4	Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
			Controlling	Intermediary
Example				
5 Check only if there is NO Interested Party. <input type="checkbox"/>				
6 UNSWORN DECLARATION				
My name is _____, and my date of birth is _____.				
My address is _____ (street), _____ (city), _____ (state), _____ (zip code), _____ (country).				
I declare under penalty of perjury that the foregoing is true and correct.				
Executed in _____ County, State of _____, on the _____ day of _____, 20____.				
_____ Signature of authorized agent of contracting business entity (Declarant)				

DEVIATION FORM

(This form must be signed)

1. DEVIATION(S) – Any deviations to the attached specifications shall be listed below, or on a separate sheet of paper, and attached to the bid response form identifying the section number, item number and a clearly defined explanation for the deviations.
2. It is the bidder's responsibility to submit a bid that meets all mandatory specifications stated within. Because of the variations in manufacturer's construction, the bidder must compare their product bid with the required listed minimum specifications and identify any deviations.
3. Failure to properly identify deviations may render the bidder's proposal non-responsive and not capable of consideration for award.
4. Bidders should note that a descriptive brochure of the model bid may not be sufficient or acceptable as proper identification of deviations from the written specifications.

NO - Deviations: _____ YES - Deviations: _____

List any deviations your company is submitting below: (List on separate page, if necessary)

Company Name

Print Name of Authorized Company Official

Signature of Authorized Company Official

Edinburg Consolidated Independent School District Substitute W-9 & Direct Deposit Authorization Form

Complete form if: 1. You are a U.S. entity (including a resident alien) 2. You are a vendor that provides goods or services to ECISD; AND 3. You will receive payment from the Edinburg Consolidated ISD	New Request <input type="checkbox"/>	Update – Select from the following: Tax ID <input type="checkbox"/> Legal Name <input type="checkbox"/> Vendor Order Address <input type="checkbox"/> Direct Deposit <input type="checkbox"/> Contact Information <input type="checkbox"/> Vendor Payment Address <input type="checkbox"/>
Individual/Company/Entity Legal Name (Must match TIN below): _____ Taxpayer Identification Number (TIN) _____ - _____ Federal Tax ID Number (FID) _____ - _____		DBA Name (IF Applicable): _____ OR SSN – Individual/Sole Proprietor _____ - _____
Vendor Contact Information: Name: _____ Title: _____ Phone: _____ Fax: _____		
Vendor Type – Select 5 only one of the following boxes: <input type="checkbox"/> Individual/Sole Proprietorship <input type="checkbox"/> C-Corporation <input type="checkbox"/> S-Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/Estate <input type="checkbox"/> Other: Explain _____ <input type="checkbox"/> Limited Liability Company (LLC). Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) _____ <input type="checkbox"/> Exempt payee code (if any) _____ <input type="checkbox"/> Exemption from FATCA reporting code (if any) _____		
Order Address: Street/PO Box: _____ Second Line: _____ City: _____ State: _____ Zip Code: _____		Payment Remittance Address: <input type="checkbox"/> Check if Order Address is same as Payment Address Street/PO Box: _____ Second Line: _____ City: _____ State: _____ Zip Code: _____
Banking Information: In an effort to process your payment faster, we request that you complete the ACH enrollment section below. All fields must be completed for direct deposit setup. Attach a voided check or letter from your financial institution.		
Account Type: Checking <input type="checkbox"/> Savings <input type="checkbox"/> Bank Name: _____ Bank Address: _____ City: _____ State: _____ Zip Code: _____		Email for Direct Deposit Notification: _____ ABA Routing Number: _____ Account Number: _____ Phone: _____ Fax: _____
W-9 Certification 1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), AND 2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Services (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, AND 3. I am a U.S. citizen or other U.S. person. Certification Instructions: You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions, to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN. Signature: _____ Date: _____ Print Name/Title: _____		Direct Deposit Authorization and Agreement I authorize Edinburg Consolidated Independent School District (ECISD) to initiate direct deposit of funds to the account and financial institution indicated above, and to recover funds deposited in error in necessary, in compliance with Texas and U.S. Law, and the Automatic Clearing House (ACH) rules. I understand that: 1. It is my responsibility to provide accurate and current banking information. Notification of direct deposits will be by e-mail; and it is my responsibility to provide a valid e-mail address. 2. It is my responsibility to verify payment has been credited to my account, and that ECISD assumes no liability for overdrafts for any reasons. 3. This authorization will remain in effect until; (a) a written request is received from a vendor officer to change or terminate direct deposit agreement; (b) notification is sent by my bank that the account is no longer valid. Signature: _____ Date: _____ Print Name/Title: _____
Send completed form to: ECISD requestor or: Mail to: Edinburg Consolidated Independent School District, ATTN: Accounts Payable, PO Box 990, Edinburg, TX 78540 OR; E-mail: ECISDinvoice@ecisd.us , OR; Fax: 956-383-4354. Any Questions on this form, call 956-289-2300 ext. 2074		
Finance Office Use Only: Updated Record on: _____		Updated by: _____ Bank Code: _____ Vendor #: _____

SPECIAL TERMS & CONDITIONS

1. **INTENTION:** It is the intention of the Board of Trustees of the Edinburg Consolidated Independent School District to receive proposals from interested vendors to select vendor(s) offering the best value for **BARRIENTES BOILERS REPLACEMENT**.
2. **CONTACT:** Please call ClauDina Longoria at 956-289-2311, ext. 2135 or e-mail to d.longoria@ecisd.us if you have any questions regarding this bid.
3. **CONTRACT SERVICE PERIOD:** This is a one-time purchase.
4. **EEOC NON-DISCRIMINATION STATEMENT:** It is the policy of Edinburg CISD not to discriminate on the basis of sex, age, handicap, religion, race, color, or national origin in its educational programs.
5. **PAYMENT INFORMATION:** Payments will be made on the District's regular payment schedule.
6. **TERMS:** Net 30 unless otherwise noted as an exception.
7. **ADDENDUMS:** It will be the vendor's responsibility to check the Purchasing Website for any addendums or additional information. ECISD website is www.ecisd.us. Click on Departments, then Purchasing. Once at the Purchasing site, locate the calendar list in middle and click on title of the solicitation. If you do not see it on the list, click the month button on top and you will see complete month with all solicitations the District is currently seeking out. Any questions, please contact the Purchasing office and we will assist you.
8. **DELIVERY INFORMATION:** The successful bidders will be given reasonable length of time for delivery, however, purchase orders over thirty (30) days old are considered unreasonable. The Edinburg CISD reserves the right to review the bidder's delivery performance and to re-award to the next lowest vendor, if delivery is unsatisfactory.
9. **INSURANCE REQUIREMENTS:**
 - a. General Liability
 - b. Workmen's Compensation
 - c. Property Liability
10. **SCOPE OF WORK:** ECISD is seeking to purchase 2x Gas Boiler. See Boiler schedule. Boiler shall comply with all local and national codes, including the construction documents and book of specifications. **This is for the purchase of the boilers only. Do not include cost for installation.**
11. **START UP/COMMISSIONING**
 - a. Price for start-up should be included in cost. Factory Certified technicians should perform start up and necessary setting adjustments for units to run under designed conditions.
 - b. Technician will perform commissioning and provide report.

SPECIFICATIONS

Please see the attached pages for the actual specifications on the areas listed below:

SECTION	TITLE	PAGES
15185	Hydronic Pumps	1 – 8
15513	Condensing Boilers	1 – 8

**Edinburg Consolidated Independent School District
CSP 20-50, BARRIENTES BOILERS REPLACEMENT
PROPOSAL FORM**

ITEM #	DESCRIPTION	QTY	UNIT COST	TOTAL COST	BRAND/MODEL
NATURAL GAS BOILER					
1	NATURAL GAS BOILER See boiler schedule below, boiler shall comply with all local and natural codes, including the construction documents and book of specifications.	2			
2	WARRANTY One (1) year parts and labor for entire boiler, five (5) year on heat exchanger, specify manufacturer's warranty.	1			
3	OPTIONAL ADDITIONAL WARRANTY Additional cost for 2-5 year warranty on parts and labor.	1			
CENTRIFUGAL PUMP					
4	END-SUCTION CENTRIFUGAL PUMP Hot water, pump shall meet book of specifications and construction documents.	1			
5	WARRANTY One (1) year parts and labor, specify manufacturer's warranty.	1			
AIR SUPARATOR					
6	AIR SEPARATOR Hot water, pump shall meet book and specifications and construction documents	1			
7	WARRANTY One (1) year parts, specify manufacturer's warranty.	1			
TRAINING					
8	Any necessary training to ECISD technicians and should be provided by Manufacturer's certified technician/personnel, specify numbers allocated hours for training.	1			

HVAC HOT WATER BOILER SCHEDULE									
DESIGNATION	FLOW (GPM)	CONNECTION SIZE	TEMP. EWT (F)/LWT(F)	CAPACITY (MBH) INPUT/OUTPUT	FUEL TYPE	GAS CONN. SIZE	VOLTI/PH/FLA	MANUFACTURER	MODEL
B-1	285	3"	140/160	3,000/2,850	NAT. GAS	2"	208/3/4.5	LAARS	FB-2001
B-2	285	3"	140/160	3,000/2,850	NAT. GAS	2"	208/3/4.5	LAARS	FB-2001

NOTES: 1. MOUNT ON EXISTING 4-INCH CONCRETE PAD.
2. PROVIDE WITH CONDENSATE NEUTRALIZATION KIT AND EXTERIOR FLUE VENT KIT WITH WEATHER CAP.
3. PROVIDE VENT TERMINAL FOR OUTDOOR UNIT; PROVIDE SCREEN FOR OUTDOOR UNIT AIR.
4. SYSTEM SHALL BE MONITORED/ENABLED/DISABLED THRU ENERGY MANAGEMENT SYSTEM AND BACNET CARD.
REFER TO BOILER SPECIFICATIONS FOR ALL VARIABLES/PARAMETERS WHICH SHALL BE AVAILABLE THRU FRONT END CONTROL GRAPHICS

PUMP SCHEDULE						
DESIGNATION	SYSTEM TYPE	PUMP TYPE	FLOW (GPM)	DYNAMIC HEAD (FT.)	MINIMUM NPSH (FT.)	MOTOR HP
BP-1	HOT WATER	END-SUCTION	570	105'	-	1760

PUMP SCHEDULE			
DESIGNATION	SYSTEM TYPE	CONNECTION SIZE (IN)	MAXIMUM WORKING PRESSURE (PSIG)
AS-1	HOT WATER	8"	150

NOTES: 1. PROVIDE WITH TEFC MOTOR.

PUMP SCHEDULE			
DESIGNATION	SYSTEM TYPE	MANUFACTURER	MODEL
BP-1	HOT WATER	GRUNDFOS	30127 LCS
AS-1	HOT WATER	SPIROTHERM	VHT-800

SECTION 15185 - HYDRONIC PUMPS PART 1 -

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 1. Separately coupled, vertical, in-line centrifugal pumps.
 2. Separately coupled, base-mounted, end-suction centrifugal pumps.
 3. Separately coupled, base-mounted, double-suction centrifugal pumps.
 4. Separately coupled, vertical-mounted, double-suction centrifugal pumps.

1.3 DEFINITIONS

- A. Buna-N: Nitrile rubber.
- B. EPT: Ethylene propylene terpolymer.

1.4 SUBMITTALS

- A. Product Data: Include certified performance curves and rated capacities, operating characteristics, furnished specialties, final impeller dimensions, and accessories for each type of product indicated. Indicate pump's operating point on curves.
- B. Shop Drawings: Show pump layout and connections. Include setting drawings with templates for installing foundation and anchor bolts and other anchorages.
 1. Wiring Diagrams: Power, signal, and control wiring.
- C. Operation and Maintenance Data: For pumps to include in emergency, operation, and maintenance manuals. Alignment repair shall be included.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain hydronic pumps through one source from a single manufacturer.
- B. Product Options: Drawings indicate size, profiles, and dimensional requirements of hydronic pumps and are based on the specific system indicated. Refer to Division 1 Section "Product Requirements."

- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- D. UL Compliance: Comply with UL 778 for motor-operated water pumps.

1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of water chillers that fail in materials or workmanship.
 - 1. Provide 3 year parts and labor warranty on the entire assembly.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Manufacturer's Preparation for Shipping: Clean flanges and exposed machined metal surfaces and treat with anticorrosion compound after assembly and testing. Protect flanges, pipe openings, and nozzles with wooden flange covers or with screwed-in plugs.
- B. Store pumps in dry location.
- C. Retain protective covers for flanges and protective coatings during storage.
- D. Protect bearings and couplings against damage from sand, grit, and other foreign matter.
- E. Comply with pump manufacturer's written rigging instructions.

1.8 COORDINATION

- A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Division 3.

1.9 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Mechanical Seals: One mechanical seal(s) for each pump.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
 - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 SEPARATELY COUPLED, VERTICAL, IN-LINE CENTRIFUGAL PUMPS

- A. Manufacturers:
1. Aurora Pump; Division of Pentair Pump Group.
 2. Bell & Gossett; Div. of ITT Industries.
 3. Taco Pumps.
 4. Weinman; Div. of Crane Pumps & Systems.
- B. Description: Factory-assembled and -tested, centrifugal, overhung-impeller, separately coupled, in-line pump; designed for installation with pump and motor shafts mounted vertically. Rate pump for 175-psig minimum working pressure and a continuous water temperature of 225 deg F.
- C. Pump Construction:
1. Casing: Radially split, cast iron, with threaded gage tapings at inlet and outlet, and threaded companion-flange connections.
 2. Impeller: ASTM B 584, cast bronze; statically and dynamically balanced, keyed to shaft, and secured with a locking cap screw. Trim impeller to match specified performance.
 3. Pump Shaft: Stainless steel.
 4. Mechanical Seal: Carbon rotating ring against a ceramic seat held by a stainless-steel spring, and Buna-N bellows and gasket. Include water slinger on shaft between motor and seal.
 5. Packing Seal: Stuffing box, with a minimum of four rings of graphite-impregnated braided yarn with bronze lantern ring between center two graphite rings, and bronze packing gland.
 6. Pump Bearings: Permanently lubricated ball bearings.
- D. Shaft Coupling: Axially split spacer coupling.
- E. Motor: Single speed, with permanently lubricated ball bearings, unless otherwise indicated; rigidly mounted to pump casing with lifting eye and supporting lugs in motor enclosure.

2.3 SEPARATELY COUPLED, BASE-MOUNTED, END-SUCTION CENTRIFUGAL PUMPS

- A. Manufacturers:
1. Aurora Pump; Division of Pentair Pump Group.
 2. Bell & Gossett; Div. of ITT Industries.
 3. MEPCO (Marshall Engineered Products Co.).
 4. Taco Pumps.
 5. Weinman; Div. of Crane Pumps & Systems.
- B. Description: Factory-assembled and -tested, centrifugal, overhung-impeller, separately coupled, end-suction pump; designed for base mounting, with pump and motor shafts horizontal. Rate pump for 175-psig minimum working pressure and a continuous water temperature of 225 deg F.
- C. Pump Construction:
1. Casing: Radially split, cast iron, with replaceable bronze wear rings, threaded gage tapings at inlet and outlet, drain plug at bottom and air vent at top of volute, and flanged connections. Provide integral mount on volute to support the casing, and attached piping to allow removal and replacement of impeller without disconnecting piping or requiring the realignment of pump and motor shaft.
 2. Impeller: ASTM B 584, cast bronze; statically and dynamically balanced, keyed to shaft, and secured with a locking cap screw. Trim impeller to match specified performance.
 3. Pump Shaft: Stainless steel.
 4. Mechanical Seal: Carbon rotating ring against a ceramic seat held by a stainless-steel spring, and Buna-N bellows and gasket.
 5. Packing Seal: Stuffing box, with a minimum of four rings of graphite-impregnated braided yarn

- with bronze lantern ring between center two graphite rings, and bronze packing gland.
- 6. Pump Bearings: Grease-lubricated ball bearings contained in cast-iron housing with grease fittings.
- D. Shaft Coupling: Molded rubber insert and interlocking spider capable of absorbing vibration. Couplings shall be drop-out type to allow disassembly and removal without removing pump shaft or motor provide EPDM coupling sleeve for variable-speed applications.
- E. Coupling Guard: Dual rated; ANSI B15.1, Section 8; OSHA 1910.219 approved; steel; removable; attached to mounting frame.
- F. Mounting Frame: Welded-steel frame and cross members, factory fabricated from ASTM A 36/A 36M channels and angles. Fabricate to mount pump casing, coupling guard, and motor.
- G. Motor: Single speed, with permanently lubricated ball bearings, unless otherwise indicated; secured to mounting frame, with adjustable alignment. Comply with requirements in Division 15 Section "Motors."

2.4 SEPARATELY COUPLED, BASE-MOUNTED, DOUBLE-SUCTION CENTRIFUGAL PUMPS

- A. Manufacturers:
 1. Aurora Pump; Division of Pentair Pump Group.
 2. Bell & Gossett; Div. of ITT Industries.
 3. Taco Pumps.
 4. Weinman; Div. of Crane Pumps & Systems.
- B. Description: Factory-assembled and -tested, centrifugal, impeller-between-bearings, separately coupled, double-suction pump as defined in HI 1.1-1.2 and HI 1.3; designed for base mounting, with pump and motor shafts horizontal. Rate pump for 175-psig minimum working pressure and a continuous water temperature of 225 deg F.
- C. Pump Construction:
 1. Casing: Horizontally split, cast iron, with replaceable bronze wear rings, threaded gage tappings at inlet and outlet, drain plug at bottom and air vent at top of volute, and ASME B16.1, Class 125 flanges. Casing supports shall allow removal and replacement of impeller without disconnecting piping.
 2. Impeller: ASTM B 584, cast bronze; statically and dynamically balanced, and keyed to shaft. Trim impeller to match specified performance.
 3. Pump Shaft: Stainless steel.
 4. Mechanical Seal: Carbon rotating ring against a ceramic seat held by a stainless-steel spring, and Buna-N bellows and gasket.
 5. Packing Seal: Stuffing box, with a minimum of four rings of graphite-impregnated braided yarn with bronze lantern ring between center two graphite rings, and bronze packing gland.
 6. Pump Bearings: Grease-lubricated ball bearings contained in cast-iron housing with grease fittings.
- D. Shaft Coupling: Molded rubber insert and interlocking spider capable of absorbing vibration. Couplings shall be drop-out type to allow disassembly and removal without removing pump shaft or motor provide EPDM coupling sleeve for variable-speed applications.
- E. Coupling Guard: Dual rated; ANSI B15.1, Section 8; OSHA 1910.219 approved; steel; removable; attached to mounting frame.
- F. Mounting Frame: Welded-steel frame and cross members, factory fabricated from ASTM A 36/A 36M channels and angles. Fabricate to mount pump casing, coupling guard, and motor.

- G. Motor: Single speed, with grease-lubricated ball bearings, unless otherwise indicated; secured to mounting frame, with adjustable alignment. Comply with requirements in Division 15 Section "Motors."

2.5 SEPARATELY COUPLED, VERTICAL-MOUNTED, DOUBLE-SUCTION CENTRIFUGAL PUMPS

A. Manufacturers:

1. Aurora Pump; Division of Pentair Pump Group.
2. Bell & Gossett; Div. of ITT Industries.
3. Taco Pumps.
4. Weinmann, Div. of Crane Pumps and Systems.

- ### B. Description:
- Factory-assembled and -tested, centrifugal, impeller-between-bearings, separately coupled, double-suction pump; designed for installation with pump and motor shafts mounted vertically. Rate pump for 175-psig minimum working pressure and a continuous water temperature of 225 deg F.

C. Pump Construction:

1. Casing: Radially split, cast iron, with replaceable bronze wear rings, threaded gage tappings at inlet and outlet, drain plug at bottom of volute, mounting support, and ASME B16.1, Class 125 flanges.
2. Impeller: ASTM B 584, cast bronze; statically and dynamically balanced, and keyed to shaft. Trim impeller to match specified performance.
3. Pump Shaft: Stainless steel.
4. Mechanical Seal: Carbon rotating ring against a ceramic seat held by a stainless-steel spring, and Buna-N bellows and gasket.
5. Packing Seal: Stuffing box, with a minimum of four rings of graphite-impregnated braided yarn with bronze lantern ring between center two graphite rings, and bronze packing gland.
6. Pump Bearings: Grease-lubricated ball bearings contained in cast-iron housing with grease fittings.

- ### D. Shaft Coupling:
- Molded rubber insert and interlocking spider capable of absorbing vibration.

Couplings shall be drop-out type to allow disassembly and removal without removing pump shaft or motor provide EPDM coupling sleeve for variable-speed applications.

- ### E. Motor:
- Single speed, with grease-lubricated ball bearings, unless otherwise indicated; secured to casing. Comply with requirements in Division 15 Section "Motors."

2.6 PUMP SPECIALTY FITTINGS

- ### A. Suction Diffuser:
- Angle pattern, 175-psig pressure rating, ductile-iron body and end cap, pump-inlet fitting; with bronze startup and bronze or stainless-steel permanent strainers; bronze or stainless-steel straightening vanes; drain plug; and factory-fabricated support.

- ### B. Triple-Duty Valve:
- Angle or straight pattern, 175-psig pressure rating, ductile-iron body, pump-discharge fitting; with drain plug and bronze-fitted shutoff, balancing, and check valve features. Brass gage ports with integral check valve, and orifice for flow measurement.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine equipment foundations and anchor-bolt locations for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- B. Examine roughing-in for piping systems to verify actual locations of piping connections before pump installation.
- C. Examine foundations and inertia bases for suitable conditions where pumps are to be installed.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 CONCRETE BASES

- A. Install concrete bases of dimensions indicated for pumps and controllers. Refer to Division 15 Section "Basic Mechanical Materials and Methods."
 - 1. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch (450-mm) centers around full perimeter of base.
 - 2. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
 - 3. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 4. Install anchor bolts to elevations required for proper attachment to supported equipment.
- B. Cast-in-place concrete materials and placement requirements are specified in Division 3.

3.3 PUMP INSTALLATION

- A. Install pumps with access for periodic maintenance including removal of motors, impellers, couplings, and accessories.
- B. Independently support pumps and piping so weight of piping is not supported by pumps and weight of pumps is not supported by piping.
- C. Suspend vertically mounted, in-line centrifugal pumps independent of piping. Install pumps with motor and pump shafts vertical. Use continuous-thread hanger rods and spring hangers of sufficient size to support pump weight. Vibration isolation devices are specified in Division 15 Section "Mechanical Vibration Controls." Hanger and support materials are specified in Division 15 Section "Hangers and Supports."
- D. Set base-mounted pumps on concrete foundation. Disconnect coupling before setting. Do not reconnect couplings until alignment procedure is complete.
 - 1. Support pump baseplate on rectangular metal blocks and shims, or on metal wedges with small taper, at points near foundation bolts to provide a gap of 3/4 to 1-1/2 inches (19 to 38 mm) between pump base and foundation for grouting.
 - 2. Adjust metal supports or wedges until pump and driver shafts are level. Check coupling faces and suction and discharge flanges of pump to verify that they are level and plumb.

- E. Automatic Condensate Pump Units: Install units for collecting condensate and extend to open drain.

3.4 ALIGNMENT

- A. Align pump and motor shafts and piping connections after setting on foundation, grout has been set and foundation bolts have been tightened, and piping connections have been made.
- B. Comply with pump and coupling manufacturers' written instructions.
- C. A qualified millwright shall check, align, and certify pumps. A reverse alignment procedure utilizing laser instruments shall be used. Alignment shall be performed in both hot and cold operating extremes. The maximum parallel and angular misalignment shall not exceed 0.002 inch. Record and deliver copies of the alignment report to the Engineer and Owner and include copy of the report in the O & M manual.
- D. After alignment is correct, tighten foundation bolts evenly but not too firmly. Completely fill baseplate with nonshrink, nonmetallic grout while metal blocks and shims or wedges are in place. After grout has cured, fully tighten foundation bolts.

3.5 CONNECTIONS

- A. Piping installation requirements are specified in other Division 15 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to machine to allow service and maintenance.
- C. Connect piping to pumps. Install valves that are same size as piping connected to pumps.
- D. Install suction and discharge pipe sizes equal to or greater than diameter of pump nozzles.
- E. Install triple-duty valve on discharge side of pumps.
- F. Install Y-type strainer and shutoff valve on suction side of pumps. Suction diffuser without strainer may be substituted for long-radius elbow at contractor's option.
- G. Install flexible connectors on suction and discharge sides of base-mounted pumps between pump casing and valves.
- H. Install pressure gages on pump suction and discharge, at integral pressure-gage tapping, or install single gage with multiple input selector valve.
- I. Install electrical connections for power, controls, and devices.
- J. Ground equipment according to Division 16 Section "Grounding and Bonding."
- K. Connect wiring according to Division 16 Section "Conductors and Cables."

3.6 STARTUP SERVICE

- A. Engage a factory-authorized service representative to perform startup service.
 - 1. Complete installation and startup checks according to manufacturer's written instructions.
 - 2. Check piping connections for tightness.
 - 3. Clean strainers on suction piping.
 - 4. Perform the following startup checks for each pump before starting:
 - a. Verify bearing lubrication.
 - b. Verify that pump is free to rotate by hand and that pump for handling hot liquid is free to rotate with pump hot and cold. If pump is bound or drags, do not operate until cause of trouble is determined and corrected.
 - c. Verify that pump is rotating in the correct direction.
 - 5. Prime pump by opening suction valves and closing drains, and prepare pump for operation.
 - 6. Start motor.
 - 7. Open discharge valve slowly.

3.7 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain hydronic pumps. Refer to Division 1 Section "Closeout Procedures."

END OF SECTION 15185

SECTION 15513 – CONDENSING BOILERS

GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes packaged, factory-fabricated and -assembled, gas-fired, fire-tube condensing boilers, trim, and accessories for heating hot water.

1.3 SUBMITTALS

- A. Product Data: Include performance data, operating characteristics, furnished specialties, and accessories.
- B. Shop Drawings: For boilers, boiler trim, and accessories.
 - 1. Include plans, elevations, sections, details, and attachments to otherwork.
 - 2. Wiring Diagrams: Power, signal, and control wiring.
- C. Source quality-control test reports: Indicate and interpret test results for compliance with performance requirements before shipping.
- D. Field quality-control test reports: Indicate and interpret test results for compliance with performance requirements.
- E. Warranty: Standard warranty specified in this Section.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For boilers to include in emergency, operation, and maintenance manuals.

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. ASME Compliance: Fabricate and label boilers to comply with ASME Boiler and Pressure Vessel Code.
- C. ASHRAE/IESNA 90.1 Compliance: Boilers shall have minimum efficiency according to "Gas and Oil Fired Boilers - Minimum Efficiency Requirements."
- D. AHRI Compliance: Boilers shall be AHRI listed and must meet the minimum efficiency specified under AHRI BTS-2000 as defined by Department of Energy in 10 CFR Part 431.

- E. ANSI Compliance: Boilers shall be compliant with ANSI Z21.13 test standards for US and Canada.
- F. CSA Compliant: Boilers shall be compliant with CSA certification.

1.6 COORDINATION

- A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Division 03.

1.7 WARRANTY

- A. Standard Warranty: Boilers shall include manufacturer's standard form in which manufacturer agrees to repair or replace components of boilers that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period for Condensing Boilers:
 - a. Heat Exchanger, Pressure Vessel and Condensation Collection Basin shall carry a 10 year limited warranty against defects in materials or workmanship and failure due to thermal shock.
 - b. All other components shall carry a one year warranty from date of boiler start up.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: LAARS Magnatherm as specified on Drawings. All others must be submitted by Voluntary alternate.

2.2 CONSTRUCTION

- A. Description: The boiler shall be listed with AHRI (Air Conditioning, Heating and Refrigeration Institute). The boiler shall have minimum thermal efficiency of 95%. The unit(s) shall be constructed to comply with the efficiency requirements of the latest edition of ASHRAE Standard 90.1.
 - 1. The boiler shall be sealed combustion, and shall use a premix burner with a stainless steel woven metal fiber wrap, and a negative pressure gas valve to burn cleanly, with NOx emissions not exceeding 9ppm. The boiler shall meet the emissions requirements of SCAQMD.
 - 2. The boiler shall be certified for placement indoors and outdoors.
 - 3. The boiler shall be designed and certified for vertical or horizontal Category IV venting, up to 100 equivalent feet, with 6" (1600), 8" (2000 & 2500), 10" (3000 & 3500) or 12" (4000) diameter CPVC, polypropylene or stainless steel vent material. Air may be taken from the room, or ducted directly to the boiler using up to 100 equivalent feet of 6" (1600), 8" (2000 & 2500), 10" (3000 & 3500) or 12" (4000) diameter of ABS, PVC, CPVC or galvanized pipe.

4. The water tube heat exchanger shall be stainless steel, and shall be a low water volume design with micro-fin tubing, welded construction, and no gaskets, o-rings or bolts in the header. The heat exchanger shall be accessible for visual inspection and cleaning of all internal surfaces. The boiler shall be fully condensing design with built-in condensate drain and trap. The heat exchanger shall have a limited ten-year warranty.
5. The boiler shall be equipped with an ASME certified pressure relief valve set at 75psi 517 (kPa). Optional pressure relief valves with settings of 30psi (207kPa), 50psi (345 kPa), 60psi (413 kPa), 125psi (861 kPa), or 150psi (1034 kPa) shall be available.
6. The boiler shall operate at gas pressures of 4-10.5" w.c.(natural gas) and shall need no component changes to operate at high altitude, up to 10,000 feet.
7. The boiler jacket shall be a unitized shell finished with acrylic thermo-set paint baked at not less than 325°F (163°C). The frame shall be constructed of galvanized steel for strength and protection. Chamber shall include a sight glass for viewing flame. The boiler shall have a knockdown feature that allows the top section of the boiler to be removed, allowing for easy handling and installation.
8. The boiler shall have an integrated temperature / ignition control and valve control that work together to ensure boiler operation, safety and combustion functions are harmonized. The gas/air system shall allow the boiler to modulate and remain stable throughout the modulation range.
9. The temperature / ignition control shall be an integrated electronic PID control with large touchscreen and color display. The boiler display shall be visible without the removal of any jacket panels or control panels. The control shall display using icons and words, for clarity. The control's home page shall display security level, quick start access, configuration menu access, service menu access, messages, an indication of which demands are active, a navigation bar, date, and time. In addition, the home screen shall display all set points, actual and target firing rates, outside air temperature, flame signal, flue temperature, boiler inlet and outlet temperatures, system temperature (when system sensor is used), domestic water temperature (when DHW sensor is used), and status of all pumps.

2.3 CONTROLS

- A. Refer to Division 23 Section "Instrumentation and Control for HVAC."
- B. Boiler controls shall feature a standard, factory installed 8" LCD screen display with the following standard features:
 1. The control shall have a quick-start menu, configuration menu, and service menu. The quick start menu shall allow configuration of basic functionality and the most common settings, without the need to access all parameters that are available. The configuration menu shall hold all settable/changeable parameters. The service menu shall allow for access to information that will help setup and troubleshoot the boiler.
 2. The control shall have three levels of access, each with a unique password; user, installer and OEM. A verification feature shall be present, to ensure that safety- related parameters are not altered by mistake. The control shall have a lockout feature, so that changes cannot be made without entering the password. The user shall be able to choose how long the control will remain unlocked after user interaction has stopped.
 3. The control shall have two independent space heating setpoints and an indirect domestic water (DHW) setpoint, each with adjustable differentials. The boiler shall come equipped with a DHW sensor, but the control shall be able to recognize a call for DHW via this sensor or a closure from a tank stat on the same terminals. The user shall be able to choose the priority of all demands. It shall have the ability to control the boiler pump, system pump and indirect domestic water pump, each with delay and exercise features. The control shall have a variable speed boiler pump control option, to control the pump to maintain a user-set temperature rise across the boiler.

4. The control shall have built-in outdoor reset feature with warm weather shutdown, DHW override, and customizable reset curves, based on the outdoor temperature and desired system water temperature. The boiler shall be shipped with the outdoor reset sensor, as standard equipment. The control shall have a summer kick feature that energizes boiler, system and DHW pumps if they have not cycled for a user-selectable amount of time.
5. The control shall be able to cascade and lead-lag with up to eight other MagnaTherm boilers with the Laars Linc control system. The control system shall allow the user to choose the rotation method that is desired. In the event of a loss of communication with the lead boiler, the user shall be able to choose to run the system from the lead boiler's internal set point, or choose another unit to assume lead responsibility. A control that is chosen as master in a system with multiple controllers shall display an icon of each of the controls in the system. The color of the icon shall indicate if the control is in normal operation, in standby mode, in a hold state, locked out, or if there is a communication error.
6. The control shall have the ability to accept a 4-20mA or 0-10VDC input connection from an external control or building automation system. The control shall allow the user to choose to use this external signal as a temperature setpoint or a modulation signal.
7. The controller shall be able to send and receive information through a Modbus or BACnet MSTP connection, including (but not limited to) inlet and outlet water temperatures, stack temperature, DHW temperature and priority, central heating temperature, frost protection, warm weather shutdown, status of sensors, fan speed, setpoints, remote control input, burner status, lockout codes, alarm reasons, system pump status, boiler pump status and domestic water pump status. Gateways shall be available for additional communication protocols.
8. The control's service menu shall include access to turn burner on and off, valve information, history, factory default reset, and the ability to recalibrate the touchscreen / display. Control diagnostics shall include, at a minimum, the following: ignition failure, grounded flame rod, safety chain interrupt, boiler high limit exceeded, domestic water high limit exceeded, temperature rise limit exceeded, stack limit exceeded, pressure sensor fault, combustion pressure fault, blocked air intake, sensor errors (open or shorted), 24VAC voltage low or high, modulation fault, pump fault, AC input phases reversed, and fan speed proving rate failure. Boiler history shall be accessible via the service menu, and shall have information on demand cycle counts, burner cycles, pump cycles, recent lockout conditions, boiler temperature statistics and firing time statistics.
9. The control shall easily allow the user to force the boiler into minimum or maximum firing rate, for setup and diagnostic purposes. The control shall differentiate between a lockout, a hold, or an alert. If an issue occurs, the system will display a brief description of the issue on the control screen. The user shall be able to tap the message icon on the display to be presented with a more detailed explanation of the issue.
10. Digital inputs accessible in the service menu shall include on/off status of the flow switch, low water cutoff, manual reset high limit, thermal cutout, high gas pressure switch, low gas pressure switch, condensate level, both calls for space heating, and the DHW call for heat. Digital outputs accessible in the service menu shall include on/off status of boiler run, alarm, safety satisfied, valve enabled, valve reset, boiler pump, system pump, DHW pump, auxiliary power output, and auxiliary dry contact.
11. Analog inputs accessible in the service menu shall include inlet water temperature, outlet water temperature, flue temperature, and DHW temperature. Analog outputs accessible in the service menu shall include percentage depictions for pump speed, fan speed, mixing valve, and auxiliary.
12. The boiler control shall have a USB port that allows parameter sets to be uploaded from the controller and downloaded from the controller, for diagnostic purposes, and to allow a parameter set to be copied from one boiler to another. The USB port shall also allow runtime data and history to be captured in a tab-delimited text file for use with spreadsheet programs.
13. Auto and manual reset high limit settings with reset differential shall be programmable, and the control shall have an anti-short-cycle setting that allows the user to choose how long boiler will wait to fire after a heat demand is satisfied. PID parameters (on hysteresis, off hysteresis,

proportional gain, integral time, derivative time) and minimum / maximum delta T (temperature difference) between which the boiler will modulate shall be user- programmable for times when such tuning would be beneficial.

14. The control shall monitor flue gas temperature and shall reduce boiler input as the maximum flue gas temperature is approached, with manual reset stop if temperature exceeds maximum setting.
15. To assist in avoiding freeze-up conditions, the user shall be able to set a boiler inlet water temperature that will activate an anti-frost mode. The user shall be able to choose if a pump, multiple pumps, or pump(s) and burner will be energized when the boiler enters this mode.
16. The control shall have dry alarm contacts for ignition failure.
17. Each boiler shall be fully test fired, (with water, gas, and venting connected), and

2.4 ELECTRICAL POWER

- A. Controllers, Electrical Devices, and Wiring: Electrical devices and connections are specified in Division 26 Sections.
- B. Single-Point Field Power Connection: Factory-installed and factory-wired switches, motor controllers, transformers, and other electrical devices necessary shall provide a single-point field power connection to boiler.
- C. Electrical Characteristics:
 1. See Drawings
 2. Voltage
 - a. 208V/3PH
 - b. 480V/3PH
 3. Frequency: 60 Hz

2.5 SOURCE QUALITY CONTROL

- A. Burner and Hydrostatic Test: Factory adjust burner to eliminate excess oxygen, carbon dioxide, oxides of nitrogen emissions, and carbon monoxide in flue gas and to achieve combustion efficiency; perform hydrostatic test.
- B. Test and inspect factory-assembled boilers, before shipping, according to ASME Boiler and Pressure Vessel Code.
- C. Allow Owner access to source quality-control testing of boilers. Notify Architect 14 days in advance of testing.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Before boiler installation, examine roughing-in for concrete equipment bases, anchor- bolt sizes and locations, and piping and electrical connections to verify actual locations, sizes, and other conditions affecting boiler performance, maintenance, and operations.
 1. Final boiler locations indicated on Drawings are approximate. Determine exact locations before roughing-in of piping and electrical connections.

- B. Examine mechanical spaces for suitable conditions where boilers will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 BOILER INSTALLATION

- A. Install equipment on 4" concrete housekeeping pad.
- B. Install gas-fired boilers according to NFPA 54.
- C. Assemble and install boiler trim.
- D. Install electrical devices furnished with boiler but not specified to be factory mounted.
- E. Install control wiring to field-mounted electrical devices.

3.3 CONNECTIONS

- A. Install boilers level on concrete bases. Concrete base is specified in Division 23 Section "Common Work Results for HVAC," and concrete materials and installation requirements are specified in Division 03.
- B. Install piping adjacent to boiler to allow service and maintenance.
- C. Install piping from equipment drain connection to nearest floor drain. Piping shall be at least full size of connection. Provide an isolation valve if required.
- D. Connect gas piping to boiler gas-train inlet with union. Piping shall be at least full size of equipment connection. Provide a reducer if required.
- E. Connect hot-water piping to supply and return boiler tapplings with shutoff valve and union or flange at each connection.
- F. Install piping from safety relief valves to nearest floor drain.
- G. Boiler Venting:
 - 1. Install flue venting kit and combustion-air intake.
 - 2. Connect full size to boiler connections. Comply with requirements in Division 23 Section "Breechings, Chimneys, and Stacks."
- H. Ground equipment according to Division 26 Section "Grounding and Bonding for Electrical Systems."
- I. Connect wiring according to Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."

3.4 FIELD QUALITY CONTROL

- A. Perform tests and inspections and prepare test reports.
 - 1. **Manufacturer's Field Service:** Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- B. Tests and Inspections:
 - 1. Perform installation and startup checks according to manufacturer's written instructions. Complete startup form included with Boiler and return to Manufacturer as described in the instructions.
 - 2. Leak Test: Hydrostatic test. Repair leaks and retest until no leaks exist.
 - 3. Operational Test: Start units to confirm proper motor rotation and unit operation. Adjust air-fuel ratio and combustion.
 - 4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
 - a. Check and adjust initial operating set points and high- and low-limit safety set points of fuel supply, water level and water temperature.
 - b. Set field-adjustable switches and circuit-breaker trip ranges as indicated.
- C. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other than normal occupancy hours for this purpose.
- D. Performance Tests:
 - 1. Engage a factory-authorized service representative to inspect component assemblies and equipment installations, including connections, and to conduct performance testing.
 - 2. Boilers shall comply with performance requirements indicated, as determined by field performance tests. Adjust, modify, or replace equipment to comply.
 - 3. Perform field performance tests to determine capacity and efficiency of boilers.
 - 4. Repeat tests until results comply with requirements indicated.
 - 5. Provide analysis equipment required to determine performance.
 - 6. Provide temporary equipment and system modifications necessary to dissipate the heat produced during tests if building systems are not adequate.
 - 7. Notify Architect in advance of test dates.
 - 8. Perform a combustion analysis after installation and adjust gas valve per the Installation and Operations manual and note in startup report.
 - 9. Document test results in a report and submit to Architect.

3.5 DEMONSTRATION

- A. Engage a factory representative or a factory-authorized service representative for boiler startup and to train Owner's maintenance personnel to adjust, operate, and maintain boilers. Refer to Division 01 Section "Demonstration and Training."

END OF SECTION 235216

EDINBURG CISD

BARRIENTES MIDDLE SCHOOL

BOILER REPLACEMENT

EDINBURG, TEXAS

EDINBURG CISD BOARD MEMBERS

OSCAR SALINAS	PRESIDENT
CARMEN GONZALEZ	VICE PRESIDENT
ROBERT PENA, JR.	SECRETARY
MIGUEL "MIKE" FARIAS	MEMBER
LETICIA "LETTY" GARCIA	MEMBER
XAVIER SALINAS	MEMBER
DOMINGA "MINDA" VELA	MEMBER
GILBERT GARZA, JR.	INTERIM SUPERINTENDENT



SCHEDULE OF DRAWINGS

COVER SHEETS	DEMOLITION	ELECTRICAL	PLUMBING
C01 - COVER SHEET	DM1 - DEMO MECHANICAL FLOOR PLAN DET - DEMO ELECTRICAL POWER PLAN DPI - DEMO PLUMBING FLOOR PLAN	E1 - ELECTRICAL POWER FLOOR PLAN E2 - ABBREVIATIONS SHEET	P1 - PLUMBING FLOOR PLAN
	MECHANICAL		
	M1 - MECHANICAL FLOOR PLAN M2 - MECHANICAL SCHEDULES M3 - MECHANICAL HOT WATER FLOW DIAGRAM M4 - MECHANICAL DETAILS		



MECHANICAL, ELECTRICAL, PLUMBING ENGINEERS
MEP SOLUTIONS
 ENGINEERING

COVER SHEET

C01

EDINBURG CISD BARRIENTES MS
 BOILER REPLACEMENT
 EDINBURG, TEXAS

MECHANICAL, ELECTRICAL, PLUMBING ENGINEERS
 600 E. BEAUMONT AVE. SUITE 2 M-ALLEN, TX 78501 (956) 664-2727
 TEXAS BOARD OF PROFESSIONAL ENGINEERS REGISTRATION # F-9248

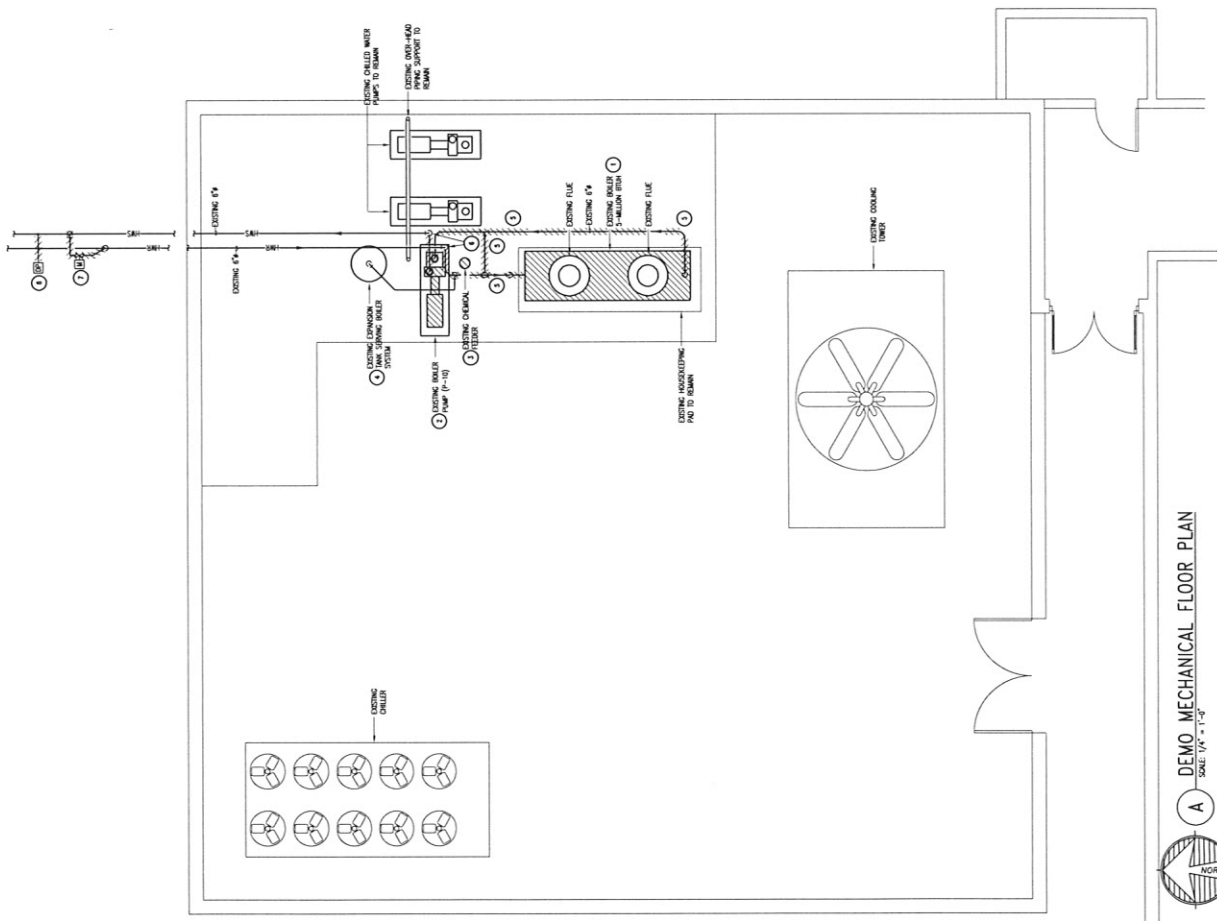
DATE: 01/13/2020
 TIME: 11:16
 PROJECT: JPLS
 ARCHITECT: JPLS

GENERAL DEMOLITION NOTES:

- A. ALL DEMOLITION WORK SHALL BE ACCORDING TO THE CITY OF EDINBURG AND STATE REQUIREMENTS. ALL DEMOLITION WORK SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVED WORKING METHODS.
- B. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE THE DEMOLITION WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVED WORKING METHODS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVED WORKING METHODS.
- C. ALL OPENINGS CUT IN MASONRY AND PLASTER WALLS OR CONCRETE FLOORS SHALL BE REPAIRED TO ORIGINAL CONDITIONS. ALL OPENINGS CUT IN ROOFING SHALL BE REPAIRED TO ORIGINAL CONDITIONS. ALL OPENINGS CUT IN ROOFING SHALL BE REPAIRED TO ORIGINAL CONDITIONS. ALL OPENINGS CUT IN ROOFING SHALL BE REPAIRED TO ORIGINAL CONDITIONS.
- D. CONTRACTOR SHALL REMOVE AND RELOCATE ANY ALL EXISTING MECHANICAL EQUIPMENT CHECKED WITH RETROFITMENT AND SCHEDULED FOR REMOVAL OR DEMOLITION SHALL BE EMPLOYED IN A LEAK WANNER.

DEMOLITION KEY NOTES:

- 1 REMOVE EXISTING BOILER ASSOCIATED HYDRO-PNEUMATIC CONTROLS, FLEXIBLE CONNECTIONS, AND ASSOCIATED PIPING TO BE DEMOLISHED. EXISTING BOILER SHALL REMAIN FOR RE-USE.
- 2 REMOVE EXISTING PUMP ASSOCIATED HYDRO-PNEUMATIC CONTROLS, AND BASE.
- 3 REMOVE EXISTING CHEMICAL FEEDER AND ASSOCIATED PIPING.
- 4 REMOVE EXISTING CHEMICAL FEEDER AND ASSOCIATED PIPING TO BE DEMOLISHED. EXISTING CHEMICAL FEEDER AND ASSOCIATED PIPING TO BE DEMOLISHED. EXISTING CHEMICAL FEEDER AND ASSOCIATED PIPING TO BE DEMOLISHED.
- 5 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
- 6 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
- 7 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
- 8 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
- 9 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
- 10 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
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- 12 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
- 13 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
- 14 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
- 15 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
- 16 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
- 17 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
- 18 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
- 19 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.
- 20 REMOVE EXISTING PIPING TO ALLOW INSTALLATION OF NEW 6" HOT WATER PIPING.



A DEMO MECHANICAL FLOOR PLAN
 SCALE: 1/4" = 1'-0"



01-23-2020

GENERAL DEMOLITION NOTES:

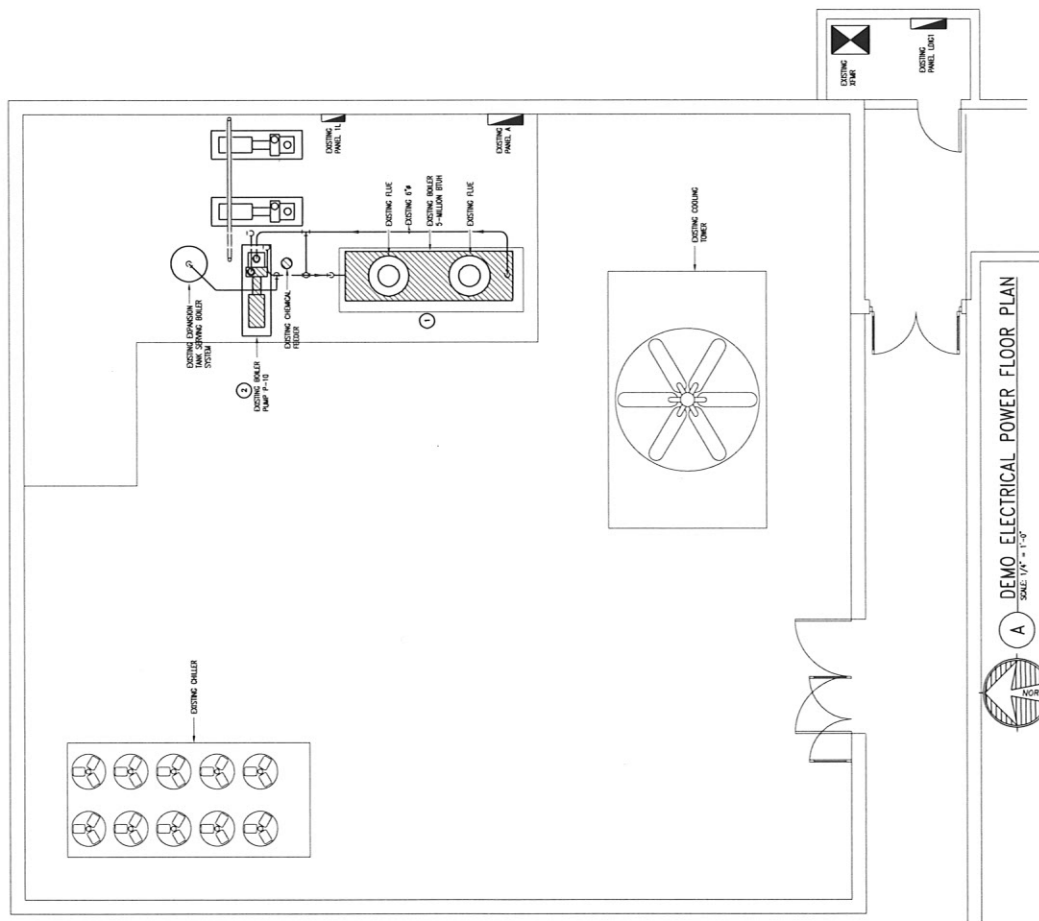
- A. CONTRACTOR SHALL VERIFY ALL EXISTING DEMOLITION CONDITIONS AND SHALL VERIFY ALL DEMOLITION WORK SHALL BE COMPLETED AND DEMOLITION CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT AND/OR AGENCIES.
- B. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMANCE OF DEMOLITION WORK UNDER THE SUPERVISION OF THE ARCHITECT. THE CONTRACTOR SHALL VERIFY ALL DEMOLITION CONDITIONS AND SHALL VERIFY ALL DEMOLITION WORK SHALL BE COMPLETED AND DEMOLITION CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT AND/OR AGENCIES.
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DEMOLITION KEY NOTES:

1. DEMOLITION WORK SHALL BE COMPLETED AND DEMOLITION CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT AND/OR AGENCIES.
2. DEMOLITION WORK SHALL BE COMPLETED AND DEMOLITION CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT AND/OR AGENCIES.
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4. DEMOLITION WORK SHALL BE COMPLETED AND DEMOLITION CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT AND/OR AGENCIES.

FIELD VERIFY ALL CONDITIONS

BEFORE DEMOLITION WORK COMMENCES, THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND SHALL VERIFY ALL DEMOLITION WORK SHALL BE COMPLETED AND DEMOLITION CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT AND/OR AGENCIES.



DEMOLITION ELECTRICAL POWER FLOOR PLAN
 SCALE: 1/4" = 1'-0"
 NORTH



GENERAL DEMOLITION NOTES:

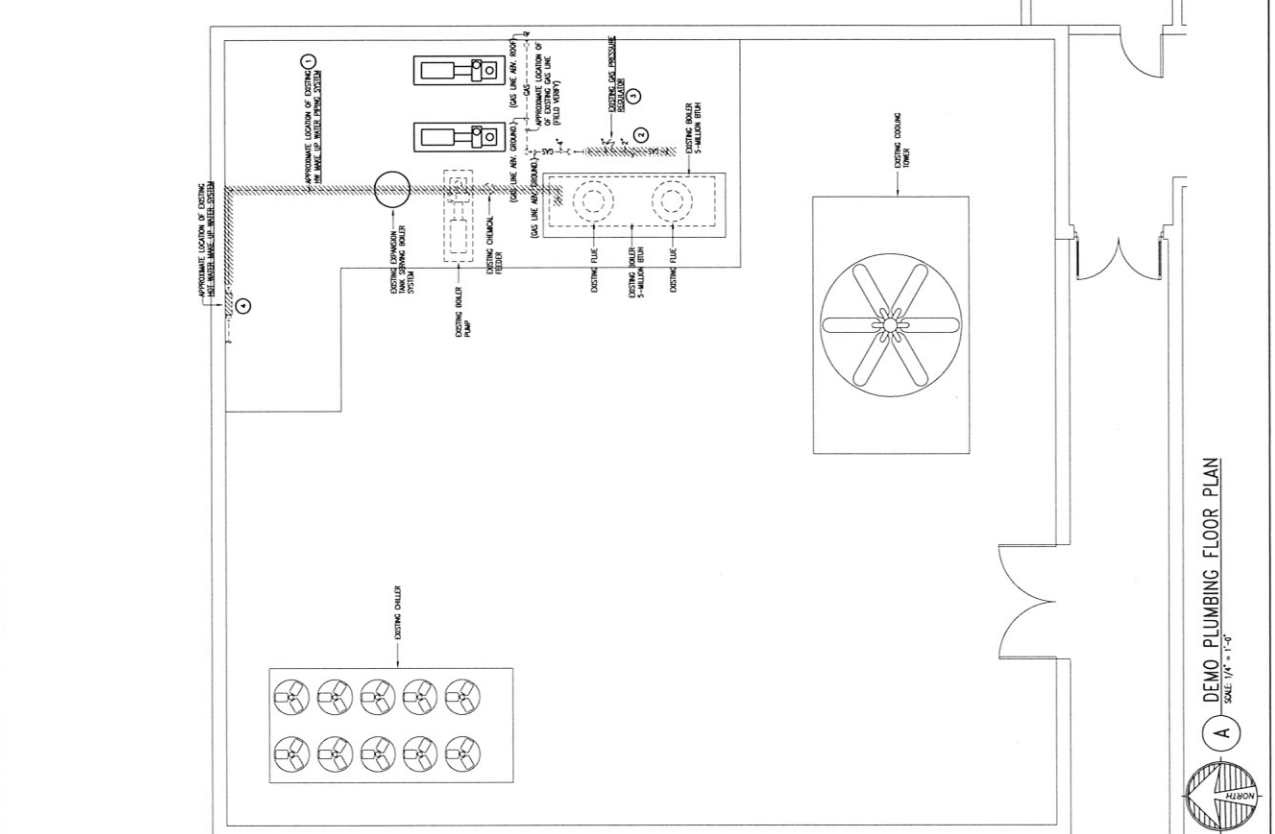
- WORKMAN ON THE JOB HAS BEEN OBTAINED FROM EXISTING DRAWINGS AND SET. DEMOLITION CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND CONNECTION DOCUMENTS SHALL BE ADAPTED IMMEDIATELY TO THE OWNER AND/OR PROJECT.
- WORKMAN SHALL VERIFY THE LOCATION OF THE PROJECT IN FULL COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AND STATE AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AND STATE AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AND STATE AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AND STATE AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AND STATE AUTHORITIES.

PLUMBING DEMOLITION KEY NOTES:

- DEMOLISH EXISTING GAS WATER MAKE UP WATER SYSTEM. REMOVE EXISTING GAS WATER MAKE UP WATER SYSTEM. REMOVE EXISTING GAS WATER MAKE UP WATER SYSTEM. REMOVE EXISTING GAS WATER MAKE UP WATER SYSTEM. REMOVE EXISTING GAS WATER MAKE UP WATER SYSTEM. REMOVE EXISTING GAS WATER MAKE UP WATER SYSTEM. REMOVE EXISTING GAS WATER MAKE UP WATER SYSTEM. REMOVE EXISTING GAS WATER MAKE UP WATER SYSTEM.
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PLUMBING SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
—●—	DOMESTIC COLD WATER LINE	—○—	UNION	—○—	COLD WATER
—●—	DOMESTIC HOT WATER RETURN LINE	—○—	BRANCH / TOP CONNECTION	—○—	DOWN
—○—	DOMESTIC HOT WATER RETURN LINE	—○—	PIPE REST	—○—	FRESH FLOOR ELEVATION
—○—	SEWER LINE	—○—	PIPE BRGP	—○—	FUTURE LIMITS
—○—	SEWER LINE	—○—	DIRECTION OF FLOW	—○—	GRASSY WASTE
—○—	CHILLED WATER LINE	—○—	CHILLING WALK	—○—	HVAC ELEVATION
—○—	SEWER WASTE LINE	—○—	WALL CLEARING	—○—	HOT WATER
—○—	AC LINE	—○—	PLUMBING REFER REFERENCE	—○—	SMARTOWER
—○—	AC LINE	—○—	ANY O.C.	—○—	TRYP
—○—	ROOF DRAIN LINE	—○—	BELOW FRESH FLOOR	—○—	UNDER LAUNDRY
—○—	ROOF DRAIN LINE	—○—	CLEAN OUT	—○—	VENT
—○—	ROOF DRAIN LINE	—○—		—○—	VENT THRU ROOF

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE TYPE	CONNECTOR SIZE			DESCRIPTION
		SIZE	VALV	HW	
375	FLOOR SINK	3"	2"	HW	ZURN MODEL 7-110-2-2" PORCELAIN-DENAMELLED CAST IRON FLOOR SINK. FINISH WITH ANTI-SPLASH INTERIOR BOTTOM DOME SHOWER. PORCELAIN-DENAMELLED CAST IRON 1/2" DRAIN AND 1/2" TRAP PIPING CONNECTION.

NOTE: NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

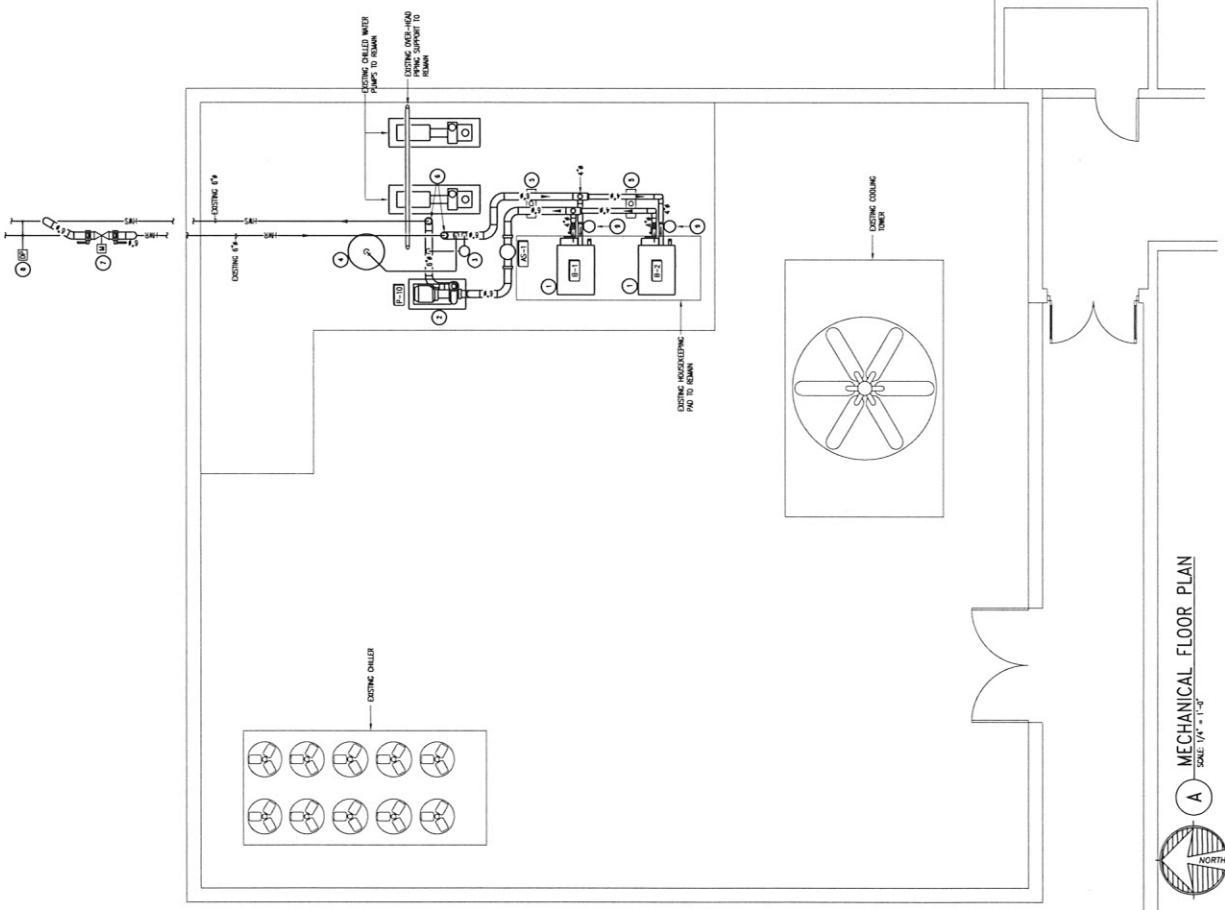
MEP SOLUTIONS
MECHANICAL ELECTRICAL PLUMBING ENGINEERS
600 E. BEAUMONT AVE. SUITE 2 McALLEN, TX 78501 (956) 664-2727
TEXAS BOARD OF PROFESSIONAL ENGINEERS REGISTRATION # 93748

GENERAL NOTES:

- A. REFER TO SCHEDULE SHEET FOR ADDITIONAL GENERAL MECHANICAL NOTES.
- B. CONTRACTOR SHALL PROVIDE ALL NECESSARY TOLERANCES FROM MECHANICAL MANUFACTURER'S DATA SHEETS.
- C. MECHANICAL CONNECTIONS SHALL COMPLY WITH ALL CODES RELATIVE TO MAINTAIN ACCESS CLEARANCES FOR ALL MECHANICAL EQUIPMENT.
- D. HOT WATER UNITS LOCATED ON EXTERIOR SHALL BE PROVIDED WITH ALUMINUM JACKET OVER INSULATION AND LABELLED.
- E. CONTRACTOR SHALL PROVIDE STRUCTURAL SUPPORTS FOR ALL MECHANICAL EQUIPMENT.
- F. NEW HOT WATER PIPING SHALL BE CLASSED (CLASSED WITH REDUCED) AND TREATED WITH CORROSION INHIBITOR PRIOR TO CONNECTION OF UNITS.
- G. CONTRACTOR SHALL PROVIDE ALL NECESSARY TOLERANCES FROM MECHANICAL MANUFACTURER'S DATA SHEETS.

KEY NOTES:

1. NEW BOILER TO BE INSTALLED OVER EXISTING HOUSINGING AND METAL PIPING MANUFACTURER'S RECOMMENDATIONS.
2. NEW PUMP SHALL BE MARKED ON NEW 4" HIGH HOUSINGING AND PIPING SHALL EXIST 2" HIGHER FROM TOP OF PUMP.
3. PROVIDE 2" HIGHER FROM TOP OF PUMP.
4. PROVIDE AND INSTALL NEW SEISMIC TIEBACK ELEMENTS AND WELD CONNECTING PIPING.
5. RE-CONNECT EXISTING EXPANSION TANK OVER NEW PIPING AS SHOWN. PROVIDE ALUMINUM JACKETING AND INSULATION OVER EXISTING AND NEW PIPING.
6. PROVIDE AND INSTALL CALLED WATER PIPE SUPPORT STRONG (6-10" HIGH) AND WELD TO CONNECT TO EXISTING.
7. NEW HOT WATER PIPING SHALL CONNECT TO EXISTING RISER SOURCE.
8. PROVIDE AND INSTALL NEW WATER PIPING WITH WELDED END TERMINAL MINIMUM 10-12" ABOVE FINISHED FLOOR. FURNISH WITH SUPPORTS AS REQUIRED.
9. PROVIDE AND INSTALL NEW WATER PIPING WITH WELDED END TERMINAL MINIMUM 10-12" ABOVE FINISHED FLOOR. FURNISH WITH SUPPORTS AS REQUIRED.



A MECHANICAL FLOOR PLAN
 SCALE: 1/4" = 1'-0"



HVAC HOT WATER BOILER SCHEDULE

ROOM	FLOW (GPM)	CONNECTION SIZE	TEMP. (WHT/COOL)	CAPACITY (GPM)	FUEL TYPE	GRK. CONN. SIZE	VOLTS/PHVA	MANUFACTURER	MODEL
BP-1	285	1 1/2"	180/120	3.500/2.500	NAT. GAS	2"	208/277/415	DAK	BP-2001
BP-2	285	1 1/2"	180/120	3.500/2.500	NAT. GAS	2"	208/277/415	DAK	BP-2001

1. MOUNT ON CEILING 4-INCH CONCRETE TIE.
 2. PROVIDE WITH CONDENSATE AUTOCLEANING AND EXTERIOR FLEE VALVE WITH WETTER CAP.
 3. PROVIDE WITH CONDENSATE PUMP.
 4. SYSTEM SHALL BE MANUFACTURER/INSTALLER'S FURNISH, MANUFACTURE, SYSTEM AND BUILT UNDER CONTRACT.
 5. REFER TO BOILER SPECIFICATIONS FOR ALL DIMENSIONS/PARAMETERS WHICH SHALL BE INDICATED FROM THE CONTROL PANELS.

PUMP SCHEDULE

ROOM	SYSTEM TYPE	PUMP TYPE	FLOW (GPM)	HEAD (FT.)	MAXIMUM WHP (FT.)	MINIMUM WHP (FT.)	WATER VOLUME (GAL)	MANUFACTURER	MODEL
BP-1	HOT WATER	570	105	150	25	460/AM	30127 LLS		

NOTES: 1. PROVIDE WITH TEST MOTOR.

AIR SEPARATOR SCHEDULE

ROOM	SYSTEM TYPE	FLOW (GPM)	SIZE (IN)	PRESSURE (PSI)	MANUFACTURER	MODEL
BP-1	HOT WATER	570	8"	150	SPECTRUM	HS-800

GENERAL MECHANICAL NOTES

1. THESE DRAWINGS ARE CONTRACT DOCUMENTS AND SHALL BE SEALED BY THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL CONSTRUCTION DETAILS, PROVIDING ALL NECESSARY DETAILS AND FITTINGS AS REQUIRED BY THESE DRAWINGS.
2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED. PROVIDE THE FOLLOWING DETAILS TO ACCOMMODATE CONNECTIONS AND COORDINATION WITH ALL OTHER TRADES. ALL CONNECTIONS SHALL BE MADE AS REQUIRED TO FIT AROUND EXISTING STRUCTURES.
3. CONTRACTOR SHALL MAINTAIN ALL AIR DISTRIBUTION SYSTEMS TO PROVIDE THE AIR FLOW REQUIREMENTS AS SHOWN ON THESE DRAWINGS. PROVIDE THE FOLLOWING DETAILS TO ACCOMMODATE CONNECTIONS AND COORDINATION WITH ALL OTHER TRADES.
4. CONTRACTOR SHALL MAINTAIN ALL INSULATIONS AS SHOWN ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. PROVIDE THE FOLLOWING DETAILS TO ACCOMMODATE CONNECTIONS AND COORDINATION WITH ALL OTHER TRADES.
5. CONTRACTOR SHALL COORDINATE THE FINAL LOOKINGS OF ALL CEILING AIR UNITS WITH LIGHTING, ACoustics, AND OTHER TRADES.
6. PROVIDE SMOKE DETECTORS AND SHUTDOWN CONTROLS FOR AIR HANDLING UNITS. SMOKE DETECTORS SHALL BE PROVIDED, INSTALLED, AND WIRED FOR SHUTDOWN BY TRADES.

GENERAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AFIT	AIR FILTER	DM	DOWNSTREAM
AFU	AIR FRESHENING UNIT	L	LOWER
ACCU	AIR COOLED CONDENSING UNIT	MM	MECHANICAL
DB	DIFFUSER	MM	MECHANICAL
DR	DRAIN	MS	MECHANICAL SCHEDULE
DSH	ELECTRIC DISCHARGE SWITCH	MS	MECHANICAL SCHEDULE
FCU	FAN COIL UNIT	S.P.	STATIC PRESSURE
FCU	FAN COIL UNIT	WT	WET BULB



HOT WATER SYSTEM CONTROL

SYSTEM START - 1. UPON A CALL FOR HEATING AS DETERMINED THROUGH FAN WATER POSITION AND OUTDOOR AIR TEMPERATURES SHALL ENERGIZE LIQUID BOILER PUMP.
 2. THE BOC SYSTEM SHALL ENERGIZE THE BOILER TO OPERATE SIMULTANEOUS WITH SINGLE PUMP.

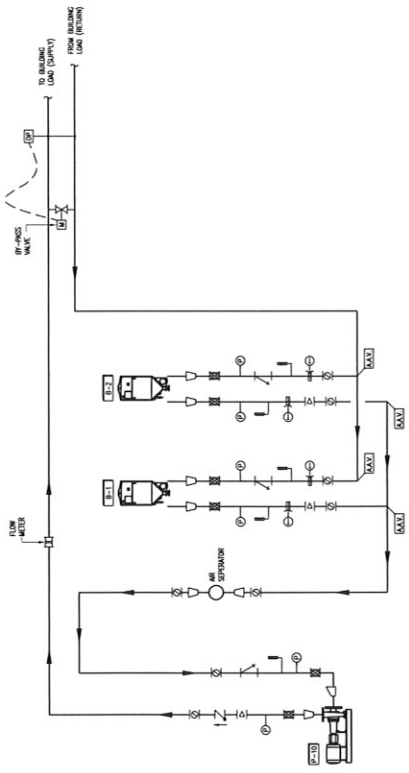
TEMPERATURE CONTROL - 1. BOILER WATER TEMPERATURE IS MONITORED BY EACH INDIVIDUAL CONTROL.

SYSTEM SHUTDOWN - WHEN HEATING WATER SYSTEM SHUTDOWN, THE BOILER SHALL BE SHUTDOWN AFTER THE CONDENSATE PUMP SHUTDOWN FOR A MINIMUM TIME PERIOD FOR THE PUMP SHALL BE SHUTDOWN.

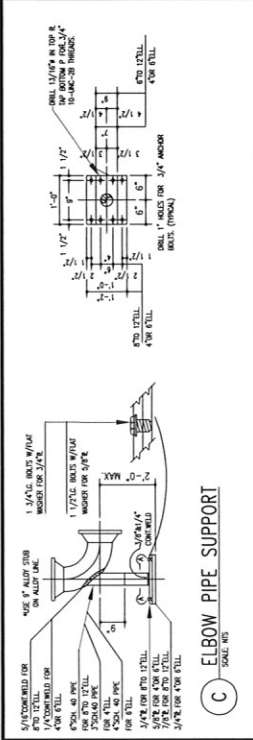
SYSTEM PRESSURE - DIFFERENTIAL PRESSURE SENSOR SHALL MONITOR BY-PASS VALVE AS REQUIRED TO MAINTAIN PRE-DETERMINED STATIC PRESSURE PER PLAN AND SHUT OFF MAIN SYSTEM DUMP/STOP OPERATION - DIFFERENTIAL WILL CONTROL MAIN COMPONENT TO AVOID OCCUPY MORE CONTROLS IN THIS PER PLAN.

CHILLED WATER SYMBOL LEGEND

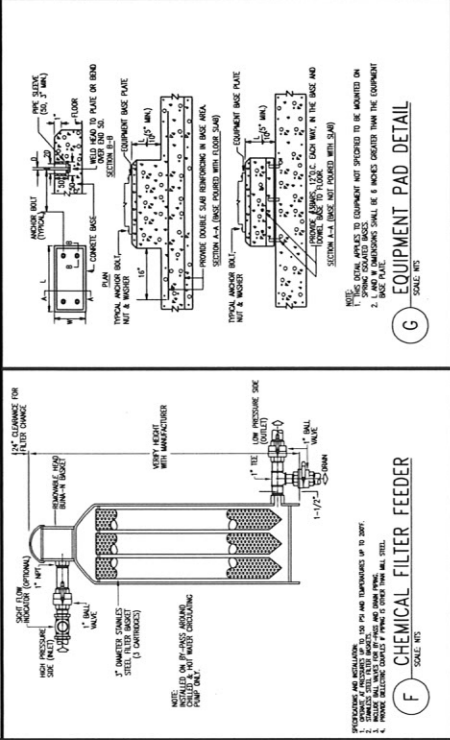
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
[Symbol]	DIFFERENTIAL PRESSURE SENSOR	[Symbol]	BAKING VALVE
[Symbol]	TURBINE FLOW METER	[Symbol]	CHECK VALVE
[Symbol]	AUTOMATIC AIR VENT	[Symbol]	ISOLATION VALVE
[Symbol]	FLEX CONNECTION	[Symbol]	WATERED VALVE
[Symbol]	COOLING REDUCER	[Symbol]	CHILLED WATER TEMPERATURE SENSOR
[Symbol]	CONDENSING REDUCER	[Symbol]	UNFAIR FREQUENT DRIVE
[Symbol]	Y-STRAINER WITH DOWN	[Symbol]	PRESSURE GAUGE WITH VALVE
[Symbol]	TEMPERATURE	[Symbol]	CHILLED WATER FLOW DIRECTION
[Symbol]	SECTION OFF/USER WITH STRAINER AND DOWN	[Symbol]	



A MECHANICAL HOT WATER FLOW DIAGRAM
 SCALE: N.E.L.



C ELBOW PIPE SUPPORT
SCALE: NTS



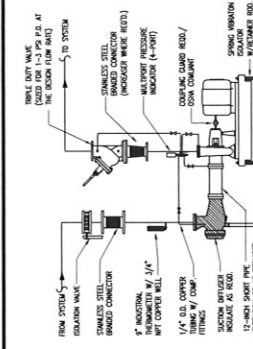
F CHEMICAL FILTER FEEDER
SCALE: NTS

TEE SUPPORT CHART

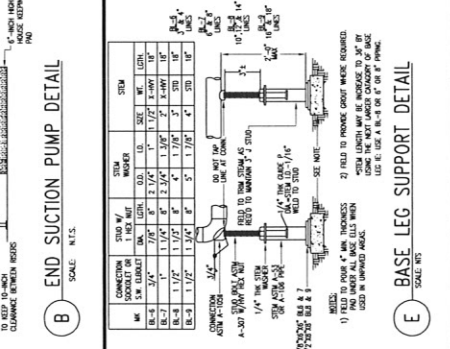
PIPE TYPE	W/ LUGS (LBS.)	CONCRETE	STEEL ANGLE	TEE SIZE	TEE DIA.	A	B	C	D
1	6\"/>								

1. CONCRETE SUPPORT BASE ON ONE (1) SIDE FOR PIPE DIA. 3\"/>

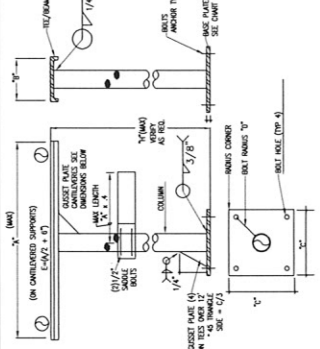
J TEE SUPPORT
SCALE: NTS



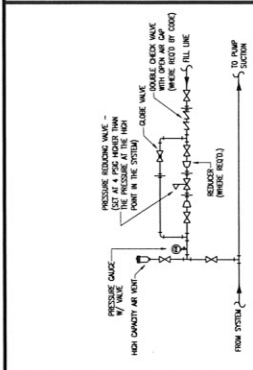
B END SUCTION PUMP DETAIL
SCALE: NTS



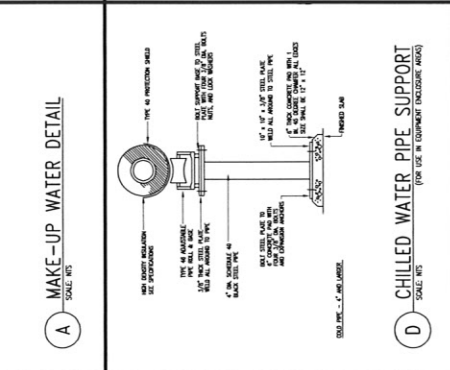
E BASE LEG SUPPORT DETAIL
SCALE: NTS



H CHILLER REFRIGERANT RELIEF VALVE PIPING
SCALE: NTS



A MAKE-UP WATER DETAIL
SCALE: NTS



D CHILLED WATER PIPE SUPPORT
SCALE: NTS



GENERAL NOTES: ()

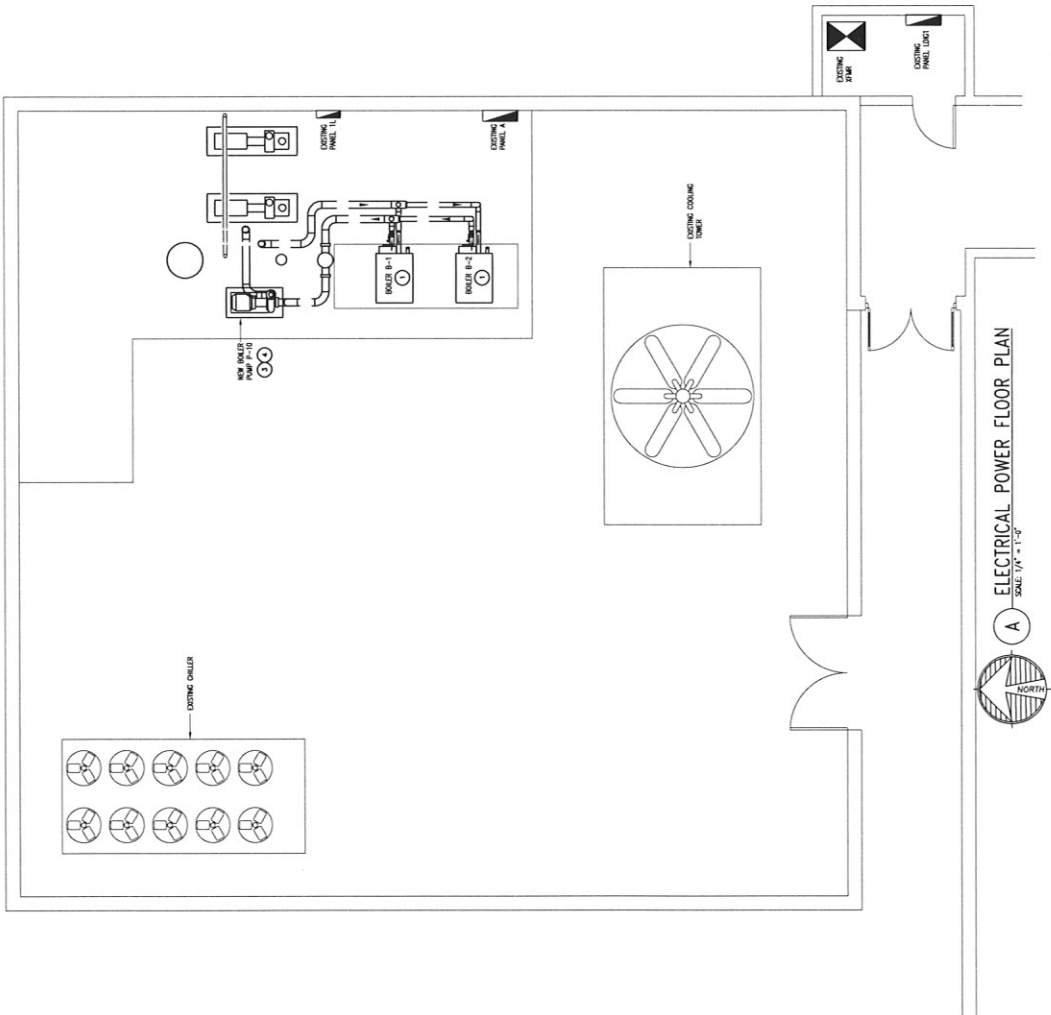
- (V) VERIFY ALL CONDITIONS WITH THE OWNER PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND CONDITIONS TO BE MAINTAINED AND REPORT TO THE OWNER.
- (R) ALL PANELS AND TRANSFORMERS ARE EXISTING UNLESS OTHERWISE NOTED.
- (C) ELECTRICAL CONTRACTORS SHALL COORDINATE WITH MECHANICAL CONTRACTOR AND PROVIDE ALL NECESSARY ELECTRICAL CONNECTIONS AND MATERIALS FOR ALL EXISTING AND NEW EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING AND NEW CONDUITS AND CABLES TO BE INSTALLED AND PROVIDE TO ANY INSTALLED ELECTRICAL CONTRACTORS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (S) ELECTRICAL CONTRACTORS SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING AND NEW CONDUITS AND CABLES TO BE INSTALLED AND PROVIDE TO ANY INSTALLED ELECTRICAL CONTRACTORS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (P) ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL APPLICABLE LOCAL CODES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSURANCE.
- (M) THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (I) ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL APPLICABLE LOCAL CODES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSURANCE.
- (A) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (B) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (C) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (D) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (E) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (F) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (G) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (H) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (I) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (J) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (K) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (L) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (M) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (N) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (O) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (P) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (Q) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (R) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (S) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (T) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (U) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (V) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (W) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (X) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (Y) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- (Z) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.

FIELD VERIFY ALL CONDITIONS

BEFORE COMMENCING WORK, THE CONTRACTOR SHALL VERIFY THE SIZE, TYPE, LOCATION, AND DEPTH OF ALL EXISTING UTILITIES AND CONDITIONS TO BE MAINTAINED AND REPORT TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL APPLICABLE LOCAL CODES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSURANCE.

KEY NOTES:

- 1. REMOVE AND INSTALL NEW 10 AMP 3 POLE CIRCUIT BREAKER AT EXISTING PANEL. LABEL SPACE LABEL-2-A-1 FOR CONNECTION OF BOILER B-1, WHICH IS 100/75 KVA. SEE KEY PLAN, SHEET 100/75 KVA. 3R. DISCONNECT. WIRE: #12, 3/4" VC.
- 2. REMOVE AND INSTALL NEW 10 AMP 3 POLE CIRCUIT BREAKER AT EXISTING PANEL. LABEL SPACE LABEL-2-B-1 FOR CONNECTION OF BOILER B-2, WHICH IS 100/75 KVA. SEE KEY PLAN, SHEET 100/75 KVA. 3R. DISCONNECT. WIRE: #12, 3/4" VC.
- 3. REMOVE AND INSTALL NEW 20 AMP 3 POLE CIRCUIT BREAKER AT EXISTING PANEL. LABEL SPACE LABEL-2-C-1 FOR CONNECTION OF BOILER P-10, WHICH IS 100/75 KVA. SEE KEY PLAN, SHEET 100/75 KVA. 3R. DISCONNECT. WIRE: #12, 3/4" VC.
- 4. REMOVE AND INSTALL NEW 20 AMP 3 POLE CIRCUIT BREAKER AT EXISTING PANEL. LABEL SPACE L-1 FOR CONNECTION OF BOILER P-10, WHICH IS 100/75 KVA. SEE KEY PLAN, SHEET 100/75 KVA. 3R. DISCONNECT. WIRE: #12, 3/4" VC.



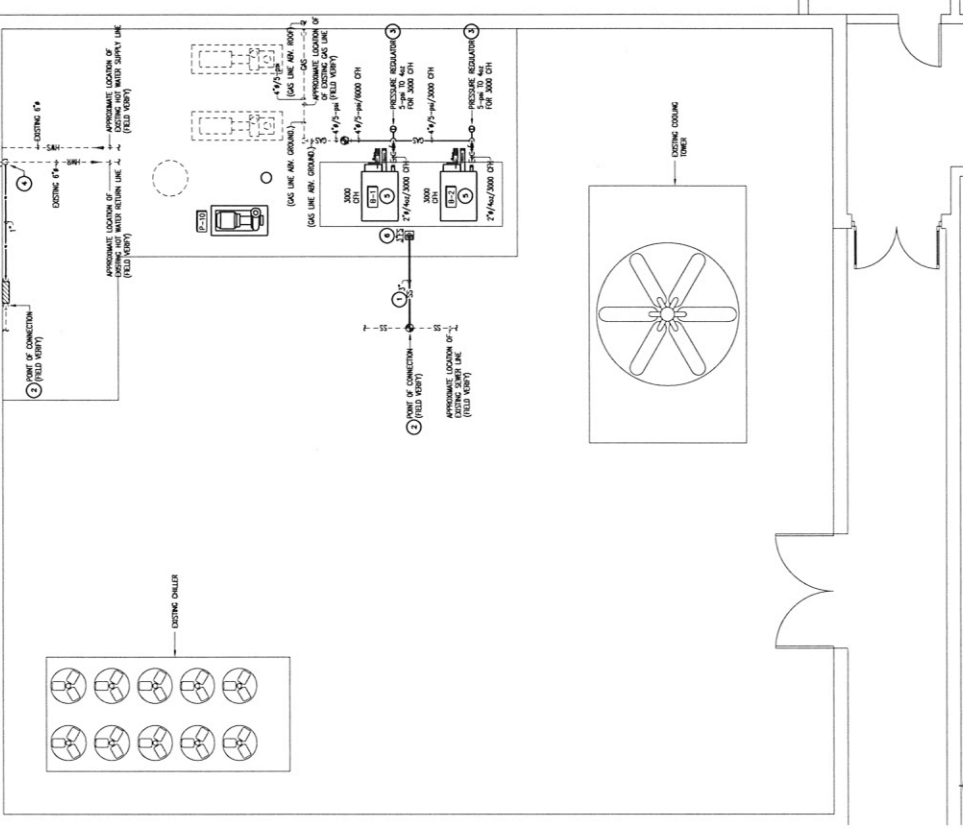
A ELECTRICAL POWER FLOOR PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

- ALL INFORMATION ON THIS PLAN HAS BEEN OBTAINED FROM EXISTING RECORDS AND FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
- PLUMBING CONTRACTOR SHALL ADHERE TO ALL CITY CODES, STATE AND LOCAL CODES THAT HAVE AUTHORITY OVER THIS PROJECT.
- PLUMBING CONTRACTOR SHALL TERMINATE ALL WATER TROUGH-IN WITH SHUT-OFF VALVES BEFORE CONNECTING TO EQUIPMENT AND OTHER PLUMBING.
- PLUMBING CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR FOR ANY INSULATION TO PIPING AND EQUIPMENT TO BE INSTALLED AS SPECIFICATIONS.
- SEE MECHANICAL CONTRACTOR FOR ANY INSULATION TO BE INSTALLED TO ACCOMMODATE NEW PLUMBING SYSTEMS TO BE INSTALLED.
- MAKE-UP WATER SYSTEM SHALL BE CAPPED AND SHALL BE INSULATED WITH URLENUM ADJEST.
- ALL NEW GAS DISTRIBUTION LINES SHALL BE FINISHED AND PRINTED WITH FINISHED LINES SHALL BE OF SIMILAR CONSTRUCTION CONSTRUCTION AS EXISTING.

KEY NOTES:

- CODE SHALL REQUIRE ALL GAS PIPING TO BE FINISHED AND PRINTED FOR PLUMBING DETAILS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER/ARCHITECT IMMEDIATELY AND PRIOR TO ANY INSULATION TALKING TO CONTRACT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL GAS DISTRIBUTION LINES SHALL BE FINISHED WITH A SHUT-OFF VALVE AND SHALL BE CAPPED AND SHALL BE INSULATED WITH URLENUM ADJEST.
- PROVIDE 2" COPPER MAKE-UP WATER LINE UP TO MAKE-UP WATER RETURN LINE AND CONNECT.
- PROVIDE 2" COPPER MAKE-UP WATER LINE UP TO MAKE-UP WATER RETURN LINE AND CONNECT.
- PROVIDE AND INSTALL PROTECT TEMP GAUGE SYSTEM FOR EXISTING.



A PLUMBING FLOOR PLAN
 SCALE: 1/4" = 1'-0"
 NORTH

