

Request for Proposal for Central Plant As-a-Service Program

Solicitation Number: 18-22





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Texas-Born, Nationally Known

TEAL has expanded its service offerings into additional service solutions, including hydronic heat and chilled water, and entered into new geographic and vertical markets. As we continue to grow, our commitment to provide hassle-free, ZERO-downtime mechanical systems remains the same, regardless of a development's size or location. We monitor all TEAL systems from our headquarters in Houston. Since inception, TEAL has grown to over 350 operating plants in 16 states and counting.





Tab 1
Master Agreement/
Signature Form



Tab 1 – Master Agreement General Terms and Conditions

- ◆ Customer Support
 - The vendor shall provide timely and accurate technical advice and sales support. The vendor shall respond to such requests within one (1) working day after receipt of the request.

- ◆ Disclosures
 - Respondent affirms that he/she has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor or service to a public servant in connection with this contract.
 - The respondent affirms that, to the best of his/her knowledge, the offer has been arrived at independently, and is submitted without collusion with anyone to obtain information or gain any favoritism that would in any way limit competition or give an unfair advantage over other vendors in the award of this contract.

- ◆ Renewal of Contract
 - Unless otherwise stated, all contracts are for a period of three (3) years with an option to renew for up to two (2) additional one-year terms or any combination of time equally not more than 2 years if agreed to by Region 14 ESC and the vendor.

- ◆ Funding Out Clause
 - Any/all contracts exceeding one (1) year shall include a standard “funding out” clause. A contract for the acquisition, including lease, of real or personal property is a commitment of the entity’s current revenue only, provided the contract contains either or both of the following provisions:
 - Retains to the entity the continuing right to terminate the contract at the expiration of each budget period during the term of the contract and is conditioned on a best efforts attempt by the entity to obtain appropriate funds for payment of the contract.

- ◆ Shipments (if applicable)
 - The awarded vendor shall ship ordered products within seven (7) working days for goods available and within four (4) to six (6) weeks for specialty items after the receipt of the order unless modified. If a product cannot be shipped within that time, the awarded vendor shall notify the entity placing the order as to why the product has not shipped and shall provide an estimated shipping date. At this point the participating entity may cancel the order if estimated shipping time is not acceptable.

- ◆ Tax Exempt Status
 - Since this is a national contract, knowing the tax laws in each state is the sole responsibility of the vendor.



- ◆ Payments
 - The entity using the contract will make payments directly to the awarded vendor or their affiliates (distributors/business partners/resellers) as long as written request and approval by NCPA is provided to the awarded vendor.
- ◆ Adding authorized distributors/dealers
 - Awarded vendors may submit a list of distributors/partners/resellers to sell under their contract throughout the life of the contract. Vendor must receive written approval from NCPA before such distributors/partners/resellers considered authorized.
 - Purchase orders and payment can only be made to awarded vendor or distributors/business partners/resellers previously approved by NCPA.
 - Pricing provided to members by added distributors or dealers must also be less than or equal to the pricing offered by the awarded contract holder.
 - All distributors/partners/resellers are required to abide by the Terms and Conditions of the vendor's agreement with NCPA.
- ◆ Pricing
 - All pricing submitted shall include the administrative fee to be remitted to NCPA by the awarded vendor. It is the awarded vendor's responsibility to keep all pricing up to date and on file with NCPA.
 - All deliveries shall be freight prepaid, F.O.B. destination and shall be included in all pricing offered unless otherwise clearly stated in writing
- ◆ Warranty
 - Proposal should address the following warranty information:
 - Applicable warranty and/or guarantees of equipment and installations including any conditions and response time for repair and/or replacement of any components during the warranty period.
 - Availability of replacement parts
 - Life expectancy of equipment under normal use
 - Detailed information as to proposed return policy on all equipment
 - Products
 - Vendor shall provide equipment, materials and products that are new unless otherwise specified, of good quality and free of defects
 - Construction
 - Vendor shall perform services in a good and workmanlike manner and in accordance with industry standards for the service provided.
- ◆ Safety
 - Vendors performing services shall comply with occupational safety and health rules and regulations. Also all vendors and subcontractors shall be held responsible for the safety of their employees and any conditions that may cause injury or damage to persons or property.



- ◆ Permits
 - Since this is a national contract, knowing the permit laws in each state is the sole responsibility of the vendor.
- ◆ Indemnity
 - The awarded vendor shall protect, indemnify, and hold harmless Region 14 ESC and its participants, administrators, employees and agents against all claims, damages, losses and expenses arising out of or resulting from the actions of the vendor, vendor employees or vendor subcontractors in the preparation of the solicitation and the later execution of the contract.
- ◆ Franchise Tax
 - The respondent hereby certifies that he/she is not currently delinquent in the payment of any franchise taxes.
- ◆ Supplemental Agreements
 - The entity participating in this contract and awarded vendor may enter into a separate supplemental agreement to further define the level of service requirements over and above the minimum defined in this contract i.e. invoice requirements, ordering requirements, specialized delivery, etc. Any supplemental agreement developed as a result of this contract is exclusively between the participating entity and awarded vendor.
- ◆ Certificates of Insurance
 - Certificates of insurance shall be delivered to the Public Agency prior to commencement of work. The insurance company shall be licensed in the applicable state in which work is being conducted. The awarded vendor shall give the participating entity a minimum of ten (10) days notice prior to any modifications or cancellation of policies. The awarded vendor shall require all subcontractors performing any work to maintain coverage as specified.
- ◆ Legal Obligations
 - It is the Respondent's responsibility to be aware of and comply with all local, state, and federal laws governing the sale of products/services identified in this RFP and any awarded contract and shall comply with all while fulfilling the RFP. Applicable laws and regulation must be followed even if not specifically identified herein.
- ◆ Protest
 - A protest of an award or proposed award must be filed in writing within ten (10) days from the date of the official award notification and must be received by 5:00 pm CST. Protests shall be filed with Region 14 ESC and shall include the following:
 - Name, address and telephone number of protester
 - Original signature of protester or its representative
 - Identification of the solicitation by RFP number
 - Detailed statement of legal and factual grounds including copies of relevant documents and the form of relief requested



- Any protest review and action shall be considered final with no further formalities being considered.

- ◆ 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 and regulation of any kind of government of the United States or any civil or military authority; insurrections; riots; epidemics; landslides; 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

- ◆ Prevailing Wage
 - It shall be the responsibility of the Vendor to comply, when applicable, with the prevailing wage legislation in effect in the jurisdiction of the purchaser. It shall further be the responsibility of the Vendor to monitor the prevailing wage rates as established by the appropriate department of labor for any increase in rates during the term of this contract and adjust wage rates accordingly.

- ◆ Termination
 - Either party may cancel this contract in whole or in part by providing written notice. The cancellation will take effect 30 business days after the other party receives the notice of cancellation. After the 30th business day all work will cease following completion of final purchase order.

- ◆ Open Records Policy
 - Because Region 14 ESC is a governmental entity responses submitted are subject to release as public information after contracts are executed. If a vendor believes that its response, or parts of its response, may be exempted from disclosure, the vendor must specify page-by-page and line-by-line the parts of the response, which it believes, are exempt. In addition,



the respondent must specify which exception(s) are applicable and provide detailed reasons to substantiate the exception(s).

- The determination of whether information is confidential and not subject to disclosure is the duty of the Office of Attorney General (OAG). Region 14 ESC must provide the OAG sufficient information to render an opinion and therefore, vague and general claims to confidentiality by the respondent are not acceptable. Region 14 ESC must comply with the opinions of the OAG. Region14 ESC assumes no responsibility for asserting legal arguments on behalf of any vendor. Respondent are advised to consult with their legal counsel concerning disclosure issues resulting from this procurement process and to take precautions to safeguard trade secrets and other proprietary information.



Process

Region 14 ESC will evaluate proposals in accordance with, and subject to, the relevant statutes, ordinances, rules, and regulations that govern its procurement practices. NCPA will assist Region 14 ESC in evaluating proposals. Award(s) will be made to the prospective vendor whose response is determined to be the most advantageous to Region 14 ESC, NCPA, and its participating agencies. To qualify for evaluation, response must have been submitted on time, and satisfy all mandatory requirements identified in this document.

- ◆ Contract Administration
 - The contract will be administered by Region 14 ESC. The National Program will be administered by NCPA on behalf of Region 14 ESC.
- ◆ Contract Term
 - The contract term will be for three (3) year starting from the date of the award. The contract may be renewed for up to two (2) additional one-year terms or any combination of time equally not more than 2 years.
 - It should be noted that maintenance/service agreements may be issued for up to (20) years for boiler systems and (20) years for chiller systems under this contract even if the contract only lasts for the initial term of the contract. NCPA will monitor any maintenance agreements for the term of the agreement provided they are signed prior to the termination or expiration of this contract.
- ◆ Contract Waiver
 - Any waiver of any provision of this contract shall be in writing and shall be signed by the duly authorized agent of Region 14 ESC. The waiver by either party of any term or condition of this contract shall not be deemed to constitute waiver thereof nor a waiver of any further or additional right that such party may hold under this contract.
- ◆ Products and Services additions
 - Products and Services may be added to the resulting contract during the term of the contract by written amendment, to the extent that those products and services are within the scope of this RFP.
- ◆ Competitive Range
 - It may be necessary for Region 14 ESC to establish a competitive range. Responses not in the competitive range are unacceptable and do not receive further award consideration.
- ◆ Deviations and Exceptions
 - Deviations or exceptions stipulated in response may result in disqualification. It is the intent of Region 14 ESC to award a vendor's complete line of products and/or services, when possible.
- ◆ Estimated Quantities
 - The estimated dollar volume of Products and Services purchased under the proposed Master Agreement is \$80 million dollars annually. This estimate is based on the anticipated volume of Region 14 ESC and current sales within the NCPA program. There is no guarantee or commitment of any kind regarding usage of any contracts resulting from this solicitation



- ◆ Evaluation
 - Region 14 ESC will review and evaluate all responses in accordance with, and subject to, the relevant statutes, ordinances, rules and regulations that govern its procurement practices. NCPA will assist the lead agency in evaluating proposals. Recommendations for contract awards will be based on multiple factors, each factor being assigned a point value based on its importance.
- ◆ Formation of Contract
 - A response to this solicitation is an offer to contract with Region 14 ESC based upon the terms, conditions, scope of work, and specifications contained in this request. A solicitation does not become a contract until it is accepted by Region 14 ESC. The prospective vendor must submit a signed Signature Form with the response thus, eliminating the need for a formal signing process. Contract award letter issued by Region 14 ESC is the counter-signature document establishing acceptance of the contract.
- ◆ NCPA Administrative Agreement
 - The vendor will be required to enter and execute the National Cooperative Purchasing Alliance Administration Agreement with NCPA upon award with Region 14 ESC. The agreement establishes the requirements of the vendor with respect to a nationwide contract effort.
- ◆ Clarifications / Discussions
 - Region 14 ESC may request additional information or clarification from any of the respondents after review of the proposals received for the sole purpose of elimination minor irregularities, informalities, or apparent clerical mistakes in the proposal. Clarification does not give respondent an opportunity to revise or modify its proposal, except to the extent that correction of apparent clerical mistakes results in a revision. After the initial receipt of proposals, Region 14 ESC reserves the right to conduct discussions with those respondent's whose proposals are determined to be reasonably susceptible of being selected for award. Discussions occur when oral or written communications between Region 14 ESC and respondent's are conducted for the purpose clarifications involving information essential for determining the acceptability of a proposal or that provides respondent an opportunity to revise or modify its proposal. Region 14 ESC will not assist respondent bring its proposal up to the level of other proposals through discussions. Region 14 ESC will not indicate to respondent a cost or price that it must meet to neither obtain further consideration nor will it provide any information about other respondents' proposals or prices.
- ◆ Multiple Awards
 - Multiple Contracts may be awarded as a result of the solicitation. Multiple Awards will ensure that any ensuing contracts fulfill current and future requirements of the diverse and large number of participating public agencies.
- ◆ Past Performance
 - Past performance is relevant information regarding a vendor's actions under previously awarded contracts; including the administrative aspects of performance; the vendor's



history of reasonable and cooperative behavior and commitment to customer satisfaction; and generally, the vendor's businesslike concern for the interests of the customer.

Evaluation Criteria

- ◆ Pricing (40 points)
 - Electronic Price Lists
 - Products, Services, Warranties, etc. price list
 - Prices listed will be used to establish both the extent of a vendor's product lines, services, warranties, etc. available from a particular bidder and the pricing per item.

- ◆ Ability to Provide and Perform the Required Services for the Contract (25 points)
 - Product Delivery within participating entities specified parameters
 - Number of line items delivered complete within the normal delivery time as a percentage of line items ordered.
 - Vendor's ability to perform towards above requirements and desired specifications.
 - Past Cooperative Program Performance
 - Quantity of line items available that are commonly purchased by the entity.
 - Quality of line items available compared to normal participating entity standards.

- ◆ References and Experience (20 points)
 - A minimum of ten (10) customer references for product and/or services of similar scope dating within past 3 years
 - Respondent Reputation in marketplace
 - Past Experience working with public sector.
 - Exhibited understanding of cooperative purchasing

- ◆ Value Added Products/Services Description, (8 points)
 - Additional Products/Services related to the scope of RFP
 - Marketing and Training
 - Minority and Women Business Enterprise (MWBE) and (HUB) Participation
 - Customer Service

- ◆ Technology for Supporting the Program (7 points)
 - Electronic on-line catalog, order entry use by and suitability for the entity's needs
 - Quality of vendor's on-line resources for NCPA members.
 - Specifications and features offered by respondent's products and/or services



SIGNATURE FORM

The undersigned hereby proposes and agrees to furnish goods and/or services in strict compliance with the terms, specifications and conditions at the prices proposed within response unless noted in writing. The undersigned further certifies that he/she is an officer of the company and has authority to negotiate and bind the company named below and has not prepared this bid in collusion with any other Respondent and that the contents of this proposal as to prices, terms or conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any person engaged in this type of business prior to the official opening of this proposal.

Prices are guaranteed: **120 days**

Company name Teal Systems

Address 735 Buffalo Run

City/State/Zip Missouri City, Texas 77489

Telephone No. 866-637-0100

Fax No. Not applicable

Email address achenier@tealsystems.com

Printed name Anna Chenier

Position with company Director of Business Development

Authorized signature *Anna Chenier*



Tab 2

NCPA Administration Agreement



NCPA ADMINISTRATION AGREEMENT

This Administration Agreement is made as of April 19, 2022, by and between National Cooperative Purchasing Alliance (“NCPA”) and TEAL Systems (“Vendor”).

Recitals

WHEREAS, Region 14 ESC has entered into a certain Master Agreement dated April 19, 2022, referenced as Contract Number 02-132, by and between Region 14 ESC and Vendor, as may be amended from time to time in accordance with the terms thereof (the “Master Agreement”), for the purchase of Central Plant as-a-Service Program;

WHEREAS, said Master Agreement provides that any state, city, special district, local government, school district, private K-12 school, technical or vocational school, higher education institution, other government agency or nonprofit organization (hereinafter referred to as “public agency” or collectively, “public agencies”) may purchase products and services at the prices indicated in the Master Agreement;

WHEREAS, NCPA has the administrative and legal capacity to administer purchases under the Master Agreement to public agencies;

WHEREAS, NCPA serves as the administrative agent for Region 14 ESC in connection with other master agreements offered by NCPA

WHEREAS, Region 14 ESC desires NCPA to proceed with administration of the Master Agreement;

WHEREAS, NCPA and Vendor desire to enter into this Agreement to make available the Master Agreement to public agencies on a national basis;

NOW, THEREFORE, in consideration of the payments to be made hereunder and the mutual covenants contained in this Agreement, NCPA and Vendor hereby agree as follows:

◆ General Terms and Conditions

- The Master Agreement, attached hereto as Tab 1 and incorporated herein by reference as though fully set forth herein, and the terms and conditions contained therein shall apply to this Agreement except as expressly changed or modified by this Agreement.
- NCPA shall be afforded all of the rights, privileges and indemnifications afforded to Region 14 ESC under the Master Agreement, and such rights, privileges and indemnifications shall accrue and apply with equal effect to NCPA under this Agreement including, but not limited to, the Vendor’s obligation to provide appropriate insurance and certain indemnifications to Region 14 ESC.
- Vendor shall perform all duties, responsibilities and obligations required under the Master Agreement in the time and manner specified by the Master Agreement.
- NCPA shall perform all of its duties, responsibilities, and obligations as administrator of purchases under the Master Agreement as set forth herein, and Vendor acknowledges that NCPA shall act in the capacity of administrator of purchases under the Master Agreement.
- With respect to any purchases made by Region 14 ESC or any Public Agency pursuant to the Master Agreement, NCPA (a) shall not be construed as a dealer, re-marketer, representative, partner, or agent of any type of Vendor, Region 14 ESC, or such Public Agency, (b) shall not be obligated, liable or responsible (i) for any orders made by Region



14 ESC, any Public Agency or any employee of Region 14 ESC or Public Agency under the Master Agreement, or (ii) for any payments required to be made with respect to such order, and (c) shall not be obligated, liable or responsible for any failure by the Public Agency to (i) comply with procedures or requirements of applicable law, or (ii) obtain the due authorization and approval necessary to purchase under the Master Agreement. NCPA makes no representations or guaranties with respect to any minimum purchases required to be made by Region 14 ESC, any Public Agency, or any employee of Region 14 ESC or Public Agency under this Agreement or the Master Agreement.

- The Public Agency participating in the NCPA contract and Vendor may enter into a separate supplemental agreement to further define the level of service requirements over and above the minimum defined in this contract i.e. invoice requirements, ordering requirements, specialized delivery, etc. Any supplemental agreement developed as a result of this contract is exclusively between the Public Agency and Vendor. NCPA, its agents, members and employees shall not be made party to any claim for breach of such agreement.

◆ **Term of Agreement**

- This Agreement shall be in effect so long as the Master Agreement remains in effect, provided, however, that the obligation to pay all amounts owed by Vendor to NCPA through the termination of this Agreement and all indemnifications afforded by Vendor to NCPA shall survive the term of this Agreement.

◆ **Fees and Reporting**

- The awarded vendor shall electronically provide NCPA with a detailed quarterly report showing the dollar volume of all sales under the contract for the previous quarter. Reports are due on the fifteenth (15th) day after the close of the previous quarter. It is the responsibility of the awarded vendor to collect and compile all sales under the contract from participating members and submit one (1) report. The report shall include at least the following information as listed in the example below:

Entity Name	Zip Code	State	PO or Job #	Sale Amount

Total _____

- Each quarter NCPA will invoice the vendor based on the total of sale amount(s) reported. From the invoice the vendor shall pay to NCPA an administrative fee based upon the tiered fee schedule below. Vendor’s annual sales shall be measured on a calendar year basis. Deadline for term of payment will be included in the invoice NCPA provides.

<u>Annual Sales Through Contract</u>	<u>Administrative Fee</u>
0 - \$30,000,000	2%
\$30,000,001 - \$50,000,000	1.5%
\$50,000,001+	1%




- Supplier shall maintain an accounting of all purchases made by Public Agencies under the Master Agreement. NCPA and Region 14 ESC reserve the right to audit the accounting for a period of four (4) years from the date NCPA receives the accounting. In the event of such an audit, the requested materials shall be provided at the location designated by Region 14 ESC or NCPA. In the event such audit reveals an under reporting of Contract Sales and a resulting underpayment of administrative fees, Vendor shall promptly pay NCPA the amount of such underpayment, together with interest on such amount and shall be obligated to reimburse NCPA’s costs and expenses for such audit.


◆ General Provisions

- This Agreement supersedes any and all other agreements, either oral or in writing, between the parties hereto with respect to the subject matter hereof, and no other agreement, statement, or promise relating to the subject matter of this Agreement which is not contained herein shall be valid or binding.
- Awarded vendor agrees to allow NCPA to use their name and logo within website, marketing materials and advertisement. Any use of NCPA name and logo or any form of publicity regarding this contract by awarded vendor must have prior approval from NCPA.
- If any action at law or in equity is brought to enforce or interpret the provisions of this Agreement or to recover any administrative fee and accrued interest, the prevailing party shall be entitled to reasonable attorney’s fees and costs in addition to any other relief to which such party may be entitled.
- Neither this Agreement nor any rights or obligations hereunder shall be assignable by Vendor without prior written consent of NCPA, provided, however, that the Vendor may, without such written consent, assign this Agreement and its rights and delegate its obligations hereunder in connection with the transfer or sale of all or substantially all of its assets or business related to this Agreement, or in the event of its merger, consolidation, change in control or similar transaction. Any permitted assignee shall assume all assigned obligations of its assignor under this Agreement.
- This Agreement and NCPA’s rights and obligations hereunder may be assigned at NCPA’s sole discretion, to an existing or newly established legal entity that has the authority and capacity to perform NCPA’s obligations hereunder
- All written communications given hereunder shall be delivered to the addresses as set forth below.

National Cooperative Purchasing Alliance:

Name: Matthew Mackel
 Title: Director, Business Development
 Address: PO Box 701273
Houston, TX 77270
 Signature: 
 Date: April 19, 2022

Vendor:

Teal Systems
 Name: Anna Chenier
 Title: Director of Business Development
 Address: 735 Buffalo Run
Missouri City, Texas 77489
 Signature: 
 Date: March 24, 2022

Tab 3 Vendor Questionnaire



VENDOR QUESTIONNAIRE

Please provide responses to the following questions that address your company's operations, organization, structure, and processes for providing products and services.

◆ States Covered

- Bidder must indicate any and all states where products and services can be offered.
- Please indicate the price co-efficient for each state if it varies.

50 States & District of Columbia (Selecting this box is equal to checking all boxes below)

- | | | |
|---|---|---|
| <input type="checkbox"/> Alabama | <input type="checkbox"/> Maryland | <input type="checkbox"/> South Carolina |
| <input type="checkbox"/> Alaska | <input type="checkbox"/> Massachusetts | <input type="checkbox"/> South Dakota |
| <input type="checkbox"/> Arizona | <input type="checkbox"/> Michigan | <input type="checkbox"/> Tennessee |
| <input type="checkbox"/> Arkansas | <input type="checkbox"/> Minnesota | <input type="checkbox"/> Texas |
| <input type="checkbox"/> California | <input type="checkbox"/> Mississippi | <input type="checkbox"/> Utah |
| <input type="checkbox"/> Colorado | <input type="checkbox"/> Missouri | <input type="checkbox"/> Vermont |
| <input type="checkbox"/> Connecticut | <input type="checkbox"/> Montana | <input type="checkbox"/> Virginia |
| <input type="checkbox"/> Delaware | <input type="checkbox"/> Nebraska | <input type="checkbox"/> Washington |
| <input type="checkbox"/> District of Columbia | <input type="checkbox"/> Nevada | <input type="checkbox"/> West Virginia |
| <input type="checkbox"/> Florida | <input type="checkbox"/> New Hampshire | <input type="checkbox"/> Wisconsin |
| <input type="checkbox"/> Georgia | <input type="checkbox"/> New Jersey | <input type="checkbox"/> Wyoming |
| <input type="checkbox"/> Hawaii | <input type="checkbox"/> New Mexico | |
| <input type="checkbox"/> Idaho | <input type="checkbox"/> New York | |
| <input type="checkbox"/> Illinois | <input type="checkbox"/> North Carolina | |
| <input type="checkbox"/> Indiana | <input type="checkbox"/> North Dakota | |
| <input type="checkbox"/> Iowa | <input type="checkbox"/> Ohio | |
| <input type="checkbox"/> Kansas | <input type="checkbox"/> Oklahoma | |
| <input type="checkbox"/> Kentucky | <input type="checkbox"/> Oregon | |
| <input type="checkbox"/> Louisiana | <input type="checkbox"/> Pennsylvania | |
| <input type="checkbox"/> Maine | <input type="checkbox"/> Rhode Island | |



All US Territories and Outlying Areas (Selecting this box is equal to checking all boxes below)

- | | |
|---|--|
| <input type="checkbox"/> American Samoa | <input type="checkbox"/> Northern Marina Islands |
| <input type="checkbox"/> Federated States of Micronesia | <input type="checkbox"/> Puerto Rico |
| <input type="checkbox"/> Guam | <input type="checkbox"/> U.S. Virgin Islands |
| <input type="checkbox"/> Midway Islands | |

◆ **Minority and Women Business Enterprise (MWBE) and (HUB) Participation**

➤ It is the policy of some entities participating in NCPA to involve minority and women business enterprises (MWBE) and historically underutilized businesses (HUB) in the purchase of goods and services. Respondents shall indicate below whether or not they are an M/WBE or HUB certified.

- **Minority / Women Business Enterprise**
 - Respondent Certifies that this firm is a M/WBE
- **Historically Underutilized Business**
 - Respondent Certifies that this firm is a HUB

◆ **Residency**

➤ Responding Company's principal place of business is in the city of Missouri City, State of TX

◆ **Felony Conviction Notice**

- Please Check Applicable Box;
- A publically held corporation; therefore, this reporting requirement is not applicable.
 - Is not owned or operated by anyone who has been convicted of a felony.
 - Is owned or operated by the following individual(s) who has/have been convicted of a felony
- If the 3rd box is checked, a detailed explanation of the names and convictions must be attached.

◆ **Distribution Channel**

- Which best describes your company's position in the distribution channel:
- | | |
|--|--|
| <input type="checkbox"/> Manufacturer Direct | <input type="checkbox"/> Certified education/government reseller |
| <input type="checkbox"/> Authorized Distributor | <input type="checkbox"/> Manufacturer marketing through reseller |
| <input checked="" type="checkbox"/> Value-added reseller | <input type="checkbox"/> Other: _____ |

◆ **Processing Information**

- Provide company contact information for the following:
- **Sales Reports / Accounts Payable**
 Contact Person: Candace Smith
 Title: Senior Accountant
 Company: Teal Systems
 Address: 735 Buffalo Run
 City: Missouri City State: Texas Zip: 77489
 Phone: 866-637-0100 Email: csmith@tealsystems.com



- Purchase Orders

Contact Person: Courtney Dickson
 Title: Agreement Manager
 Company: Teal Systems
 Address: 735 Buffalo Run
 City: Missouri City State: Texas Zip: 77489
 Phone: 866-637-0100 Email: cdickson@tealsystems.com

- Sales and Marketing

Contact Person: Anna Chenier
 Title: Director of Business Development
 Company: Teal Systems
 Address: 735 Buffalo Run
 City: Missouri City State: Texas Zip: 77489
 Phone: 866-637-0100 Email: achenier@tealsystems.com

- ◆ Pricing Information

- In addition to the current typical unit pricing furnished herein, the Vendor agrees to offer all future product introductions at prices that are proportionate to Contract Pricing.
 - If answer is no, attach a statement detailing how pricing for NCPA participants would be calculated for future product introductions.
 - Yes No
- Pricing submitted includes the required NCPA administrative fee. The NCPA fee is calculated based on the invoice price to the customer.
 - Yes No
- Vendor will provide additional discounts for purchase of a guaranteed quantity.
 - Yes No

- ◆ Cooperatives

- List any other cooperative or state contracts currently held or in the process of securing.

Cooperative/State Agency	Discount Offered	Expires	Annual Sales Volume

Tab 4 Vendor Profile



VENDOR PROFILE

General

Company's official registered name.

Teal 3.0 LLC

Brief history of your company, including the year it was established.

TEAL was established in 2004 initially to provide innovative, vertically integrated hot water management solutions. TEAL has since developed solutions that provide hydronic heat and chilled water for air conditioning, in addition to domestic hot water. TEAL's unique concept of mechanical equipment as-a-service provides central plant systems that clients never need to own, maintain, or operate by themselves. Today, our team of experts manages over 350 systems in 15 states and growing, serving 80,000+ building occupants nationwide.

Company's Dun & Bradstreet (D&B) number.

103239003

Company's organizational chart of those individuals that would be involved in the contract.

Please see the following page

Corporate office location.

Houston, TX

- **List the number of sales and services offices for states being bid in solicitation.**

6

- **List the names of key contacts at each with title, address, phone and e-mail address**

TEAL has 6 office/service center locations. Key contacts for each location are listed below.

HOUSTON

Anna Chenier
Director of Business Development
735 Buffalo Run
Houston, TX 77489
p. 713-640-271
achenier@tealsystems.com

DALLAS

Jake Buckner
Vice President of Sales & Marketing
501 S. 2nd Avenue, Suite A-100
Dallas, TX 75226
p. 214-543-9569
jbuckner@tealsystems.com

AUSTIN

Andrew Crawford
Director of Business Development
1340 Airport Commerce Drive,
Suite 500
Austin, TX 78741
p. 512-673-7191
acrawford@tealsystems.com

ATLANTA

John McGriff
Development Manager,
Southeast Region
p. 678-591-7101
jmcgriff@tealsystems.com

DENVER

Vaughn Dearmond
Construction Manager
p. 713-824-6377
vdearmond@tealsystems.com

BENTONVILLE

Phillip Warren
Field Technician
p. 713-882-3256
pwarren@tealsystems.com

Define your standard terms of payment.

30 days

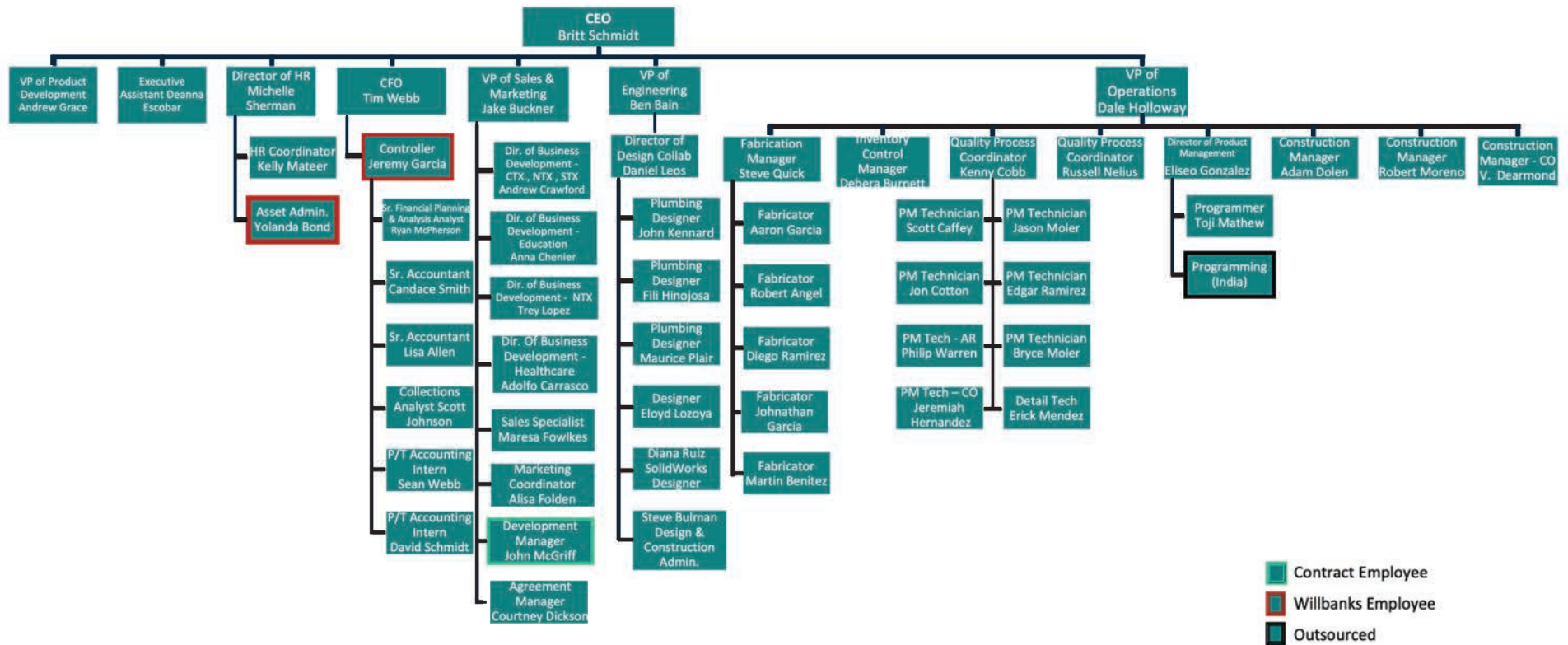
Who is your competition in the marketplace?

We like to say our competition is "the status quo," by which we mean the traditional method of building owners purchasing their central plant equipment and self-performing maintenance and repair. Though TEAL may have marketplace competitors for the individual pieces of our entire solution (equipment, maintenance, warranty), we are not aware of any other company that provides a comparable offering at the same scale, in neither the public nor the private marketplace.



TEAL ORGANIZATIONAL CHART

TEAL Summary
Total: 53





What differentiates your company from your competitors?

As we stated previously in our answer to the question regarding competition in the marketplace, we are not aware of any other company that provides a comparable offering at the same scale, in neither the public nor the private marketplace. In a way, TEAL being TEAL and providing the solutions we do in the way that we do IS the differentiator. We are also confident that, given feedback we have received from our current clients, the “team behind TEAL” - the individuals potential customers will be served by on any contract - sets us apart from others in the industry.

Describe how your company will market this contract if awarded.

Given that this NCPA and Region 14 contract will be our first and only cooperative procurement partnership if awarded, this opportunity is history-making for TEAL. If awarded, we are more than happy to use a variety of tactics to market this contract, including publication in print and online publications, an active social media campaign, presence at trade shows and local industry organizations, and a dedicated web-based homepage to highlight the contract services and due diligence materials.

Upon award, we will immediately publish a press release announcing our first official entry into the public market via this NCPA and Region 14 contract. We are active on social media as well, so we will post the announcement to all of our channels and encourage our employees to share the news, as well as utilize our social media presence for other contract-related marketing efforts. We are happy to incorporate co-branded materials at every trade show we participate in, and proudly display logos, website links, and other contract information on our website.

Marketing Efforts to Potential Customers

We believe this NCPA and Region 14 contract offers eligible entities many benefits. As previously mentioned, this contract would be our first and only award, so every potential customer would be directed to procure our services through this contract. We will illustrate to our potential customers that using the NCPA and Region 14 contract provides them with a seamless process to procure TEAL using a vetted solution supported by two reputable institutions.

Traditionally, TEAL has only completed projects in the private marketplace. In the last year, our company has put a specific emphasis on entering the public marketplace and gaining traction. Our first step to increase our market share from 0 was to hire staff members with experience in the public vertical markets we consider to hold the most opportunity for TEAL. These staff members have been hosting meetings with decision makers in each market, increasing TEAL’s brand awareness. Our next step is to be awarded a cooperative purchasing contract so that public clients have an avenue to procure our systems. We are excited about this Region 14 and NCPA opportunity, because we have multiple public entities currently interested in our solutions and are seeking the best way to properly procure TEAL in the public space. We believe the public marketplace offers unlimited potential for growth for TEAL, and we will continue efforts to increase brand awareness through meetings, trade shows, social media, and making connections through existing relationships.



Example "90-Day Marketing Plan"

First 30 days: Publish a press release announcing our first official entry into the public market via this NCPA and Region 14 contract. Post an announcement to all social media channels and encourage employees to share the news. Update potential customers that we are currently preparing proposals for with the news that we were awarded a contract with NCPA and Region 14. Update www.tealsystems.com with the NCPA and Region 14 ESC Logos, a link to the NCPA and Region 14 ESC websites, a summary of the contract and services offered, and all due diligence documentation.

Second 30 days: Co-brand marketing materials and produce; make these materials available through email outreach, at every set meeting, and during trade shows. Include information about the contract in any outreach to potential customers. Provide a press release and social media announcements for any public entity that procures TEAL using the contract.

Third 30 days: Continue outreach to potential clients, making co-branded materials available during interactions. Continue providing press releases and social media announcements for any TEAL system procured by a public entity through the NCPA and Region 14 agreement.

Sample Advertising

Below are a few advertising samples. More samples are available upon request.

Come meet the TEAL Team!
Future of Austin Office
 February 16th

Central Plants Made Simple

Managed, monitored and maintained central plants "as a service" that deliver sustainable solutions for your building's air conditioning and heating needs.

Why TEAL?
 Innovative. Sustainable. Reliable.

Predictive Maintenance

TEAL technicians conduct regular on-site plant inspections and address issues before they arise. Our team is also ready and able to respond 24/7/365

Central Plants Made Simple

Managed, monitored and maintained central plants "as a service" that deliver sustainable solutions for your building's air conditioning and heating needs.

Innovative. Sustainable. Reliable.

info@tealsystems.com (866) 637-0100 www.tealsystems.com

Stop by our table for a chance to win a Traeger!



Describe how you intend to introduce NCPA to your company.

The TEAL Sales team holds a weekly meeting. Upon award, training sessions on the ESC agreement will be added to the weekly meeting agenda for the first 30 days or until sales teammates feel comfortable promoting the partnership with NCPA and Region 14.

Describe your firm's capabilities and functionality of your on-line catalog/ordering website.

TEAL does not offer online ordering. Members can place an order for any TEAL system by contacting a TEAL salesperson. The dedicated TEAL salesperson for this contract is Anna Chenier; contact information has been provided within this submission. TEAL will work with the client to define the project scope of work, and, once defined, the building owner will execute an agreement with TEAL.

Describe your company's Customer Service Department (hours of operation, number of service centers, etc.)

TEAL has Customer Service locations in Dallas, Houston, and Austin (TX); Denver (CO); Bentonville (AR); and Atlanta (GA). At all times, a TEAL service technician and a backup technician are on-call 24/7 to respond to any issues. TEAL's proprietary remote monitoring software and machine learning algorithms monitor every TEAL central plant system 24/7. Any anomalies are triaged by network operations engineers who then contact service technicians as required. In addition, clients can contact TEAL using our 800 number, and service calls will be addressed within 24 hours.

If there is an immediate need at a site not located near one of our Customer Service centers, TEAL has agreements in place with local providers to support emergencies at any TEAL site. Orders placed using the 800 number outside of regular business hours will be addressed the following business day.

Service calls are always addressed within 24 hours.

Green Initiatives: As our business grows, we want to make sure we minimize our impact on the Earth's climate. We are taking every step we can to implement innovative and responsible environmental practices throughout NCPA to reduce our carbon footprint, reduce waste, energy conservation, ensure efficient computing and much more. To that effort we ask respondents to provide their companies environmental policy and/or green initiative.

TEAL's vision is to create a more sustainable world by lowering the carbon footprint of the buildings that utilize our systems. We do this through the equipment we select, through exploration and implementation of alternative energy sources (e.g., solar and batteries), through our proprietary controls systems that operates the equipment to produce the optimal energy efficiency, and through our preventative maintenance program and perpetual commissioning to prevent degradation of that energy efficiency. In fact, a recent study comparing a TEAL system to an alternative (vertical package units/SCUDS) on a hi-rise multifunction building, found that TEAL was 22% more efficient and a more sustainable solution.

Tab 5 Products and Services



PRODUCTS AND SERVICES

Products

Product Reputation

TEAL Systems has built a reputation for providing our clients with a central plant system that enhances operational energy efficiency and delivers robust reliability with practically zero downtime. Over our years of experience, we have found that we typically provide a first-cost savings to a project, an operational and monthly utility bill savings for the Owner, and an amenity (domestic hot water that never runs out and heating/air conditioning with 100% uptime) for building occupants.

Purchasing Process and Shipping

Once a contract is signed, a TEAL Skid design is created and our proprietary tracking system will issue a purchase order automatically when a delivery date is scheduled. Once the purchase order is received, the system automatically assigns a fabrication floor and designates the Skid to be built. Shipping/delivery schedules are included on TEAL's construction management report, which is updated monthly. An example construction management report is available in Appendix 1.

System Fabrication and Replacement Parts

Each TEAL System is custom-fabricated at our home office in Houston, Texas upon a contract being signed. We keep replacement parts for our systems across various parts depots in Houston, in locked storage crates in building TEAL rooms, and in technicians' vehicles.

On-Time Delivery History

TEAL has a 100% on-time delivery record to each project jobsite.

Replacement Process

Each TEAL System is thoroughly tested before being shipped to the jobsite – we do not install systems with defective products. If any part of the TEAL System needs replacement, our technicians will replace the part on the next regular in-person maintenance visit if the part has not yet failed or within 48 hours if the part has failed. TEAL Systems are built with redundancy, meaning any defect in a piece of the system will not lead to complete failure of the entire central plant.

Warranty Information

Each TEAL system is covered by a "bumper to bumper" warranty for the life of the 20-year contract. Because TEAL owns the central plant equipment for every system we install, we hold the warranty for all components (it is not a concern for the Owner). We have internal processes in place using our proprietary software to monitor inventory and ensure equipment is available when needed.

Quality Guarantee

As part of TEAL's contract with the Owner, TEAL is held responsible for providing hot and/or chilled water to the facility under contract as long as water, power, gas, and Internet are provided. If at any time TEAL does not provide this service (with exception for Acts of God) after 24 hours of notification, we are in breach of our contract with the Owner and the Owner has the option to terminate the contract and buy the TEAL equipment at a pre-determined depreciated price, or continue service with a credit for that month's management fee.

Ability to Provide Temporary Cooling

TEAL has strategic partners that can provide temporary cooling. These services can be contracted through TEAL or directly with the strategic partner, whichever is in the best interest of our clients.



Services

Service Reputation

TEAL Systems has built a reputation for providing our clients with a central plant system that enhances operational efficiency and delivers robust reliability with practically zero downtime. Key to that success is our ability to monitor and address system anomalies through our 24/7 Virtual Supervisor, which provides constant monitoring, tracking critical point plant functions with advanced artificial intelligence to triage, diagnose, and implement corrective actions for most system anomalies. In addition, with our predictive maintenance process, TEAL technicians conduct regular on-site plant inspections and address issues before they arise. If needed, our team is also ready and able to respond 24/7 for emergencies. A large part of our reputation is “100% uptime” - our existing TEAL systems have over 7 million run hours with a cumulative total of 22 hours down, equaling 99.9997% uptime.

Customer Service Availability

TEAL has Customer Service locations in Dallas, Houston, and Austin (TX); Denver (CO); Bentonville (AR); and Atlanta (GA). At all times, a TEAL service technician and a backup technician are on-call 24/7 to respond to any issues. TEAL's proprietary remote monitoring software and machine learning algorithms monitor every TEAL central plant system 24/7. Any anomalies are triaged by network operations engineers who then contact service technicians as required. In addition, clients can contact TEAL using our 800 number, and service calls will be addressed within 24 hours.

If there is an immediate need at a site not located near one of our Customer Service centers, TEAL has agreements in place with local providers to support emergencies at any TEAL site.

Orders placed using the 800 number outside of regular business hours will be addressed the following business day. Service calls are always addressed within 24 hours.

Service Procedures

All service calls and monitoring software alerts are received by NOC engineers. After TEAL contacts the property manager, a decision on how to respond is made. If unable to remedy the issue remotely, a TEAL Technician is dispatched to the site where repair is determined and completed in the same visit. All service calls are received and responded to within 24 hours, and solutions for repair are presented within another 24 hours, if necessary. Based on the need, any repairs that cannot be immediately addressed remotely are completed the next time a TEAL Technician visits the site (whether that is within the 48 hours or on the next preventative maintenance visit). Owners will never be invoiced for repairs, as all repairs are included in the “bumper to bumper” warranty for the life of the 15- to 20-year contract.

Ability to Prevent Plant Failure

Because TEAL is constantly monitoring each system, we are able to recognize indicators of failure before a problem arises. In a situation where service is needed, solutions can be provided remotely through our Network Operations Center (NOC), or a TEAL technician will provide diagnosis and repair of the system within 48 hours.

Preventative Maintenance

The scope of work for TEAL's preventative maintenance visits depends on the system design. Preventative maintenance visits typically include a multi-hour review of all system piping, components, and equipment. An example proprietary preventative maintenance schedule is included in Appendix 1.

Numbered of Monitored Sites (as of February 2022)

250 sites.

Remote Monitoring Software Capabilities

TEAL built our proprietary EMS system from the ground up. We have complete control of and capability to update the system software (including writing custom code) as required to meet our clients' needs. TEAL's proprietary monitoring software tracks multiple outputs on installed chiller and boiler systems (amp draws, voltage, etc.). TEAL can provide a web-access portal for client monitoring of their sites. Additionally, TEAL provides and installs the controls hardware and software for our central plant and does not need any additional controls for the system. We can provide several “read only” points for visibility into the performance of the central plant for any client's existing building automation system. If a problem associated with any part of the system is unable to be remedied remotely, a TEAL Technician is dispatched to the site where repair is determined and completed in the same visit.



Startup Procedures

TEAL has a soft start procedure for every system that is installed. This process is conducted by the TEAL Construction Manager and includes completion of a proprietary checklist outlining requirements from the construction phase (to be signed off by the GC) and an initial commissioning procedure.

Post-Installation and Warranty Support

Each TEAL system is covered by a “bumper to bumper” warranty for the life of the 15- to 20-year contract. Additionally, our 24/7 Virtual Supervisor provides constant monitoring, tracking critical point plant functions with advanced artificial intelligence to triage, diagnose, and implement corrective actions for most system anomalies. Finally, with our predictive maintenance process, TEAL technicians conduct regular on-site plant inspections and address issues before they arise. If needed, our team is also ready and able to respond 24/7 for emergencies.

Tracking Construction Projects

TEAL’s proprietary monitoring software issues a monthly construction report to help track project progress before and during construction.

Site Development and Project Permitting

For new construction, TEAL will deliver the TEAL equipment to the project. The Owner is responsible for removing the TEAL equipment and placing the equipment in the TEAL room. This is typically performed by the General Contractor on the project. Once equipment is in the TEAL room, our team will reassemble it. The plumbing, mechanical, and electrical subcontractors will then make their single point connections to the TEAL equipment. For retrofit projects, TEAL will procure all the necessary permits and inspections as related to the installation of the central plant system.

Design Approach and Custom Solutions

TEAL offers highly reliable, repeatable, and constructable solutions. Each TEAL system is customized to the unique needs of every client, balancing energy efficiency, reliability, and budget requirements.

Construction Management

TEAL assigns a Construction Manager to each project. This individual completes a detailed checklist found in our proprietary software to ensure each TEAL room is built to standards and to check distribution to certify that the TEAL system is built as per plans. The Construction Manager will notify the Owner of any issues during construction.

SUSTAINABLE FUTURE

TEAL’s vision is to create a more sustainable world by lowering the carbon footprint of the buildings that utilize our systems. We do this through the equipment we select, through exploration and implementation of alternative energy sources (e.g., solar and batteries), through our proprietary controls systems that operates the equipment to produce the optimal energy efficiency, and through our preventative maintenance program and perpetual commissioning to prevent degradation of that energy efficiency. In fact, a recent study comparing a TEAL system to an alternative (vertical package units/SCUDS) on a hi-rise multifunction building, found that TEAL was 22% more efficient and a more sustainable solution.





HVAC Refrigeration

Type (e.g., Rotary, Centrifugal, Scroll, Reciprocating, Absorption)

Scroll and Screw

Cooling medium (e.g., air, water)

Air

Brand Name(s)

Carrier

Capacity Range (tons)

50 - 500

Standard Warranty (Parts & Labor)

20 years

Optional Warranty (components covered & Labor)

Each TEAL system is covered by a “bumper to bumper” warranty for the life of the 15- to 20-year contract.

Estimated Lead/Delivery Time

14-18 weeks

Location of Manufacturing (City, State or Country)

Houston, Texas

Range of Efficiencies (IPLV)

15-22

Estimated Market Share (North America)

0%

Provide example data on each type of product provided

An example TEAL iPlant detail package can be found in Appendix 1.

Detail Features & Benefit

Premium, energy-efficient equipment provided as part of TEAL’s vertically-integrated, managed, maintained and monitored central plant solution.

Benefits for Educational Institutions

- **Lowers Lifecycle Cost**
- **Creates a Comfortable Learning Environment**
- **Provides Financial Peace of Mind**
- **Reduces the Need for On-Site Technicians**





Pumps

Type (e.g., e.g., single stage, split case, end suction, inline, circulator, turbines)

Inline, centrifugal

Brand Name(s)

TACO

Capacity Range (tons)

0-1500 GPM

Standard Warranty (Parts & Labor)

20 years

Optional Warranty (components covered & Labor)

Each TEAL system is covered by a “bumper to bumper” warranty for the life of the 15- to 20-year contract.

Estimated Lead/Delivery Time

14-18 weeks

Location of Manufacturing (City, State or Country)

Houston, Texas

Range of Efficiencies (IPLV)

60-80%

Estimated Market Share (North America)

0%

Provide example data on each type of product provided

An example TEAL iPlant detail package can be found in Appendix 1.

Detail Features & Benefit

Premium, energy-efficient equipment provided as part of TEAL’s vertically-integrated, managed, maintained and monitored central plant solution.



Stress-Free Central Plant Operations - For Less

Imagine that your day-to-day worries about your central plant could be reduced with one simple solution. With TEAL iPlant, it’s possible. You no longer need to purchase, maintain, repair, or manage the central plant equipment for your campuses. Our “central plant as-a-service” solution for chilled and hot water can help your campus save money while providing dependable service with essentially zero downtime in an environmentally friendly fashion.

Our 24/7 Virtual Supervisor provides constant monitoring, tracking critical point plant functions with advanced artificial intelligence to triage, diagnose, and implement corrective actions for most system anomalies. In addition, with our predictive maintenance process, TEAL technicians conduct regular on-site plant inspections and address issues before they arise. If needed, our team is also ready and able to respond 24/7 for emergencies.



Boilers and Water Heaters

Type (e.g., modulating, condensing, cast iron, water tube, packaged, other)

Water tube and condensing

Brand Name(s)

Raypak

Heating medium (Electric, Gas, Steam, Hot Water)

Gas

Capacity Range (MBH)

400,000 – 4,000,000 MBH

Standard Warranty (Parts & Labor)

Each TEAL system is covered by a “bumper to bumper” warranty for the life of the 15- to 20-year contract.

Optional Warranty (components covered & Labor)

Each TEAL system is covered by a “bumper to bumper” warranty for the life of the 20-year contract.

Estimated Lead/Delivery Time

16 weeks

Location of Manufacturing (City, State or Country)

Houston, Texas

Range of Efficiencies

85-98%

Estimated Market Share (North America)

0%

Provide example data on each type of product provided

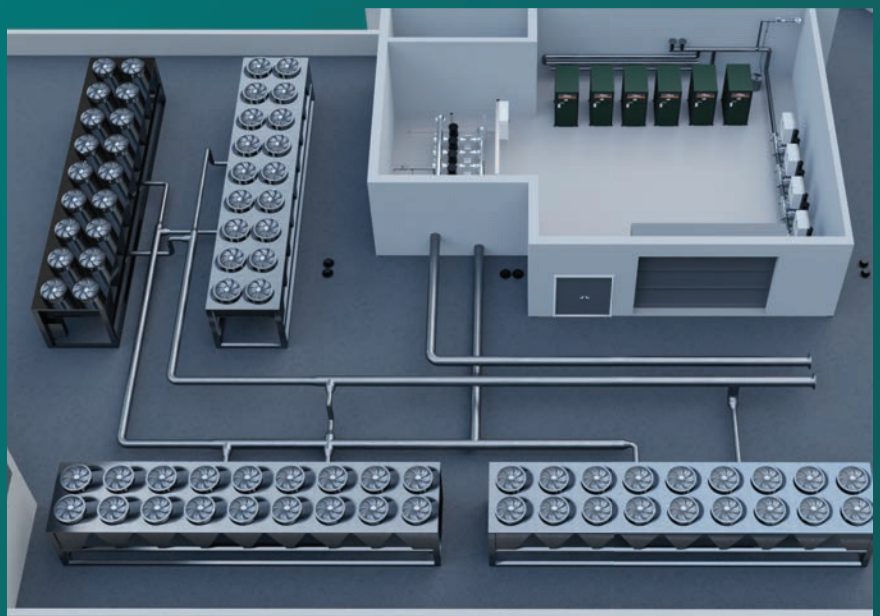
Boiler submittal information can be found in Appendix 1.

Detail Features & Benefit

Premium, energy-efficient equipment provided as part of TEAL's vertically-integrated, managed, maintained and monitored central plant solution.

Central Plants Made Simple

The TEAL iPlant is a vertically integrated managed central plant solution that provides reliable chilled water, domestic hot water, and hydronic heating for campuses of all sizes. With our wholistic approach and advanced AI, TEAL helps school districts and higher education institutions optimize achievement and comfort for students, faculty and staff at the lowest overall lifecycle cost.





Energy Management System and Remote Monitoring Technology

Brand Name(s)

Not Applicable (Proprietary Software)

Location of Network Operations Center (City, State or Country)

Houston, Texas

System Analysis Process

TEAL's 24/7 Virtual Supervisor provides constant monitoring, tracking critical point plant functions with advanced artificial intelligence to triage, diagnose, and implement corrective actions for most system anomalies.

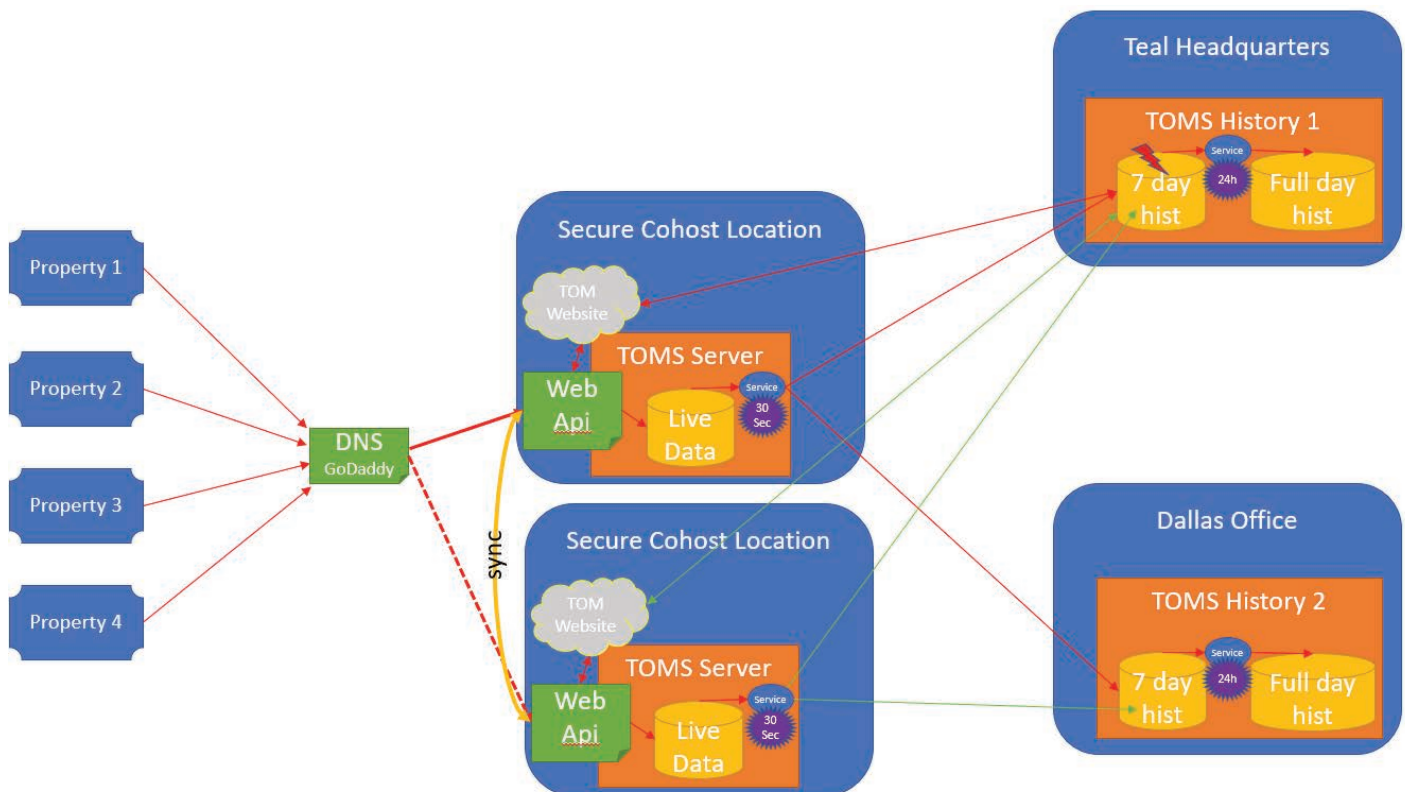
Computer Systems Architecture

All traffic is routed via web APIs using secure socket layers and high encryption, with an additional encrypted token. This traffic is sent to a DNS hosted at GoDaddy which points to our primary server's external IP address. In the event of that server's failure, we manually point the DNS to our secondary server's external IP address. Each server's database is synced with each other real-time. Historical data is stored in two different servers, one in our headquarters and the other in our off-site office. See below diagram for details.

Finally, an image of our primary server is stored in the cloud every 24 hours by a third party for even further redundancy. Clients can view their property's data via our client web portal; this will allow them to see the last 4 hours of data as well as live data. Upon request, we can provide unlimited historical data on the web portal.

Detail Features & Benefit

TEAL's energy management process is perpetual, high-tech, environmentally friendly, and it ultimately saves our building owners and occupants money. In addition, the TEAL support team is monitoring every installed TEAL system 24 hours a day, 7 days a week, 365 days a year - so clients don't have to. Because of our years of experience with central plants, our systems can identify key indicators of failure early, allowing our team to proactively replace equipment (instead of waiting for the part to run to failure) and keeping our clients' TEAL central plants operational with practically 100% uptime.





Tab 7 Pricing



PRICING

Please see our price list that was submitted electronically via Bonfire portal.



Tab 8 Value Added Products & Services



VALUE ADDED PRODUCTS AND SERVICES

TEAL offers our customers innovative and sustainable "central plants as-a-service" to deliver chilled water, hydronic heat, and domestic hot water to public and private developments nationwide. In addition to providing solutions for HVAC, we can also provide domestic hot water. A brief overview of the three current TEAL solutions are listed below:

TEAL System (Domestic Hot Water)

The TEAL System is the next generation in tankless hot water. This managed hot water solution provides occupants and owners a unique opportunity to enjoy a remarkable amenity while reducing costs at every level. Electric water heaters (e.g. provided in each dorm room) will be eliminated and replaced with a "Zero Down Time" commercial gas hot water system. The system is large enough to supply unlimited hot water to the entire property, meaning occupants will never run out.

TEAL Aquatherm

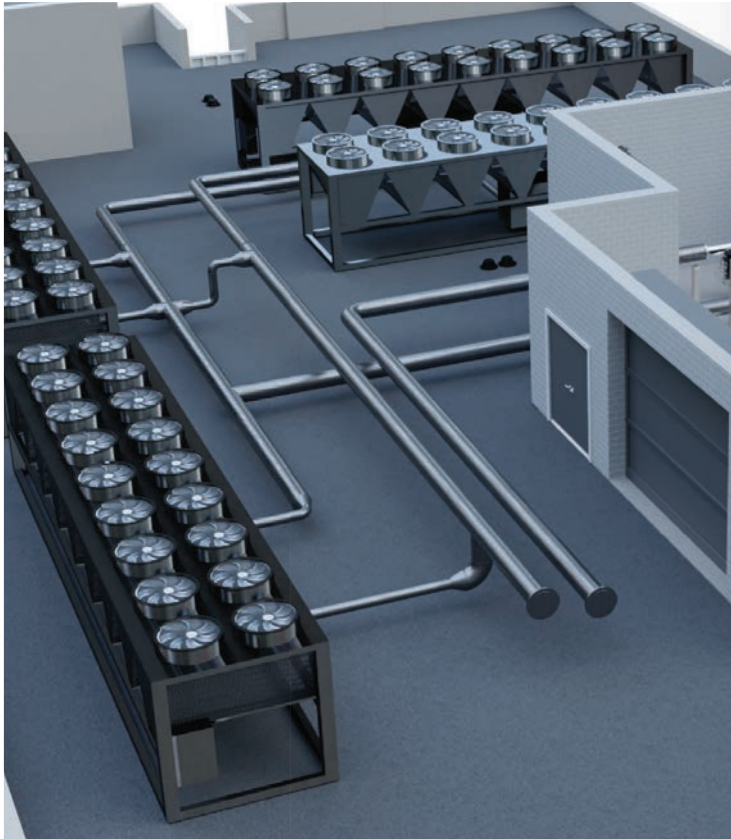
The TEAL Aquatherm applies the traditional concepts of vertical hot water management to a system that combines hydronic space heat and domestic hot water by utilizing a shared equipment package and shared hot water distribution piping. Traditional 60- to 80-gallon water heaters are removed, providing increased floor space for building occupants.

TEAL iPlant

The TEAL iPlant is an innovative business solution and fully integrated mechanical system that delivers seamless chilled water, domestic hot water, and hydronic heat to developments of all sizes. The iPlant alleviates the need for owners, developers, and investors to purchase, manage, maintain, or repair their central plant equipment, as TEAL provides turnkey ownership and operation of the plant throughout a 20-year contract term.

Why Use TEAL?

- Decreased Up-Front Construction Cost
- Lower Operating Cost
- Lower Lifecycle Cost & Total Cost of Ownership
- Reduced Stress and Increased Convenience
- Increased Occupant and Owner Savings
- Environmentally Friendly
- Enhanced Operational Energy Efficiency
- Reduces the Need for On-Site Technicians
- Delivers Robust Reliability with ZERO Downtime



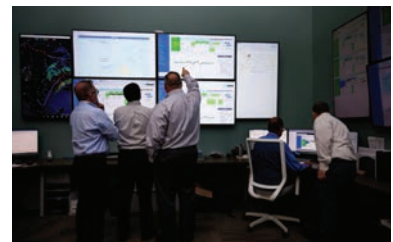
info@tealsystems.com | (866) 637-0100

Innovative and Sustainable Central Plants As-a-Service

TEAL offers managed, monitored, and maintained central plant solutions to deliver chilled water, hydronic heat, and domestic hot water to public and private developments nationwide.

The 7 Elements of TEAL Systems

- 1 Design Collaboration (Developer, Architect, MEP)**
This critical part of the TEAL Quality Process and meticulous proactive approach is structured to ensure construction documents are comprehensive with respect to the TEAL system being installed.
- 2 Construction Management**
TEAL will partner with the General Contractor and related subcontractors (plumbing, electric, HVAC, concrete, telecom) to implement this important element of the TEAL Quality Process. Our hands-on approach is structured to communicate, review and check each aspect of the proposed system.
- 3 Flexible Financing Options**
With the TEAL Systems, you get cloud-based hot and chilled water for one flat monthly fee – no hassles or surprises. Incur less up-front costs with our zero down payment option.
- 4 Maintenance**
The maintenance program as part of the TEAL Quality Process is about ONE THING:
- 5 Integrated Energy Management**
TEAL's energy management process is perpetual, high-tech, environmentally friendly, and it saves building owners and occupants money.
- 6 Remote Monitoring Technology**
The TEAL support team is monitoring your installed TEAL system 24 hours a day, 7 days a week, 365 days a year - so you don't have to.
- 7 Equipment**
We install premium equipment. It's simply what you would expect out of a system that provides essentially ZERO downtime for the life of our 15- to 20-year contracts.





TEAL System

The TEAL System is the next generation in tankless hot water. This managed hot water solution provides occupants and owners a unique opportunity to enjoy a remarkable amenity while reducing costs at every level. Electric water heaters (e.g. provided in each dorm room) will be eliminated and replaced with a "Zero Down Time" commercial gas hot water system. The system is large enough to supply unlimited hot water to the entire property, meaning occupants will never run out.

Why TEAL System?

- Decreased Up-Front Construction Cost
- Reduced Stress and Increased Convenience
- Occupant and Owner Savings

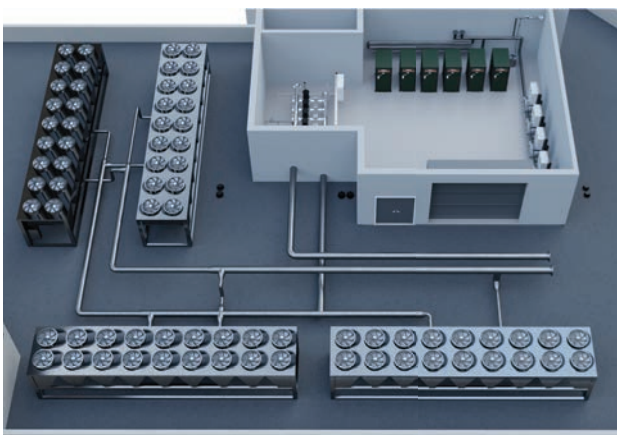


TEAL Aquatherm

TEAL Aquatherm applies the traditional concepts of vertical hot water management to a system that combines hydronic space heat and domestic hot water by utilizing a shared equipment package and shared hot water distribution piping. Traditional 60- to 80-gallon water heaters are removed, providing increased floor space for building occupants.

Why TEAL Aquatherm?

- Lower Construction Cost
- Lower Operating Cost
- Occupant and Owner Savings
- Environmentally Friendly



TEAL iPlant

The TEAL iPlant is an innovative business solution and fully integrated mechanical system that delivers seamless chilled water, domestic hot water, and hydronic heat to developments of all sizes. The iPlant alleviates the need for owners, developers, and investors to purchase, manage, maintain, or repair their central plant equipment, as TEAL provides turnkey ownership and operation of the plant throughout a 20-year contract term.

Why TEAL iPlant?

- Enhances Operational Energy Efficiency
- Reduces the Need for On-Site Technicians
- Delivers Robust Reliability with ZERO Downtime
- Lowers Lifecycle Cost & Total Cost of Ownership

Contact Us

info@tealsystems.com
 (866) 637-0100
 www.tealsystems.com

Our Locations

Houston
 735 Buffalo Run
 Missouri City, TX 77489

Dallas
 501 S 2nd Ave.
 Suite A-100
 Dallas, TX 75226

Austin
 1340 Airport Commerce Dr.
 Suite 550
 Austin, Texas 78741



TEAL is committed to a sustainable future, from the systems we design to the paper we print on.



info@tealsystems.com | (866) 637-0100

Central Plants Made Simple

TEAL iPLANT

The TEAL iPlant is a vertically integrated managed central plant solution that provides reliable chilled water, domestic hot water, and hydronic heating for campuses of all sizes. With our wholistic approach and advanced AI, TEAL helps school districts and higher education institutions optimize achievement and comfort for students, faculty and staff at the lowest overall lifecycle cost.

Overview

What if your chilled and hot water systems could run on autopilot, giving you more time to focus on pressing education-related issues rather than worrying about dependable air conditioning, heating, and hot water? With iPlant, you get a managed central plant that is owned, operated, maintained and warrantied by TEAL providing a reliable, energy efficient and sustainable solution for your campus.

Why TEAL?

Time-Tested Performance

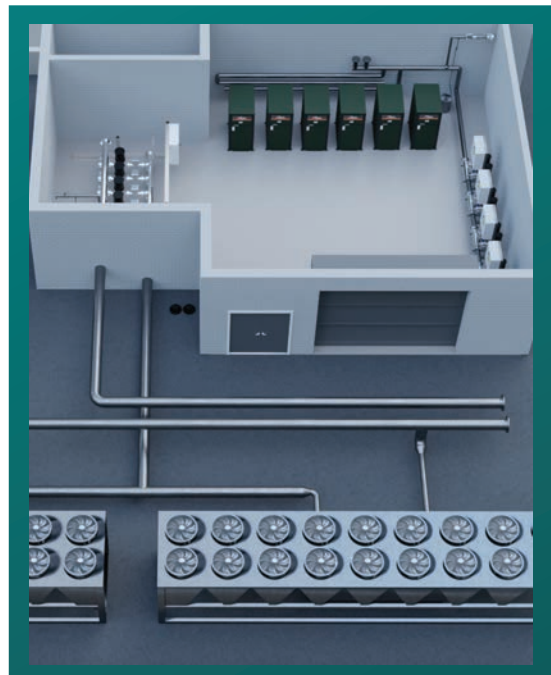
For over 15 years, TEAL has successfully provided services to clients across the nation with a 99.9998% uptime record.

Texas-Born, Nationally Known

We monitor all TEAL systems from our headquarters in Houston. Since inception, TEAL has grown to over 350 operating plants in 14 states and counting.

24/7 Monitoring + Response

Around-the-clock monitoring and regular in-person maintenance inspections by TEAL service technicians allow us to identify potential issues before they become major problems - ensuring your TEAL central plant is operating at peak efficiency with no downtime.





Stress-Free Central Plant Operations - For Less

Imagine that your day-to-day worries about your central plant could be reduced with one simple solution. With TEAL iPlant, it's possible. You no longer need to purchase, maintain, repair, or manage the central plant equipment for your campuses. Our "central plant as-a-service" solution for chilled and hot water can help your campus save money while providing dependable service with essentially zero downtime in an environmentally friendly fashion.

Our 24/7 Virtual Supervisor provides constant monitoring, tracking critical point plant functions with advanced artificial intelligence to triage, diagnose, and implement corrective actions for most system anomalies. In addition, with our predictive maintenance process, TEAL technicians conduct regular on-site plant inspections and address issues before they arise. If needed, our team is also ready and able to respond 24/7 for emergencies.

Benefits for Educational Institutions

Lowens Lifecycle Cost

The TEAL iPlant lowers a campus's lifecycle cost by leveraging margin compression and providing enhanced operational and energy efficiency. TEAL works directly with the original equipment manufacturer and assembles and tests all systems in our Houston fabrication center delivering significant cost-savings which allows district officials to reallocate these funds to other areas of need. This off-site manufacturing approach also provides faster installation, increased system reliability, and a trouble-free start-up and commissioning process when compared to traditional field-built plants.

Creates a Comfortable Learning Environment

With guaranteed uptime, the TEAL iPlant keeps campuses comfortable for students and teachers to help them learn and grow to the best of their ability, and allowing school administrators to focus their attention on other issues directly related to what is most important - achievement in the classroom.

Provides Financial Peace of Mind

The TEAL iPlant provides managed, monitored and maintained hot and chilled water for one flat monthly fee - no hassles and no surprises. Incur less upfront costs with our zero down option, or choose to lower your monthly rate by investing more initially. TEAL provides total financial fluidity balancing first-cost vs operating expenses and allows the owner to determine the customized plan that meets the specific project needs.

Reduces the Need for On-Site Technicians

Keeping dedicated specialized personnel on-site to maintain the central plant can be costly. TEAL helps reduce the workload of internal maintenance teams and eliminates the financial burden that comes with having to employ a third-party contractor.



Contact Us

info@tealsystems.com
(866) 637-0100
www.tealsystems.com

Our Locations

Houston
735 Buffalo Run
Missouri City, TX 77489

Dallas
501 S 2nd Ave.
Suite A-100
Dallas, TX 75226

Austin
1340 Airport Commerce Dr.
Suite 550
Austin, Texas 78741



 TEAL is committed to a sustainable future, from the systems we design to the paper we print on.



info@tealsystems.com | (866) 637-0100

Hot Water Management Solution

The TEAL System is the next generation in multi-family hot water. This managed hot water solution provides the residents and owner a unique opportunity to enjoy a remarkable amenity while reducing costs at every level.

Overview

The electric water heater in each apartment or condo will be eliminated and replaced with a "Zero Down Time" gas hot water system. The system is large enough to supply unlimited hot water to the entire property. A resident will never run out of hot water.

The TEAL System will:

- Deliver construction cost savings
- Reduce energy costs
- Provide a desired amenity
- Eliminate maintenance costs
- Increase equity
- Provide a GREEN hot water solution

The TEAL System equipment is owned and maintained by TEAL. The developer does not have equipment or water heaters to purchase and there are no maintenance costs during the 15-year term of agreement.

The resident will pay for his gas consumption and a small boiler management fee. Both fees will be added to each resident's monthly water bill. The fee is more than offset by the energy savings realized from the highly efficient, gas powered TEAL System in lieu of electric water heaters. The result becomes net savings to the resident, and virtually no costs to the owner.





info@TEALsystems.com | (866) 637-0100

TEAL Aquatherm

TEAL Aquatherm applies the traditional TEAL concepts of vertical hot water management to a system that combines hydronic space heat + domestic hot water by utilizing a shared equipment package and shared hot water distribution piping. In other words, a water heating and piping system that delivers potable hot water and hydronic space heating.

Overview

The TEAL Aquatherm system should be considered in climates where gas space heat is desirable. TEAL Aquatherm is an alternative to traditional Aquatherm systems which utilizes an upsized gas fired water heater combined with a hot water fan coil and pump in each apartment.

TEAL Aquatherm utilizes a fan coil and pump similar to the traditional Aquatherm systems, but depends on a Central Plant which is owned and operated by TEAL as its energy source. TEAL Aquatherm eliminates large gas fired water heaters inside each apartment and all the hot water and hydronic water for the property is generated by the TEAL Aquatherm System. The hot water is then piped throughout the property via a hot water main (or mains). When there is a demand for heat in an apartment, the small pump draws water from the hot water main to the heater fan coil; likewise, when a resident runs water via the sink or shower, there is an unlimited supply of hot water in the main waiting to flow through the apartment's faucets.





Tab 9 Required Documents



Federal Funds Certifications

Participating Agencies may elect to use federal funds to purchase under the Master Agreement. The following certifications and provisions may be required and apply when a Participating Agency expends federal funds for any purchase resulting from this procurement process. Pursuant to 2 C.F.R. § 200.326, all contracts, including small purchases, awarded by the Participating Agency and the Participating Agency's subcontractors shall contain the procurement provisions of Appendix II to Part 200, as applicable.

APPENDIX II TO 2 CFR PART 200

(A) Contracts for more than the simplified acquisition threshold currently set at \$250,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations 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.

- Pursuant to Federal Rule (A) above, when a Participating Agency expends federal funds, the Participating Agency reserves all rights and privileges under the applicable laws and regulations with respect to this procurement in the event of breach of contract by either party.

(B) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of \$10,000)

- Pursuant to Federal Rule (B) above, when a Participating Agency expends federal funds, the Participating Agency reserves the right to immediately terminate any agreement in excess of \$10,000 resulting from this procurement process in the event of a breach or default of the agreement by Offeror as detailed in the terms of the contract

(C) 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 CFR 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."

- Pursuant to Federal Rule (C) above, when a Participating Agency expends federal funds on any federally assisted construction contract, the equal opportunity clause is incorporated by reference herein.



(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities 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 Financed and Assisted Construction”). In accordance with the statute, 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 non-Federal 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 (29 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 subrecipient must be prohibited from inducing, 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 non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

- Pursuant to Federal Rule (D) above, when a Participating Agency expends federal funds during the term of an award for all contracts and subgrants for construction or repair, offeror will be in compliance with all applicable Davis-Bacon Act provisions

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity 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 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.

- Pursuant to Federal Rule (E) above, when a Participating Agency expends federal funds, offeror certifies that offeror will be in compliance with all applicable provisions of the Contract Work Hours and Safety Standards Act during the term of an award for all contracts by Participating Agency resulting from this procurement process.

(F) 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 subrecipient 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 subrecipient 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.



- Pursuant to Federal Rule (F) above, when federal funds are expended by Participating Agency, the offeror certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the offeror agrees to comply with all applicable requirements as referenced in Federal Rule (F) above

(G) 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 subgrants of amounts in excess of \$150,000 must contain a provision that requires the non- Federal 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).

- Pursuant to Federal Rule (G) above, when federal funds are expended by Participating Agency, the offeror certifies that during the term of an award for all contracts by Participating Agency member resulting from this procurement process, the offeror agrees to comply with all applicable requirements as referenced in Federal Rule (G) above

(H) 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.

- Pursuant to Federal Rule (H) above, when federal funds are expended by Participating Agency, the offeror certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the offeror certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency. If at any time during the term of an award the offeror or its principals becomes debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency, the offeror will notify the Participating Agency

(I) 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 non-Federal award.

- Pursuant to Federal Rule (I) above, when federal funds are expended by Participating Agency, the offeror certifies that during the term and after the awarded term of an award for all contracts by Participating Agency resulting from this procurement process, the offeror certifies that it is in compliance with all applicable provisions of the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). The undersigned further certifies that:
 - No Federal appropriated funds have been paid or will be paid for on behalf of the undersigned, to any person for influencing or attempting to influence an officer or



employee of any agency, a Member of Congress, an officer or employee of congress, or an employee of a Member of Congress in connection with the awarding of a Federal contract, the making of a Federal grant, the making of a Federal loan, the entering into a cooperative agreement, and the extension, continuation, renewal, amendment, or modification of a Federal contract, grant, loan, or cooperative agreement.

- If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of congress, or an employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.
- The undersigned shall require that the language of this certification be included in the award documents for all covered sub-awards exceeding \$100,000 in Federal funds at all appropriate tiers and all subrecipients shall certify and disclose accordingly.

RECORD RETENTION REQUIREMENTS FOR CONTRACTS INVOLVING FEDERAL FUNDS

When federal funds are expended by Participating Agency for any contract resulting from this procurement process, offeror certifies that it will comply with the record retention requirements detailed in 2 CFR § 200.333. The offeror further certifies that offeror will retain all records as required by 2 CFR § 200.333 for a period of three years after grantees or subgrantees submit final expenditure reports or quarterly or annual financial reports, as applicable, and all other pending matters are closed.

CERTIFICATION OF COMPLIANCE WITH THE ENERGY POLICY AND CONSERVATION ACT

When Participating Agency expends federal funds for any contract resulting from this procurement process, offeror certifies that it will comply with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6321 et seq.; 49 C.F.R. Part 18).

CERTIFICATION OF COMPLIANCE WITH BUY AMERICA PROVISIONS

To the extent purchases are made with Federal Highway Administration, Federal Railroad Administration, or Federal Transit Administration funds, offeror certifies that its products comply with all applicable provisions of the Buy America Act and agrees to provide such certification or applicable waiver with respect to specific products to any Participating Agency upon request. Purchases made in accordance with the Buy America Act must still follow the applicable procurement rules calling for free and open competition.

CERTIFICATION OF ACCESS TO RECORDS

Offeror agrees that the Inspector General of the Agency or any of their duly authorized representatives shall have access to any documents, papers, or other records of offeror that are pertinent to offeror's discharge of its obligations under the Contract for the purpose of making audits, examinations, excerpts,



and transcriptions. The right also includes timely and reasonable access to offeror's personnel for the purpose of interview and discussion relating to such documents

CERTIFICATION OF APPLICABILITY TO SUBCONTRACTORS

Offeror agrees that all contracts it awards pursuant to the Contract shall be bound by the foregoing terms and conditions.

Offeror certifies compliance with all provisions, laws, acts, regulations, etc. as specifically noted in the pages above. It is further acknowledged that offeror agrees to comply with all federal, state, and local laws, rules, regulations and ordinances as applicable.

Offeror: Teal Systems

Address: 735 Buffalo Run

City, State, Zip: Missouri City, Texas 77489

Authorized Signature: *Anna Chenier*

Date: March 24, 2022



Clean Air and Water Act & Debarment Notice

I, the Vendor, am in compliance with all applicable standards, orders or regulations issued pursuant to the Clean Air Act of 1970, as Amended (42 U.S. C. 1857 (h), Section 508 of the Clean Water Act, as amended (33 U.S.C. 1368), Executive Order 117389 and Environmental Protection Agency Regulation, 40 CFR Part 15 as required under OMB Circular A-102, Attachment O, Paragraph 14 (1) regarding reporting violations to the grantor agency and to the United States Environment Protection Agency Assistant Administrator for the Enforcement.

I hereby further certify that my company has not been debarred, suspended or otherwise ineligible for participation in Federal Assistance programs under Executive Order 12549, "Debarment and Suspension", as described in the Federal Register and Rules and Regulations

Potential Vendor	<u>Teal Systems</u>
Print Name	<u>Anna Chenier</u>
Address	<u>735 Buffalo Run</u>
City, State, Zip	<u>Missouri City, Texas 77489</u>
Authorized signature	<u><i>Anna Chenier</i></u>
Date	<u>March 24, 2022</u>



Contractor Requirements

**Contractor Certification
Contractor’s Employment Eligibility**

By entering the contract, Contractor warrants compliance with the Federal Immigration and Nationality Act (FINA), and all other federal and state immigration laws and regulations. The Contractor further warrants that it is in compliance with the various state statutes of the states it is will operate this contract in.

Participating Government Entities including School Districts may request verification of compliance from any Contractor or subcontractor performing work under this Contract. These Entities reserve the right to confirm compliance in accordance with applicable laws.

Should the Participating Entities suspect or find that the Contractor or any of its subcontractors are not in compliance, they may pursue any and all remedies allowed by law, including, but not limited to: suspension of work, termination of the Contract for default, and suspension and/or debarment of the Contractor. All costs necessary to verify compliance are the responsibility of the Contractor.

The offeror complies and maintains compliance with the appropriate statutes which requires compliance with federal immigration laws by State employers, State contractors and State subcontractors in accordance with the E-Verify Employee Eligibility Verification Program.

Contractor shall comply with governing board policy of the NCPA Participating entities in which work is being performed

Fingerprint & Background Checks

If required to provide services on school district property at least five (5) times during a month, contractor shall submit a full set of fingerprints to the school district if requested of each person or employee who may provide such service. Alternately, the school district may fingerprint those persons or employees. An exception to this requirement may be made as authorized in Governing Board policy. The district shall conduct a fingerprint check in accordance with the appropriate state and federal laws of all contractors, subcontractors or vendors and their employees for which fingerprints are submitted to the district. Contractor, subcontractors, vendors and their employees shall not provide services on school district properties until authorized by the District.

The offeror shall comply with fingerprinting requirements in accordance with appropriate statutes in the state in which the work is being performed unless otherwise exempted.

Contractor shall comply with governing board policy in the school district or Participating Entity in which work is being performed

Business Operations in Sudan, Iran

In accordance with A.R.S. 35-391 and A.R.S. 35-393, the Contractor hereby certifies that the contractor does not have scrutinized business operations in Sudan and/or Iran.

Authorized signature

Anna Chenier

Date

March 24, 2022



Antitrust Certification Statements (Tex. Government Code § 2155.005)

I affirm under penalty of perjury of the laws of the State of Texas that:

(1) I am duly authorized to execute this contract on my own behalf or on behalf of the company, corporation, firm, partnership or individual (Company) listed below;

(2) In connection with this bid, neither I nor any representative of the Company has violated any provision of the Texas Free Enterprise and Antitrust Act, Tex. Bus. & Comm. Code Chapter 15;

(3) In connection with this bid, neither I nor any representative of the Company has violated any antitrust law; and

(4) Neither I nor any representative of the Company has directly or indirectly communicated any contents of this bid to a competitor of the Company or any other company, corporation, firm, part or individual engaged in the same line of business as the Company.

Company name Teal Systems

Address 735 Buffalo Run

City/State/Zip Missouri City, Texas 77489

Telephone No. 866-637-0100

Fax No. Not applicable

Email address achenier@tealsystems.com

Printed name Anna Chenier

Position with company Director of Business Development

Authorized signature *Anna Chenier*



Required Clauses for Federal Assistance provided by FTA

ACCESS TO RECORDS AND REPORTS

Contractor agrees to:

- a) Maintain all books, records, accounts and reports required under this Contract for a period of not less than three (3) years after the date of termination or expiration of this Contract or any extensions thereof except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case Contractor agrees to maintain same until Public Agency, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto.
- b) Permit any of the foregoing parties to inspect all work, materials, payrolls, and other data and records with regard to the Project, and to audit the books, records, and accounts with regard to the Project and to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed for the purpose of audit and examination.

FTA does not require the inclusion of these requirements of Article 1.01 in subcontracts. Reference 49 CFR 18.39 (i)(11).

CIVIL RIGHTS / TITLE VI REQUIREMENTS

- 1) Non-discrimination. In accordance with Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000d, Section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, Section 202 of the Americans with Disabilities Act of 1990, as amended, 42 U.S.C. § 12132, and Federal Transit Law at 49 U.S.C. § 5332, Contractor or subcontractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, marital status age, or disability. In addition, Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.
- 2) Equal Employment Opportunity. The following Equal Employment Opportunity requirements apply to this Contract:
 - a. Race, Color, Creed, National Origin, Sex. In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal Transit Law at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable Equal Employment Opportunity requirements of U.S. Dept. of Labor regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor, 41 CFR, Parts 60 et seq., and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of this Project. Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, marital status, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, Contractor agrees to comply with any implementing requirements FTA may issue.
 - b. Age. In accordance with the Age Discrimination in Employment Act (ADEA) of 1967, as amended, 29 U.S.C. Sections 621 through 634, and Equal Employment Opportunity Commission (EEOC) implementing regulations, "Age Discrimination in Employment Act", 29 CFR Part 1625, prohibit employment discrimination by Contractor against individuals on the basis of age, including present



and prospective employees. In addition, Contractor agrees to comply with any implementing requirements FTA may issue.

- c. Disabilities. In accordance with Section 102 of the Americans with Disabilities Act of 1990, as amended (ADA), 42 U.S.C. Sections 12101 *et seq.*, prohibits discrimination against qualified individuals with disabilities in programs, activities, and services, and imposes specific requirements on public and private entities. Contractor agrees that it will comply with the requirements of the Equal Employment Opportunity Commission (EEOC), "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 CFR, Part 1630, pertaining to employment of persons with disabilities and with their responsibilities under Titles I through V of the ADA in employment, public services, public accommodations, telecommunications, and other provisions.
 - d. Segregated Facilities. Contractor certifies that their company does not and will not maintain or provide for their employees any segregated facilities at any of their establishments, and that they do not and will not permit their employees to perform their services at any location under the Contractor's control where segregated facilities are maintained. As used in this certification the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion or national origin because of habit, local custom, or otherwise. Contractor agrees that a breach of this certification will be a violation of this Civil Rights clause.
- 3) Solicitations for Subcontracts, Including Procurements of Materials and Equipment. In all solicitations, either by competitive bidding or negotiation, made by Contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by Contractor of Contractor's obligations under this Contract and the regulations relative to non-discrimination on the grounds of race, color, creed, sex, disability, age or national origin.
 - 4) Sanctions of Non-Compliance. In the event of Contractor's non-compliance with the non-discrimination provisions of this Contract, Public Agency shall impose such Contract sanctions as it or the FTA may determine to be appropriate, including, but not limited to: 1) Withholding of payments to Contractor under the Contract until Contractor complies, and/or; 2) Cancellation, termination or suspension of the Contract, in whole or in part.

Contractor agrees to include the requirements of this clause in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

DISADVANTAGED BUSINESS PARTICIPATION

This Contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, "*Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs*", therefore, it is the policy of the Department of Transportation (DOT) to ensure that Disadvantaged Business Enterprises (DBEs), as defined in 49 CFR Part 26, have an equal opportunity to receive and participate in the performance of DOT-assisted contracts.

- 1) Non-Discrimination Assurances. Contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. Contractor shall carry out all applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by Contractor to carry out these requirements is a material breach of this Contract, which may



result in the termination of this Contract or other such remedy as public agency deems appropriate. Each subcontract Contractor signs with a subcontractor must include the assurance in this paragraph. (See 49 CFR 26.13(b)).

- 2) **Prompt Payment.** Contractor is required to pay each subcontractor performing Work under this prime Contract for satisfactory performance of that work no later than thirty (30) days after Contractor's receipt of payment for that Work from public agency. In addition, Contractor is required to return any retainage payments to those subcontractors within thirty (30) days after the subcontractor's work related to this Contract is satisfactorily completed and any liens have been secured. Any delay or postponement of payment from the above time frames may occur only for good cause following written approval of public agency. This clause applies to both DBE and non-DBE subcontractors. Contractor must promptly notify public agency whenever a DBE subcontractor performing Work related to this Contract is terminated or fails to complete its Work, and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. Contractor may not terminate any DBE subcontractor and perform that Work through its own forces, or those of an affiliate, without prior written consent of public agency.
- 3) **DBE Program.** In connection with the performance of this Contract, Contractor will cooperate with public agency in meeting its commitments and goals to ensure that DBEs shall have the maximum practicable opportunity to compete for subcontract work, regardless of whether a contract goal is set for this Contract. Contractor agrees to use good faith efforts to carry out a policy in the award of its subcontracts, agent agreements, and procurement contracts which will, to the fullest extent, utilize DBEs consistent with the efficient performance of the Contract.

ENERGY CONSERVATION REQUIREMENTS

Contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plans issued under the Energy Policy and Conservation Act, as amended, 42 U.S.C. Sections 6321 *et seq.* and 41 CFR Part 301-10.

FEDERAL CHANGES

Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Contract between public agency and the FTA, as they may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this Contract.

INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS

The provisions include, in part, certain Standard Terms and Conditions required by the U.S. Department of Transportation (DOT), whether or not expressly set forth in the preceding Contract provisions. All contractual provisions required by the DOT, as set forth in the most current FTA Circular 4220.1F, dated November 1, 2008, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Contract. Contractor agrees not to perform any act, fail to perform any act, or refuse to comply with any public agency requests that would cause public agency to be in violation of the FTA terms and conditions.

NO FEDERAL GOVERNMENT OBLIGATIONS TO THIRD PARTIES

Agency and Contractor acknowledge and agree that, absent the Federal Government's express written consent and notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying Contract, the Federal Government is not a party to this Contract and shall not be subject to any



obligations or liabilities to agency, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying Contract.

Contractor agrees to include the above clause in each subcontract financed in whole or in part with federal assistance provided by the FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS

Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. §§ 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 CFR Part 31, apply to its actions pertaining to this Contract. Upon execution of the underlying Contract, Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying Contract or the FTA assisted project for which this Contract Work is being performed.

In addition to other penalties that may be applicable, Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on Contractor to the extent the Federal Government deems appropriate.

Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307 (n)(1) on the Contractor, to the extent the Federal Government deems appropriate.

Contractor agrees to include the above clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.



State Notice Addendum

The National Cooperative Purchasing Alliance (NCPA), on behalf of NCPA and its current and potential participants to include all county, city, special district, local government, school district, private K-12 school, higher education institution, state, tribal government, other government agency, healthcare organization, nonprofit organization and all other Public Agencies located nationally in all fifty states, issues this Request for Proposal (RFP) to result in a national contract.

For your reference, the links below include some, but not all, of the entities included in this proposal:

http://www.usa.gov/Agencies/State_and_Territories.shtml

<https://www.usa.gov/local-governments>



Appendix 1



ANNA CHENIER

Director of Business
Development

Sales

CONTACT ME AT

Houston Office
735 Buffalo Run
Missouri City, TX 77489

832-649-1787

achenier@tealsystems.com

www.tealsystems.com

PERSONAL PROFILE

Anna Chenier joined TEAL in August 2021 after spending 8 years at PBK Architects leading the firm's bond planning and community engagement division. From her years of experience working with school districts and higher education institutions to build community consensus around proposed bond programs, she has an acute awareness of the challenges that facilities teams face with maintaining building systems and securing the financial and human capital required by that responsibility. After learning about TEAL, she saw an opportunity to introduce a new system to the education market that could not only address many of the common maintenance headaches on the central plant side of things but also decrease the total life cycle cost - saving educational institutions money.

EXPERIENCE

November 2021 Bond Planning (Approved) | Elgin Independent School District | Elgin, TX*

May 2021 Bond Political Campaign (Approved) | Prairie Lea Independent School District | Prairie Lea, TX*

May 2021 Bond Political Campaign (Approved) | Cleburne Independent School District | Cleburne, TX*

May 2021 Bond Political Campaign (Approved) | Huntsville Independent School District | Huntsville, TX*

May 2021 Bond Political Campaign (Approved) | Jasper Independent School District | Jasper, TX*

November 2020 Bond Political Campaign (Approved) | Bryan Independent School District | Bryan, TX*

November 2020 Bond Planning & Political Campaign (Approved) | Dickinson Independent School District | Dickinson, TX*

November 2020 Bond Planning & Political Campaign (Approved) | Friendswood Independent School District | Friendswood, TX*

EDUCATION

Bachelor of Public Relations | University of Central Arkansas

Bachelor of Broadcast Journalism | University of Central Arkansas

AFFILIATIONS

Texas Energy Managers Association

Public Relations Society of America

*Completed prior to joining TEAL

PERSONAL PROFILE

Courtney joined Teal in April 2013 as a development manager. She has educated developers on the importance of a managed, monitored, and maintained central plant and value it adds to their property. In 2019 Courtney moved into the role of Agreement Manager and has managed the negotiation and execution of over 200 contracts.

EXPERIENCE

Lakeshore Phase 2 | Cypress Real Estate Advisors | Austin, TX

Floodgate Apartments | Keller Henderson Interiors | San Antonio, TX

Waterford Apartments | Presidium | Austin, TX

View at Estancia | Gen Cap Partners | Austin, TX

Ariza Easton | Cypressbrook Company | Austin, TX

Stanmore Warner Ranch | Stanmore Partners | Round Rock, TX

Broadstone North Lamar | Alliance Residential | Austin, TX

Broadstone Think East | Alliance Residential | Austin, TX

Broadstone Delta Drive | Alliance Residential | Austin, TX

Alta Burnet | Wood Partners | Austin, TX

Estrella | TexSun Holdings | Fort Worth, TX

Alta at the Farm | Wood Partners | Allen, TX

Elan City North | Greystar Development | Desert Ridge, AZ

Alexan Belleview Station | Trammell Crow Residential | Denver, CO

Album Marana | Greystar Development | Tuscan, AZ

Baybrook Apartments | D'Agostino Companies | Friendswood, TX

Capital Beverage | Cypress Real Estate Advisors | Austin, TX



COURTNEY DICKSON

Agreement Manager

Sales Support

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735 Buffalo Run
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832-878-8035

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www.tealsystems.com



ALISA FOLDEN
Marketing Coordinator
Marketing

CONTACT ME AT

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Dallas, TX 75226

316-305-1742

afolden@tealsystems.com

www.tealsystems.com

PERSONAL PROFILE

Alisa has 10 years of marketing experience with a track record of successful digital, social media, and traditional marketing campaigns. She brings expertise in direct mail, event coordination, email marketing, online and digital advertising, and social media. Alisa provides support to the sales and marketing team by translating marketing objectives into creative strategies, designs, and plans.

EXPERIENCE

Guardiar | Ennis, TX | Create marketing materials, including brochures, flyers, newsletters and presentations for US sales team. Plan and execute new product introductions. Manage and create email and social media campaigns. Coordinate client and firm events.

Freese and Nichols | Dallas, TX | Create and design project award submittals, marketing collateral, and presentations. Coordinate client and firm events.

Conco Construction | Wichita, KS | Create and design marketing collateral, and presentations. Coordinate client and firm events.

EDUCATION

Bachelor of Communications | Wichita State University



PERSONAL PROFILE

As Chief Financial Officer, Tim manages all aspects of Accounting, Finance, and Treasury. Tim's background allows him to leverage his Fortune 100 manufacturing experience to plan, develop and implement strategic and transformative initiatives across the business to accelerate the pace and impact of critical business objectives. Inspiring mentor to lead a highly motivated team of finance and accounting professionals, focusing on partnering to drive performance, developing synergies across businesses, and building talent through leadership development and succession planning. Proven track record in creating, executing and enforcing strong internal controls to ensure compliance with U.S. GAAP and Sarbanes-Oxley. Demonstrates expertise to provide financial guidance to the executive and senior leadership teams through financial metrics, capital investment economic analysis, productivity analysis, and manufacturing cost analysis.

Prior to Teal Systems, Tim was Vice President of Finance for Suntuity, a solar origination company and spent 13 years at Caterpillar in various positions of increasing responsibility. These positions included Internal Audit, International Accounting, Financial Planning & Analysis, and Administration.

EDUCATION

Master of Business Administration | Lake Forest Graduate School of Management

Bachelor of Economics | Eastern Illinois University

CERTIFICATIONS

Certified Public Accountant (CPA) | Texas

Certified Treasury Professional



TIMOTHY WEBB

Chief Financial Officer

Financial Reporting

CONTACT ME AT

Houston Office
735 Buffalo Run
Missouri City, TX 77489

847-924-2549

twebb@tealsystems.com

www.tealsystems.com



PERSONAL PROFILE

Guided by his curiosity about system operations and functioning, Dale became a Master Plumber at age 18. He went on to own and operate a successful Premier Plumbing company for 22 years, providing boiler startups and warranties for several boiler manufacturers in the Houston area. Before he joined TEAL in September 2011, Dale had worked in the plumbing and boiler industry for three decades, and he continues to hold his Master Plumbing License.

A natural problem-solver and team leader, Dale transitioned from TEAL's Operations Manager to Vice President of Operations in 2014. His exceptional design of both boiler system control logic and custom control modules allow him to navigate system issues and apply unique solutions to help ensure that clients receive superior service from their hot water systems. Dale's 30 years of industry experience and his dedication to his team have helped establish TEAL as an effective solution provider for owners and managers of multifamily developments.

EXPERIENCE

Owner/Operator of Premier Plumbing 1989 -2011
TEAL System Operation Manager 2011 – 2014
Teal System VP of Operations 2014 – Current

LICENSES

Texas Master Plumber License 1984 – Current
Texas Journeyman Plumbing License – 1982



DALE HOLLOWAY

Vice President of Operations

Executive Support

CONTACT ME AT

Houston Office
735 Buffalo Run
Missouri City, TX 77489

281-330-3618

dholloway@tealsystems.com

www.tealsystems.com



PERSONAL PROFILE

Leading TEAL's sales and marketing efforts across North America, Jake is a LEED Accredited Professional and industry native with over two decades of business development and strategic consultancy experience.

As Vice President of Sales & Marketing, Jake spearheads TEAL's strategies for nationwide growth. His understanding of TEAL's unique solutions and hands-on project approach allow him to develop successful client relationships, as well as transform how people think about central plants.

Jake's career in the commercial HVAC and construction management fields started early. He grew up working for his father's HVAC manufacturer representative firm in Dallas and later moved to an Account Executive role in 2000. With his creative strategies and passion for growth, Jake was named Vice President at Texas AirSystems in 2010. Prior to joining the TEAL team in February 2020, Jake immersed himself in a wide variety of vertical markets and trades as an independent strategic consultant for private equity firms investing in commercial HVAC and construction services, cementing the big-picture approaches and industry insight he brings to his relationships at TEAL.

EXPERIENCE

Allen ISD | Various HVAC Projects*
Mesquite ISD | Various HVAC Projects*
Plano ISD | Various HVAC Projects*
Garland ISD | Various HVAC Projects*
Dallas ISD | Various HVAC Projects*
Richardson ISD | Various HVAC Projects*
Collin College | Various HVAC Projects*
Dallas County Community College | Various HVAC Projects*
University of Texas- Dallas | Various HVAC Projects*
University of Texas- Tyler | Various HVAC Projects*
Southern Methodist University | Various HVAC Projects*
Texas Christian University | Various HVAC Projects*

EDUCATION

Bachelor of History | Washington & Lee University

CERTIFICATIONS

U.S. Green Building Council LEED® Accredited Professional

*Completed prior to joining TEAL



JAKE BUCKNER

Vice President of Sales & Marketing

Executive Support

CONTACT ME AT

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214-543-9569

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www.tealsystems.com



PERSONAL PROFILE

Benjamin helps ensure the technical excellence of TEAL's solutions with expert evaluation and quality control. As Vice President of Engineering, he reinforces the team's technical agility by continually evolving TEAL's strategy for mechanical system development and application.

Benjamin's fascination with technical design began his junior year of high school, when he attended a career presentation by an aeronautical engineer who worked on the SR-71 Blackbird. Learning about spy plane and fighter jet design ignited his curiosity about the creative, yet practical, ways that science and technology combine. His drive to blend the two fields to solve problems led him to Mechanical Engineering at Louisiana Tech University. After completing college, a chance encounter with a Principal at Schmidt & Stacy Consulting Engineers, Inc. led him to become an Engineering Consultant in 1996.

Over the next 11 years, he cultivated expertise in mechanical system design, equipment application, and team development for commercial, healthcare, and multifamily projects before transitioning to a Sales Engineer role at Texas AirSystems. A collaborative strategist, his engineering and design expertise generated proactive solutions so that his team could navigate potential issues before they became major challenges. Benjamin's ability to balance team members' strengths with project goals and to establish effective design implementations for a variety of properties resulted in his promotion to Texas AirSystems' Dallas Sales Leader. In 2020, his industry knowledge and technical expertise led him to TEAL, where he coordinates the team to combine the art and science of mechanical system engineering to remove obstacles on clients' paths to successful developments.

Outside of his mechanical equipment design work, Benjamin is a member of both ASHRAE and 7x24 Exchange International; he's acted as President of ASHRAE's Dallas Chapter since 2010 and President of 7x24 Exchange's Lone Star Chapter since 2020.

EDUCATION

Bachelor of Mechanical Engineering | Louisiana Tech University

LICENSES

Professional Engineer | Texas | 2003



BENJAMIN BAIN, PE

Vice President of Engineering

Executive Support

CONTACT ME AT

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www.tealsystems.com



PERSONAL PROFILE

Britt Schmidt, TEAL's Chief Executive Officer, leads the TEAL team with over two decades of experience helping companies scale and thrive. Prior to TEAL, Britt co-founded and served as Chief Executive Officer of Tri-Point Oil & Gas Production Systems, an oilfield equipment company with a nationwide reach, where he gained expertise in establishing business infrastructures that enable firms to scale efficiently. Formerly President of the Engineered & Process Valves Division of Cameron International Corporation, he spent 18 years in a variety of roles across all divisions of the company. His extensive history of creating, implementing, and overseeing strategies for long-term, sustainable growth allows him to direct the TEAL team in their mission to provide effective solutions for property developers, owners, and investors across the country.

Committed to advancing healthcare and education, he also serves on the Development Board for UTHealth, the Executive Committee of the Chancellor's Council for the University of Texas System, and the Engineering Advisory Council for the Cockrell School of Engineering at the University of Texas at Austin.

EDUCATION

Master of Business Administration | Harvard Graduate School of Business Administration

Bachelor of Electrical Engineering | University of Texas at Austin



BRITT SCHMIDT

Chief Executive Officer

Executive Support

CONTACT ME AT

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Missouri City, TX 77489

713-806-6100

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www.tealsystems.com



TEAL Preventative Maintenance Checklist

My Dashboard (<https://tealpd.com/secure/default.aspx>)

Items (<https://tealpd.com/secure/items/default.aspx>)

Contacts (<https://tealpd.com/secure/contacts/contactsearch.aspx>)

Reports (<https://tealpd.com/secure/reports/default.aspx>)

Projects (<https://tealpd.com/secure/projects/default.aspx>)

CS Tickets (<https://tealpd.com/secure/cs/tickets/default.aspx>)

Logistics (<https://tealpd.com/secure/logistics/default.aspx>)

Tasks (<https://tealpd.com/secure/tasks/default.aspx>)

Finance ()

search

Dale ▼

PM-10473 | 21Eleven (Cafe Adobe) (<https://tealpd.com/secure/dashboard-project.aspx?p=166>)

Assigned QPs

View PM details by clicking Review, begin work on an Action by clicking on Work

<p>Site Introduction</p> <p>On Site Office Introduction</p>	<p>0% Complete</p>	<p>Work (workorder-process-job.aspx?w=18436&j=36&project=166&wojobid=86758)</p>
<p>Inventory Site Box</p> <p>Inventory SiteBox</p>	<p>0% Complete</p>	<p>Work (workorder-process-job.aspx?w=18436&j=744&project=166&wojobid=86752)</p>
<p>Room Clean-Up / DeScaler</p> <p>Boiler Access Panels are in place Floor Sweep Polish Boiler Polish Boiler Polish HWR Pumps Polish the DeScaler Vessel Polish Exposed Piping and Valves Polish Master Control Panel/Rack32</p>	<p>0% Complete</p>	<p>Work (workorder-process-job.aspx?w=18436&j=203&project=166&wojobid=86754)</p>
<p>APC BX1000G Battery Backup Test</p> <p>Electrical Fab Parts Slot: 1 - APC BX1300G Battery Back-Up APC BX1000G Battery Backup Test</p>	<p>0% Complete</p>	<p>Work (workorder-process-job.aspx?w=18436&j=2557&project=166&wojobid=86747)</p>



Room Visual Readings and Equip Check - 2 Loop	0% Complete Work (workorder-process-job.aspx?w=18436&j=129&project=166&wojobid=86756)	
Incoming City Water Temperature T3 Temperature (F) Hot Water Return #1 Temperature (F) Hot Water Return #2 Temperature (F) Inspect for Water Leaks Storage Tank Relief Valve Inspection Visual Pump Inspection Water Hardness Test - City Water Water Hardness Test - Outlet		Dale ▼
<hr/>		
Site Alarm Test	0% Complete Work (workorder-process-job.aspx?w=18436&j=34&project=166&wojobid=86756)	
CFH (Create) Boiler Cover Plates (Facing Side Upper) - REMOVE Create an Ignition Lock Out Alarm on Boiler Create a Primary Alarm on Boiler Call for Heat (Create) Create an Ignition Lock Out Alarm on Boiler #2 Create a Primary Alarm on Boiler #2		



Boiler HD401 Two (2) Stage QP

0% Complete Work (workorder-process-job.aspx?w=18436&j=5375&projec

- APC BX1000G Battery Backup Test
- Roof Termination Inspection
- Louver Inspection
- Visual Inspection of Gas Piping
- Inspect for Water Leaks
- Visual Pump Inspection
- Boiler Cover Plates (Facing Side Upper) - REMOVE
- Combustible Material Inspection
- Boiler Power Indicator Light
- Surge Protection Inspection
- Blower Filter Clean / Replacement
- Boiler Water Pressure (psi)
- Boiler Temperature (F)
- Clean inside Boiler Cabinet
- Auto Reset High Limit Test
- CFH (Create)
- Amp Reading Boiler Pump
- Create an Ignition Lock Out Alarm on Boiler
- Create a Primary Alarm on Boiler
- Hot Surface Igniter Amp Test - #1 Fenwal
- Visual Igniter and Flame Sensor check
- Burner Flame Inspection
- Heat Exchanger Visual Inspection
- Flow Switch - TEST
- Air Switch Test
- Remove The Call For Heat
- Pre Panel Checklist
- Boiler Access Panels are in place



Dale ▼



Boiler HD401 Two (2) Stage QP

0% Work (workorder-process-inh.aspx?
Complete w=18436&j=5375&projec

- APC BX1000G Battery Backup Test
- Roof Termination Inspection
- Louver Inspection
- Visual Inspection of Gas Piping
- Inspect for Water Leaks
- Visual Pump Inspection
- Boiler Cover Plates (Facing Side Upper) - REMOVE
- Combustible Material Inspection
- Boiler Power Indicator Light
- Surge Protection Inspection
- Blower Filter Clean / Replacement
- Boiler Water Pressure (psi)
- Boiler Temperature (F)
- Clean inside Boiler Cabinet
- Auto Reset High Limit Test
- CFH (Create)
- Amp Reading Boiler Pump
- Create an Ignition Lock Out Alarm on Boiler
- Create a Primary Alarm on Boiler
- Hot Surface Igniter Amp Test - #1 Fenwal
- Visual Igniter and Flame Sensor check
- Burner Flame Inspection
- Heat Exchanger Visual Inspection
- Flow Switch - TEST
- Air Switch Test
- Remove The Call For Heat
- Pre Panel Checklist
- Boiler Access Panels are in place



Dale ▼



<p>Boiler HD W/On-Board Controller PM 2-3 Stage QP</p>	<p>0% Complete</p>	<p>Work (workorder-process-job.aspx?w=18436&j=1021&project=166&wojobid=86743)</p>	
<p>Boiler Slot: B3 - WH3-902 HI DELTA BOILER (LH B1) w/ TecMar Controller STD 04032012</p>			<p>Dale ▾</p>
<p>Roof Termination Inspection Vent System Inspection Louver Inspection Visual Inspection of Gas Piping Inspect for Water Leaks Visual Pump Inspection Boiler Cover Plates (Facing Side Upper) - REMOVE Combustible Material Inspection Boiler Power Indicator Light Surge Protection Inspection Blower Filter Clean / Replacement Boiler Water Pressure (psi) Boiler Temperature (F) Clean inside Boiler Cabinet Auto Reset High Limit Test Manual Reset High Limit Test Low Gas Pressure Test Amp Reading Boiler Pump HD - Raypak On-Board Controller CFH Create an Ignition Lock Out Alarm on Boiler Create a Primary Alarm on Boiler Hot Surface Igniter Amp Test - #1 Fenwal Flame Sensing Rod Micro Amp Test Visual Igniter and Flame Sensor check Burner Flame Inspection Heat Exchanger Visual Inspection Fan/Blower Pressure Test Flow Switch - TEST Air Switch Test Pre Panel Checklist Remove CFH - Texmar On-Board Controller Boiler Access Panels are in place Boiler Access Panels are in place</p>			
<p>Goulds Stainless Steel Pump Amp Reading</p>	<p>0% Complete</p>	<p>Work (workorder-process-job.aspx?w=18436&j=6859&project=166&wojobid=86743)</p>	
<p>This slot has been deleted.</p>			
<p>Amp Reading Boiler Pump</p>			
<p>Taco 2400 - Amp Reading</p>	<p>0% Complete</p>	<p>Work (workorder-process-job.aspx?w=18436&j=1019&project=166&wojobid=86744)</p>	
<p>This slot has been deleted.</p>			
<p>Amp Reading On Active Pump - Taco 2400 Stainless Return Pump</p>			



Taco 2400 - Amp Reading	0%	Work (workorder-process-job.aspx?
This slot has been deleted.	Complete	w=18436&j=1019&project=
Amp Reading On Active Pump - Taco 2400 Stainless Return Pump		
Taco 2400 - Amp Reading	0%	Work (workorder-process-job.aspx?
This slot has been deleted.	Complete	w=18436&j=1019&project=
Amp Reading On Active Pump - Taco 2400 Stainless Return Pump		
Taco 2400 - Amp Reading	0%	Work (workorder-process-job.aspx?
This slot has been deleted.	Complete	w=18436&j=1019&project=166&wojobid=86749)
Amp Reading On Active Pump - Taco 2400 Stainless Return Pump		
Taco 2400 - Amp Reading	0%	Work (workorder-process-job.aspx?
This slot has been deleted.	Complete	w=18436&j=1019&project=166&wojobid=86750)
Amp Reading On Active Pump - Taco 2400 Stainless Return Pump		
Taco 2400 - Amp Reading	0%	Work (workorder-process-job.aspx?
This slot has been deleted.	Complete	w=18436&j=1019&project=166&wojobid=86751)
Amp Reading On Active Pump - Taco 2400 Stainless Return Pump		
Pre-Departure Check List - 2 Loop	0%	Work (workorder-process-job.aspx?
	Complete	w=18436&j=132&project=166&wojobid=86753)
<p>CFH (Create)</p> <p>SEE BLUE FLAME B1</p> <p>CFH (Create)</p> <p>SEE BLUE FLAME B2</p> <p>Boiler Access Panels are in place</p> <p>Master Control Panel LED Check</p> <p>Boiler LED Check</p> <p>Boiler Rocker Switch Position</p> <p>Master Control Panel is Closed and Locked</p> <p>HWR Pump #1 is Running</p> <p>HWR Pump #2 is Running</p> <p>Valve Schedule Call Out</p> <p>Water Pressure Check</p> <p>Teal Room is Swept and Clean</p> <p>Teal Equipment is Spakling and Immaculate.</p> <p>Tools, Cleaning Supplies and Records are in place.</p> <p>Remove all Trash from the Teal Room</p> <p>Replace the Trash Liner</p> <p>Technician Appearance</p> <p>Final Room Check</p>		

TEAL iPlant Detail Package

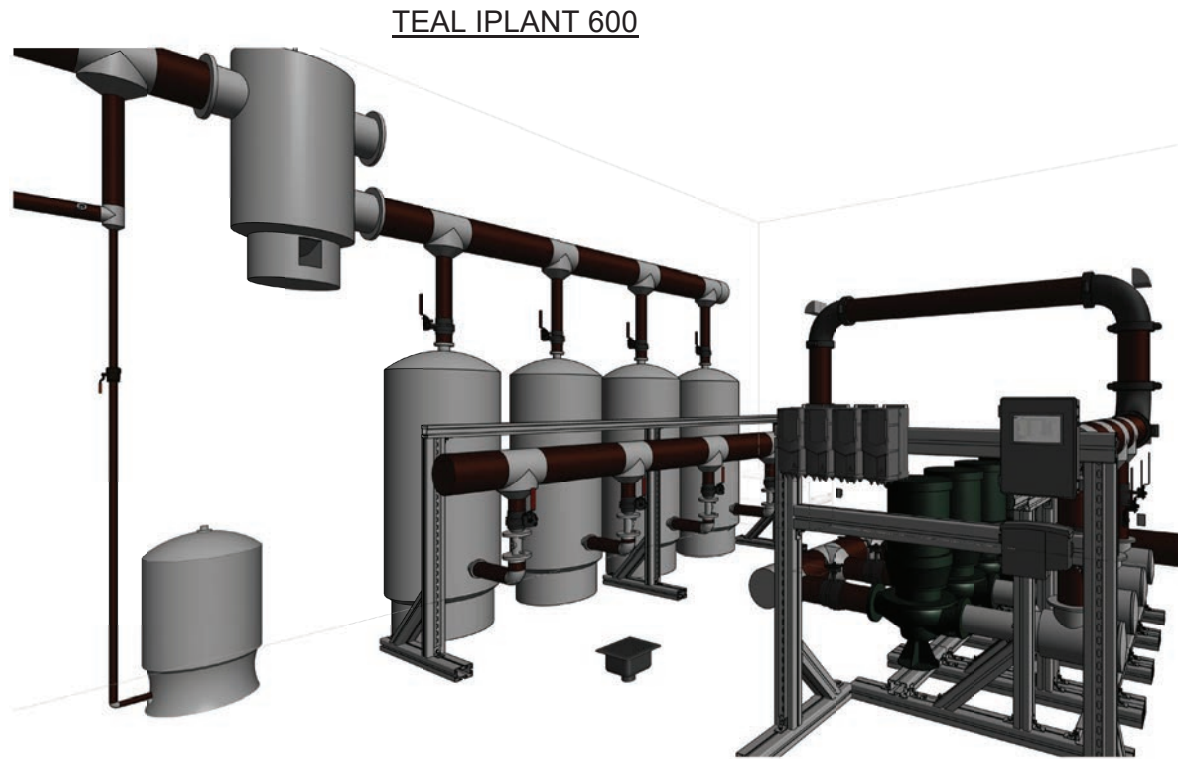


IMAGE MAY NOT REPRESENT ACTUAL SYSTEM.

Project Name
Enter address here

DRAWING SHEET INDEX

Sheet Number	Sheet Name	Current Revision Date
TS-000	COVER SHEET	
TS-001	ARCHITECTURAL	
TS-002	MECHANICAL	
TS-003	ELECTRICAL	
TS-004	PLANT LOCATION	
TS-005	RISER	

CONSULTANT:

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 Missouri City, TX 77489
 Office: 713-640-2710
 www.TealSystem.com

DEVELOPER:

DESIGN TEAM
 Daniel Leos
 Design Manager
 Mobile: (713) 205-0422
 Office: (713) 640-2714 EXT 1011
 Email: dleos@tealsystem.com

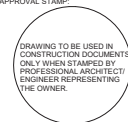
CONSTRUCTION TEAM

ISSUE HISTORY

NO.	DESCRIPTION	DATE
PRELIMINARY SET TOP		
FINAL SET TOP		

REVISION HISTORY

NO.	DESCRIPTION	DATE

APPROVAL STAMP:


DRAWING TITLE:
COVER SHEET

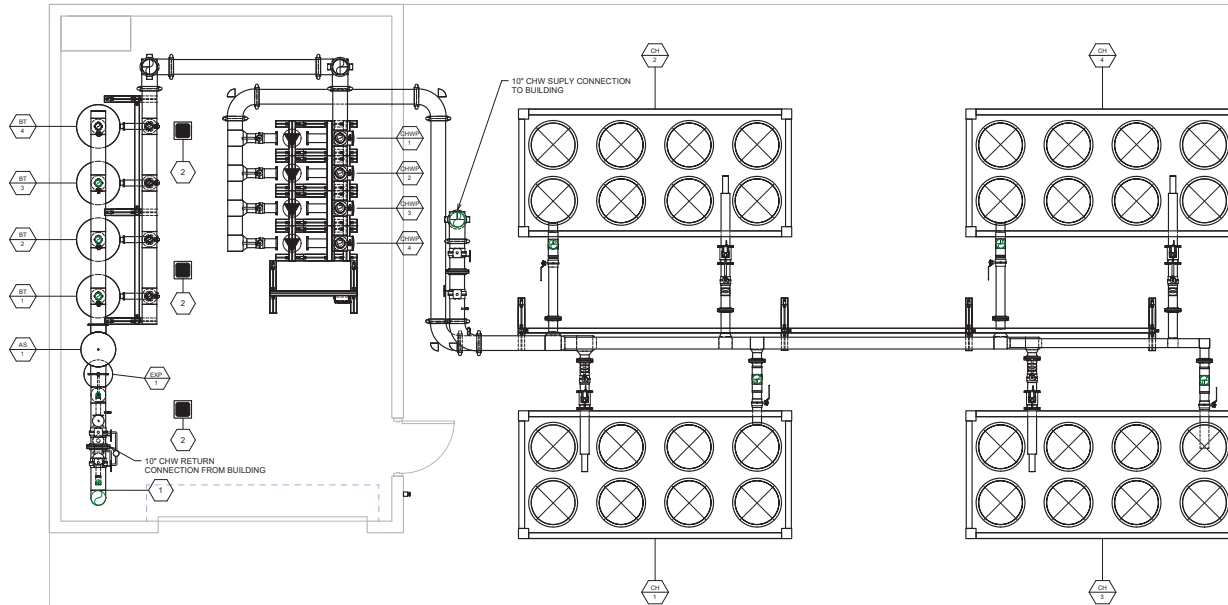
DRAWN BY: _____ Author
 APPROVED BY: _____ Approver

SHEET NUMBER:
TS-000

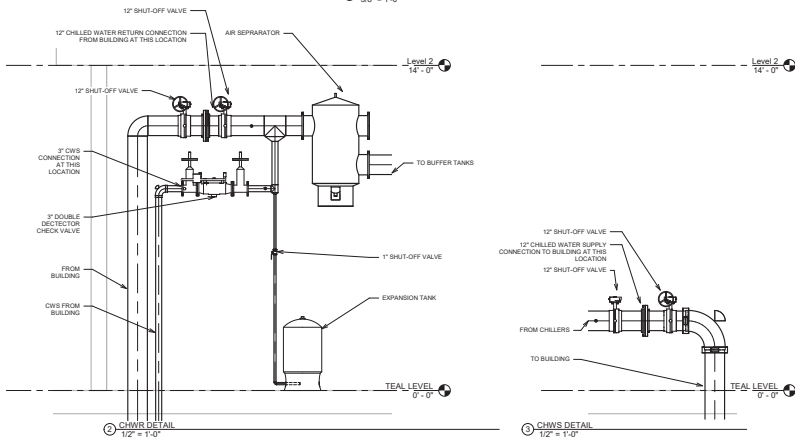


KEYED NOTES

- 1 3" CWS CONNECTION AT THIS LOCATION
- 2 12" X 12" FLOOR SINK SUPPLIED BY OTHERS.



1 - 1 - Plumbing
3/8" = 1'-0"



2 - CHWS DETAIL
1/2" = 1'-0"

3 - CHRS DETAIL
1/2" = 1'-0"

CONNECTION SCHEDULE			
DESIGNATION	SIZE - INCHES	QTY	DESCRIPTION
CHWR	12"	2	CHILLED WATER RETURN (12 Bolt Flange)
CHWS	12"	1	CHILLED WATER SUPPLY (12 Bolt Flange)
CWS	3"	1	COLD WATER SUPPLY (4 Bolt Flange)
FD	4"	1	FLOOR DRAIN 12" x 12"

CHILLER SCHEDULE															
Qty	Unit Tag	Manufacturer	Model	Minimum Total Capacity (Tons)	Chilled Water Flow (GPM)	Entering Water Temperature (ENW) °F	Leaving Water Temperature (LWT) °F	Max. Evaporator Pressure (Simp) (FT)	Ambient Air Temperature (MAK/AMB) °F / °C	MCA (CIRCUIT 1) / MOC (CIRCUIT 2)	Minimum EER @ 100 AHRI Conditions	Weight (LBS)	Remarks		
4	CH.2.3.A	CARRIER	30R 150	150.3	112	54	44	20'	105	450 / 3 / 60	178.4 / 135	2.00 / 1.75	10.3	410-A	1-9

1. CONDENSER COIL TO BE MICRO-CHANNEL ALUMINUM.
2. PROVIDE AODUS INTERFACE.
3. PROVIDE FACTORY INSTALLED CONDENSER COIL TRIM PANELS & FULL END SCREEN.
4. PROVIDE 6SKA SCER
5. PROVIDE EVAPORATOR FREEZE PROTECTION.
6. PROVIDE COMPRESSOR SUCTION SERVICE VALVE & SUCTION LINE INSULATION.
7. PROVIDE ULTRA LOW SOUND COMPRESSOR ENCLOSURES.
8. PROVIDE MACHINE WITH DUAL POINT POWER.
9. CH# 4 TO BE EQUIPPED WITH HEAT RECALAMATION UNIT.

CONSULTANT:



735 Buffalo Run
Missouri City, TX 77489
Office: 713-640-2110
www.TeaSystem.com

PROJECT:

Project Name

Enter address here

APPROVAL STAMP

DRAWING TO BE USED IN CONSTRUCTION DOCUMENTS ONLY WHEN STAMPED BY PROFESSIONAL ARCHITECT/ENGINEER REPRESENTING THE OWNER.

ISSUE HISTORY

NO	DESCRIPTION	DATE

REVISION HISTORY

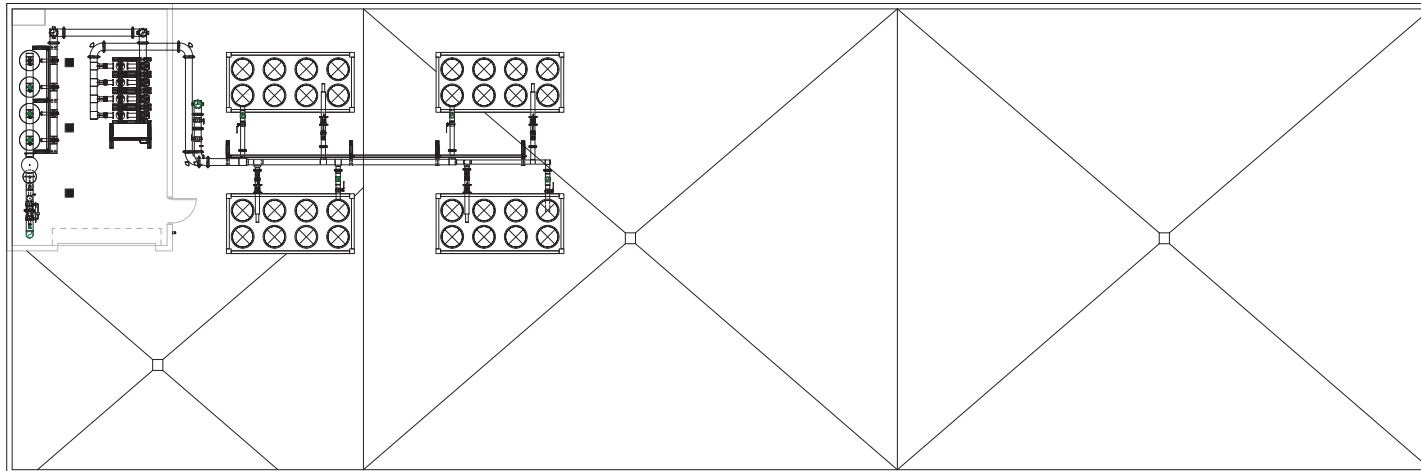
NO	DESCRIPTION	DATE

DRAWING TITLE:

MECHANICAL

DRAWN BY: Author
APPROVED BY: Approver
PROJECT #: Project Number
SHEET NUMBER:

TS-002



TEAL ROOM LOCATION: ROOF
3/16" = 1'-0"

CONSULTANT:

 735 Buffalo Run
 Missouri City, TX 77489
 Office: 713-640-2710
 www.TealSystem.com

PROJECT:

Project Name

Enter address here

APPROVAL STAMP:

(DRAWING TO BE USED IN CONSTRUCTION DOCUMENTS ONLY WHEN STAMPED BY PROFESSIONAL ARCHITECT/ ENGINEER REPRESENTING THE OWNER.)

ISSUE HISTORY			
NO.	DESCRIPTION	DATE	

REVISION HISTORY		
NO.	DESCRIPTION	DATE

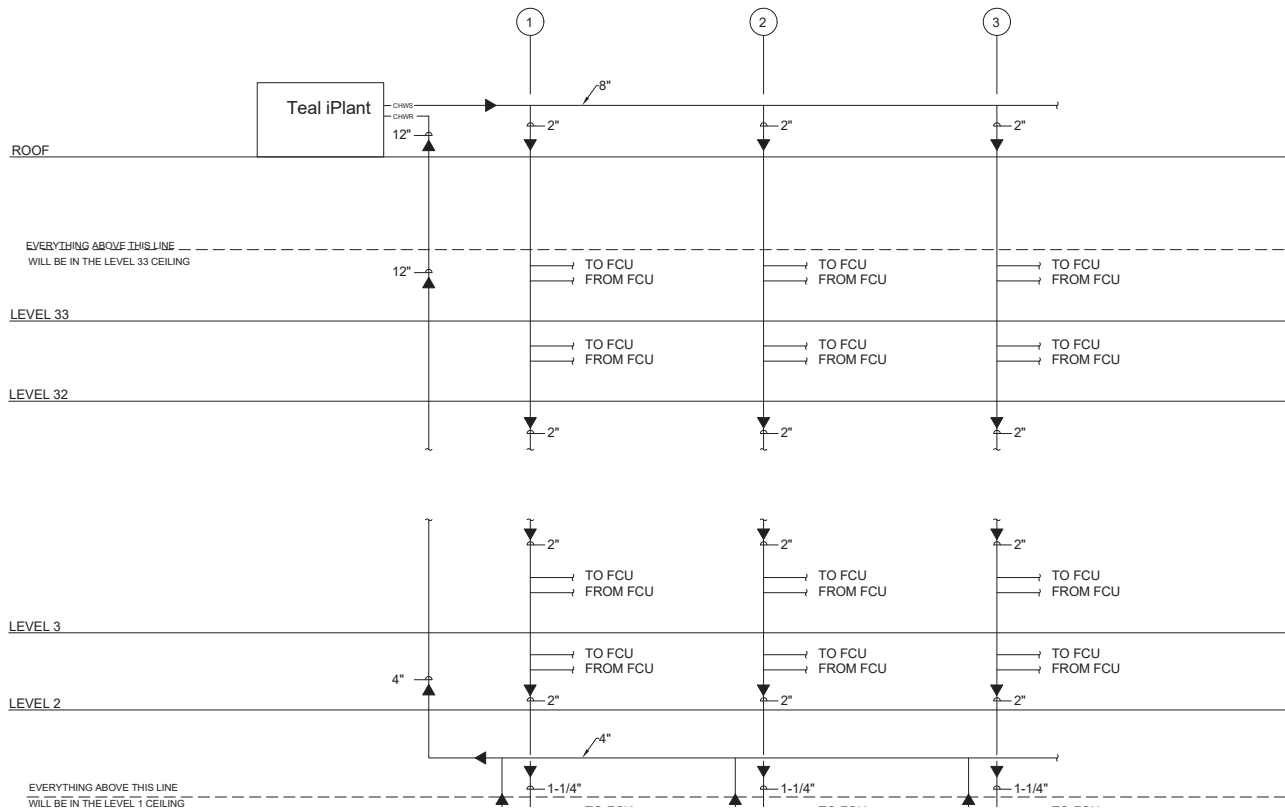
DRAWING TITLE:

IPLANT LOCATION

DRAWN BY: Author
 APPROVED BY: Approver
 PROJECT #: Project Number

SHEET NUMBER:

TS-004



CONSULTANT:
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 Office: 713-640-2710
 www.TealSystem.com

PROJECT:

Project Name
 Enter address here

APPROVAL STAMP:
 DRAWING TO BE USED IN CONSTRUCTION DOCUMENTS ONLY WHEN STAMPED BY PROFESSIONAL ARCHITECT/ENGINEER REPRESENTING THE OWNER.

ISSUE HISTORY		
No.	Description	Date

REVISION HISTORY		
No.	Description	Date

DRAWING TITLE:
RISER
 DRAWN BY: Author
 APPROVED BY: Approver
 PROJECT #: Project Number

Job: _____

Engineer: _____

Contractor: _____

Prepared By: _____ Date: _____

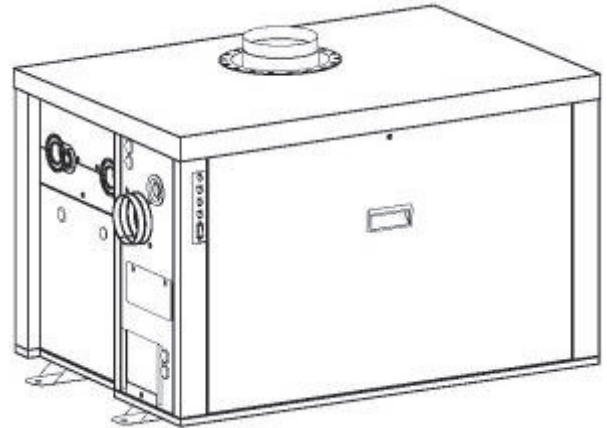
Model: _____ Indoor/Outdoor: _____

Hi Delta SS™ - Type WH

Water Heaters
Models HD101-HD401

MBH Input: _____

- TruSeal® Direct Vent**
- Sealed Combustion Chamber**
- 100% Factory Fire Tested**
- Efficiency: 85%**
- Maximum Outlet Temperature: 200°F**
- Minimum Non-condensing Inlet Temperature: 105°F**
- Thermal Shock Proof Heat Exchanger**
- Limited Twenty-year Thermal Shock Warranty**
- Limited Five-year Heat Exchanger Warranty**
- Status Display LED's**
- PolyTuf Powder Coated Cabinet**
- No Combustible Floor Shield Required**
- Fan-assisted – Ultra Low NOx (<20 ppm Nat.)**
- Patented Burner Security Blanket**



Patent No. 7,044,124



Proudly Assembled in the USA

Heat Exchanger

- HLW Stamp
- Headers
 - Bronze - Standard
 - Cast Iron, Glass-lined – Option A-2
- ASME Inspected and Stamped 160 PSIG Working Pressure
- National Board Approved
- Finned Tubing
 - Copper - Standard
 - Cupro Nickel – Option A-3
- ASME Steel Tube Sheet
- Silicone High Temp O-Rings
- ASME Pressure Relief Valve
 - 125 PSIG – Standard
 - 150 PSIG – Option A-16
- Temperature and Pressure Gauge (shipped loose)
- Flow Switch – Mounted
- Left-hand Water (Standard)
- Right-hand Water - Optional A-6

Controls

- 120V, 60Hz, 1Ø Power Supply
- 120/24V 60Hz Transformer
- 100% Shutoff/Lockout
- Hot Surface Ignition
- Remote Flame Sensor
- Fixed High Limit Control, Manual Reset
- On/Off Power Switch
- Blocked Vent Pressure Switch
- Combustion Air Proving Switches (2)
- Economaster Style Pump Relay

Gas Train

- 4" WC Minimum Pressure
- Combination Valve
- Firing Mode
 - On/Off (WH1) – Standard
 - 2 Stage (WH3) – Optional
- Fuel
 - Natural Gas
 - Propane Gas
- Design Certified - ANSI Z21.10.3/CSA 4.3

Burner

- Two-stage Capable
- Ultra-Low NOx (<20 ppm Nat.)

Construction

- Indoor/Outdoor Construction
- Slide-Out Controls Tray
- Front Controls Enclosed
- PolyTuf Powder Coat Finish
- TruSeal® Direct Vent
- Integral Combustion Air Filter
- CSA Low Lead Certified ≤ .25% Lead

Venting

- Vent Termination Cap
 - Outdoor – Option D-11
 - Indoor, Horizontal – Option D-15
 - Indoor, Vertical – Option D-20
- Combustion Air - Ducted
 - Air Intake Elbow – Option D-16
- Extractor – Optional
 - By Others
 - Not Required

Temperature Controls (Optional)

- B-2 1-Stage Controller, 100-200°F (Loose)
- B-3 2-Stage Controller, 100-200°F (Loose)
- B-26 TempTracker Digital Controller, 2-Stage (Mtd)
- B-21 TempTracker Digital Controller, 4-Stage (Loose)
- Remote Controller
- By others:

Options

- I-1 Adjustable High Limit Control, Auto Reset
- P-__ Pump: __ HP, 120V, 1Ø, 60 Hz Bronze only
 - Mounted
 - Loose
- P-__ Cold Water Protection (See 1000.19)
- S-__ Low and High Gas Pressure Switches, Manual

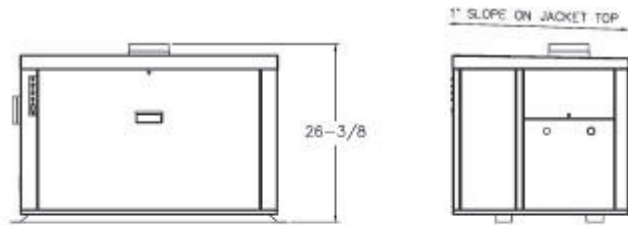
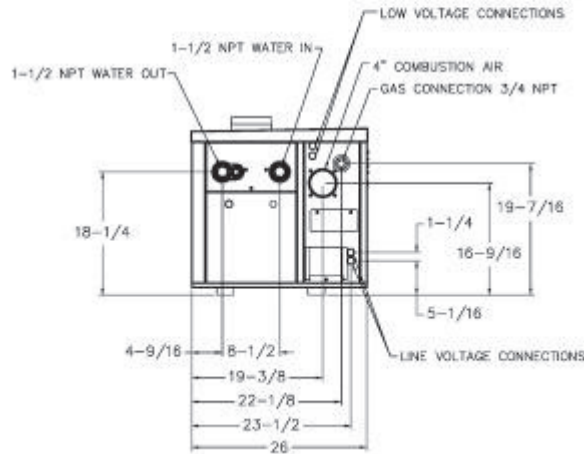
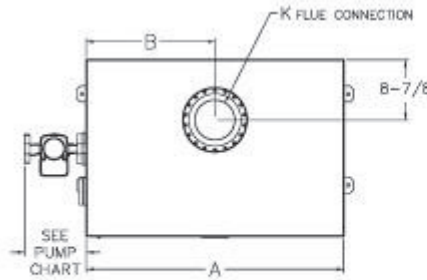


Raypak®
A Rheem® Company

Hi Delta SS HD101-HD401 Type WH - Domestic Hot Water

Model _____

Primary Pump HP - Amps			
Model (WH1)	Water Hardness		
	Soft	Medium	Hard
HD101	1/8 - 1.1	1/8 - 1.3	1/4 - 1.6
HD151	1/8 - 1.1	1/8 - 1.3	1/4 - 1.6
HD201	1/8 - 1.1	1/8 - 1.3	1/4 - 1.6
HD251	1/8 - 1.1	1/8 - 1.3	1/4 - 1.6
HD301	1/8 - 1.1	1/8 - 1.3	1/4 - 1.6
HD401	1/8 - 1.1	1/8 - 1.3	1/4 - 1.6



WATER HEATER RECOVERY RATES (GPH)

MODEL (WH1)	TEMPERATURE RISE IN °F								
	20°	30°	40°	50°	60°	70°	80°	90°	100°
HD101	510	340	255	204	170	146	128	113	102
HD151	765	510	383	306	255	219	191	170	153
HD201	1015	677	508	406	338	290	254	226	203
HD251	1276	850	638	510	425	364	319	283	255
HD301	1531	1020	765	612	510	437	383	340	306
HD401	2036	1357	1018	814	679	582	509	452	407

SPECIFICATIONS

Model	MBTUH		Firing Stages	A	B	K	Heater Amps	Approx. SHIP WT. (LBS)
	INPUT	Output						
HD101	100	85	1*	18-9/16	9-1/4	4	<5	150
HD151	150	128	1*	21-7/8	10-7/8	4	<5	175
HD201	199	169	1*	25-1/16	12-1/2	5	<5	200
HD251	250	213	1*	28-5/16	14-1/8	5	<5	225
HD301	299	254	1*	31-9/16	15-3/4	5	<5	250
HD401	399	339	1*	38-1/16	19	6	<5	300

* 2 Stage optional
Dimensions are in inches

RATES OF FLOW AND PRESSURE DROPS

Model	Input MBTUH	Output MBTUH	Soft (3-4 GPG)				Medium (5-15 GPG)				Hard (16-25 GPG**)						
			ΔT	GPM	ΔP	MTS	SHL	ΔT	GPM	ΔP	MTS	SHL	ΔT	GPM	ΔP	MTS	SHL
HD101	100	85	9	20	1.8	1-1/2	3.8	7	26	3.0	1-1/2	6.3	4	45	9.2	1-1/2	18.0
HD151	150	128	13	20	1.8	1-1/2	3.8	10	26	3.1	1-1/2	6.3	6	45	9.2	1-1/2	18.1
HD201	199	169	17	20	1.9	1-1/2	3.9	13	26	3.2	1-1/2	6.4	8	45	9.4	1-1/2	18.2
HD251	250	213	21	20	1.9	1-1/2	3.9	16	26	3.2	1-1/2	6.5	9	45	9.6	1-1/2	18.5
HD301	299	254	25	20	1.9	1-1/2	3.9	20	26	3.2	1-1/2	6.5	11	45	9.8	1-1/2	18.7
HD401	399	339	31	20	2.0	1-1/2	4.8	26	26	3.3	1-1/2	6.6	15	45	10.3	1-1/2	19.1

NOTE: Basis for minimum flow is 13 GPM or 40°F ΔT.
GPG = Grains Per Gallon

** If over 25 GPG, must use a water softener
SHL includes 50 ft of tubing each way (total 100ft)

NOTES: 1. Rates shown are for natural or propane gas, and elevations up to 2,000 feet. For installations above 2,000 feet, please contact manufacturer.
2. Recommended natural gas pressure is 7 - 10.5" WC. Recommended propane gas pressure is 11 - 13" WC.

Job: _____

Engineer: _____

Contractor: _____

Prepared By: _____ Date: _____

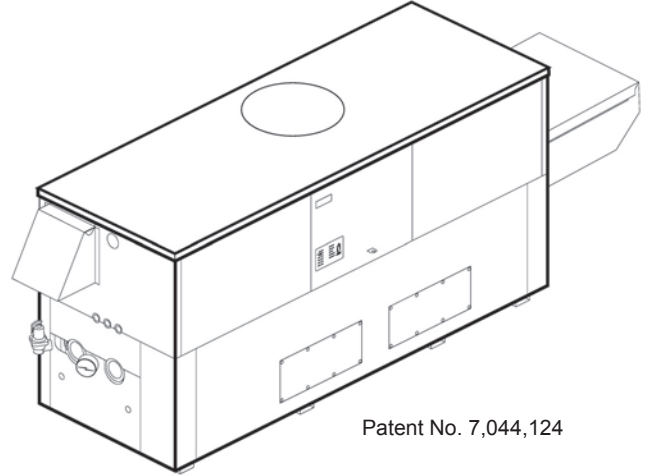
Model: _____ Indoor/Outdoor: _____

MBTUH Input: _____

Hi Delta[®] - Type WH

Water Heaters
Models 992B-2342B

- 100% Factory Fire Tested**
- Efficiency: 85%**
- Maximum Outlet Temperature: 210°F**
- Minimum Non-Condensing Inlet Temperature: 105°F**
- Thermal Shock Proof Heat Exchanger**
- Limited Twenty-Year Thermal Shock Warranty**
- Limited Five-Year Heat Exchanger Warranty**
- Full Safety Diagnostics with Fault History**
- PolyTuf Powder Coated Cabinet**
- No Combustible Floor Shield Required**
- Fan-Assisted**
- Patented Burner Security Blanket**



Patent No. 7,044,124

Heat Exchanger

- HLW Stamp
- Headers
 - Brass – Standard
 - Glass-Lined Cast Iron – Option A-2
- ASME Inspected and Stamped 160 PSIG Working Pressure
- National Board Approved
- Fin Tubing
 - Copper – Standard
 - Cupro Nickel – Option A-3
- ASME Steel Tube Sheet
- Silicone High Temp. O-Rings
- ASME Pressure Relief Valve
 - 125 PSIG – Standard
 - _____ PSIG – Optional
- Temperature and Pressure Gauge
- Water Connections
 - Left – Standard
 - Right – Option A-6

Controls

- 120V, 60Hz, 1Ø Power Supply
- 120/24V 60Hz Transformer
- 100% Shut-Off/Lockout
- Hot Surface Ignition
- Remote Flame Sensor
- High Limit Control, Manual Reset
- On/Off Power Switch
- Manual Shut-Off, Front-Mounted
- Flow Switch
- Blocked Vent Pressure Switch
- Combustion Air Proving Switches
- Economaster Pump Time Delay
- Enable/Disable
- Diagnostics Panel with LCD Display 2 Lines, 20 Characters

Gas Train

- Manual Gas Shut-Off Valve(s)
- Combo Valve(s)
- Firing Mode
 - 3-Stage: Model 992B
 - 4-Stage: Models 1262B-2342B
- Fuel
 - Natural Gas
 - Propane Gas
 - 4" WC Gas Supply Pressure G-20
- Design Certified - ANSI Z21.10.3/ CSA 4.3

Construction

- Indoor/Outdoor Construction
- Enclosed Front Controls

Venting

- Vent Location
 - Top – Standard
 - Rear – Option D-14
- Vent Termination Cap
 - Outdoor D-11
 - Indoor, Horizontal D-15
 - Indoor, Vertical (by others)
- Combustion Air
 - In-Line Filter Kit (TruSeal only) D-17
 - Air Intake Elbow D-16
- Extractor – Optional
 - By others
 - Not required

Burner

- Ultra-Low NOx: Less than 20 PPM

Temperature Controls

- B-2 Tankstat, Single-Stage (100-200°F)
- B-3 Tankstat, 2-Stage (100-200°F)
- B-21 TempTracker Digital Controller, 4-Stage
- B-25 Raytemp Digital Controller, 4-Stage
- Y-241 Electronic Sequencer, 4-Stage
- Y-281 Electronic Sequencer, 8-Stage

Options

- C-6 Ignition Module, Manual Reset
- D-21 TruSeal[®] Direct Vent
- F-10 Low Water Cut-Off, Remote Probe
- I-1 High Limit Control, Auto Reset
- P-__ Pump: _____ HP, 120V, 1Ø, 60Hz
Water Hardness: _____ GPG
 - Bronze
 - Mounted Loose
 - Front Rear
- P-26 Cold Water Start (See 2000.49)
- S-2 High Gas Pressure Switch, Manual
- X-1 SureRack[™] Kit
- X-2 SureRack Add-on
- _____

Regulatory Agency Requirements

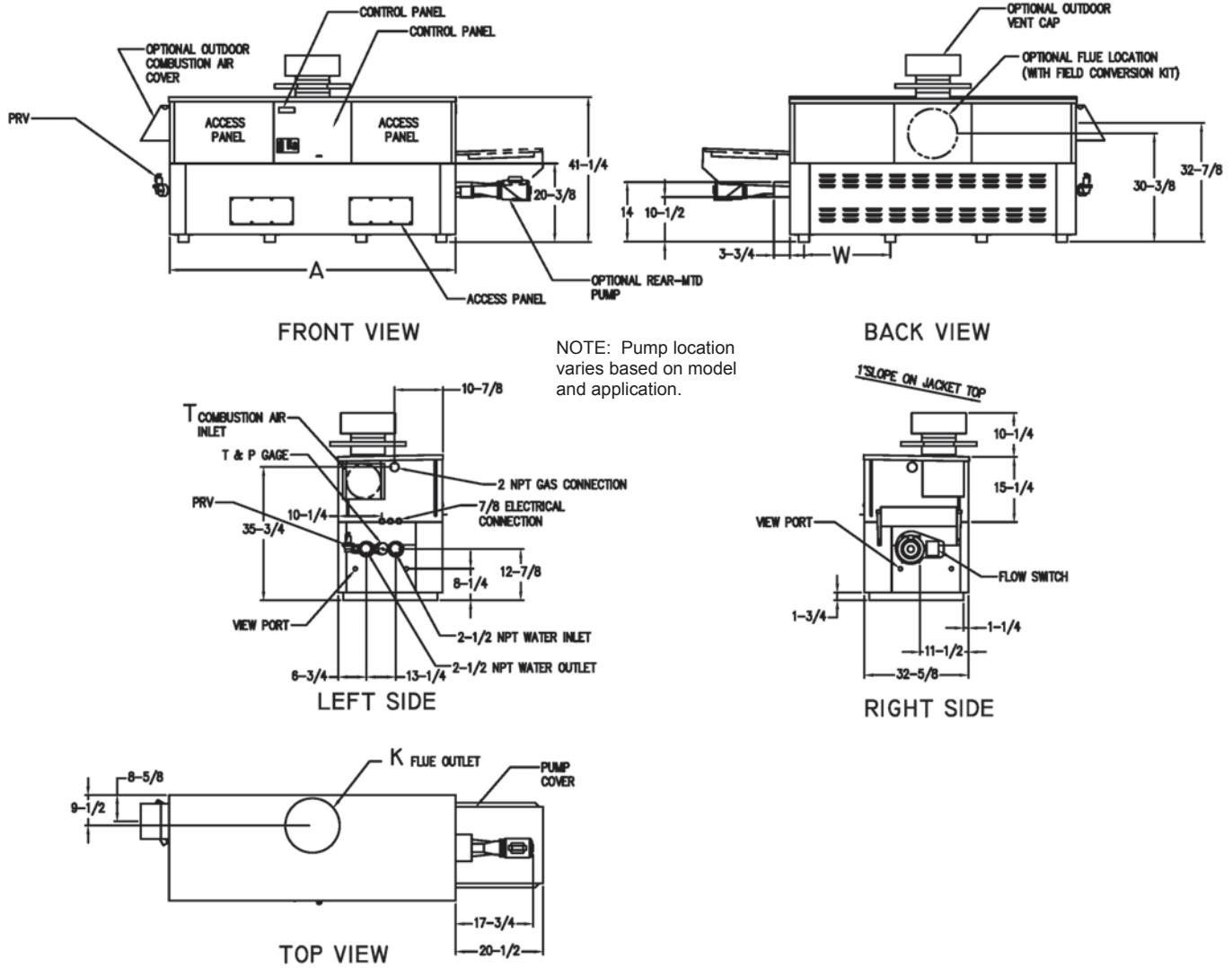
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Raypak[®]
A Rheem[®] Company

Hi Delta – Type WH Models 992B-2342B

Model _____



SPECIFICATIONS

Model	MBTUH Input	MBTUH Output	Firing Stages	A Width	H NPT	K	T	W	Amp. Draw*	Approx. Shipping Wt. (Lbs.)
992B	990	842	3	57-1/8	2-1/2	10	10	16-13/16	<12	900
1262B	1260	1071	4	68-1/2	2-1/2	12	10	20-9/16	<12	1010
1532B	1530	1301	4	79-7/8	2-1/2	12	10	24-3/8	<12	1225
1802B	1800	1530	4	91-1/8	2-1/2	14	10	28-1/8	<12	1350
2002B	1999	1699	4	102-1/2	2-1/2	14	10	31-15/16	<12	1450
2072B	2070	1760	4	102-1/2	2-1/2	14	10	31-15/16	<12	1450
2342B	2340	1989	4	113-7/8	2-1/2	16	10	35-11/16	<12	1520

RECOVERY RATES (GPH)

Model	Temperature Rise in °F								
	20°	30°	40°	50°	60°	70°	80°	90°	100°
992B	5100	3400	2550	2040	1700	1457	1275	1133	1020
1262B	6491	4327	3245	2596	2164	1855	1623	1442	1298
1532B	7882	5255	3941	3153	2627	2252	1970	1752	1576
1802B	9273	6182	4636	3709	3091	2649	2318	2061	1855
2002B	10298	6865	5149	4119	3433	2942	2574	2288	2060
2072B	10664	7109	5332	4265	3555	3047	2666	2370	2133
2342B	12055	8036	6027	4822	4018	3444	3014	2679	2411

Dimensions are in inches.

* Without pump

NOTES: 1. Rates shown are for natural or propane gas, and elevations up to 5,000 feet. For installation above 5,000 feet, please contact manufacturer.
2. Required natural gas pressure is 7 – 10.5" WC. Required propane gas pressure is 11 - 13" WC.

Raypak, Inc. ▪ 2151 Eastman Avenue, Oxnard, CA 93030 ▪ (805) 278-5300 ▪ Fax (800) 872-9725 ▪ www.raypak.com



Product Submittal for XFIIRE™ - Type H
Models 300B-1000B

Date: _____ Job: _____ Location: _____

Equipment Tags: _____ Engineer: _____ Contractor: _____

Model: _____ Notes: _____

Prepared by: _____ Indoor Outdoor Gas Type: Natural Gas Propane

Stainless steel water-tube construction, versatile and adaptive controls. Designed for ease of maintenance.

- Up to 96.5% thermal efficiency at full rate
- 100% factory fire-tested
- VERSA IC® modulating controller with 4.3" color touchscreen display
- Raymote™ remote connectivity - optional
- 7:1 turndown
- Fault history with full diagnostics
- Status display lighting in logo on front panel
- Cascade up to 4 heaters - no external sequencer required
- Modbus RTU BMS port
- Maximum outlet water temperature: 200°F
- Maximum system temperature: 192°F
- Zero side clearance to combustibles
- Indoor/outdoor construction - standard
- PVC, CPVC, polypropylene or stainless steel venting certified
- Limited 20-year thermal shock warranty
- Limited 10-year heat exchanger warranty
- Meets SCAQMD R1146.2 requirements (NOx < 20 ppm)
- Proudly assembled in the USA



Standard Features
Heat Exchanger

- All stainless steel construction with brass connections
- Gasketless heat exchanger design
- ASME H stamped; 160 PSIG MAWP
- National Board registered
- ASME pressure relief valve (shipped loose)
 - 60 PSIG - standard
 - ____ PSIG - optional
- T&P gauge (shipped loose)

Control

- 120V, 60Hz, 1Ø power supply (standard)
- E-16 208V, 60Hz, 1Ø power supply (optional)
- VERSA IC® with 4.3"color touchscreen display
- C-11 Raymote™ IoT connectivity (optional)
- Ignition module
 - 3-Try (standard)
 - C-6 single-try (optional)
- 0-10 VDC input for BMS
- Cascade up to 4 water heaters
- Remote flame sensor
- Fixed high limit, manual reset, 200°F
- Alarm dry contact connection
- On/off power switch
- Flow switch (factory mounted)
- Low water cut-off, remote probe
- Blocked vent pressure switch
- Boiler, DHW & System Pump contacts
- Water temperature sensors 10kΩ (5 total, of which 3 ship loose)
- Modbus RTU BMS port
 - B-85 BMS Gateway, Modbus RTU to Modbus TCP, N2 Metasys, BACnet IP, or BACnet MS/TP (optional)
 - Loose
 - Factory mounted
 - B-86 BMS Gateway, Modbus RTU, LONWorks (optional)
 - Loose
 - Factory mounted

Burner

- Direct spark ignition (DSI)
- Low NOx: less than 20 ppm

Gas Train

- Fuel
 - Natural gas
 - Propane (minimum grade HD-5)
- Dual-seat combination valve
- H7 electronic modulating firing mode

Construction

- Indoor/outdoor construction
- Enclosed front controls
- PolyTuf powder coat finish
- Rear connections (water, gas, vent, electrical, combustion air, condensate and drain)
- Design certified ANSI Z21.13/CSA 4.9
- Built-in combustion air filter
- Built-in condensate trap and switch

Cat IV Venting
(PVC-CPVC-Polypropylene-Stainless Steel)

- Vent termination (options)
 - D-11 Outdoor flue exhaust termination kit (stainless steel)
- Extractor fan cascade vent as needed
 - By others
 - Not required
- Other Options
 - Truseal® Air Intake
 - D-22 Loose
 - D-21 Factory mounted
 - D-33 Polypropylene vent adapter (Centrotherm InnoFlue®)
 - D-37 Motorized combustion air damper

Options

- B-31 Sensor well
- B-32 Outdoor air sensor
- B-65 Indirect DHW tank aquastat control
- E-5 Boiler alarm with 4" bell
 - Loose
 - Factory mounted
- E-15 Boiler alarm with buzzer
 - Loose
 - Factory mounted
- I-5 High limit adj. manual reset, 200°F
- I-13 high limit adj. auto reset, 200°F
- I-14 high limit adj. auto reset, 180°F
- I-20 High limit adj. manual reset, 180°F

- I-21 High limit fixed auto reset, 200°F
- M-1 Safety valve - motorized
- M-10 Safety valve - Solenoid
- M-15 Safety valve - vent valve (must use with M-1 or M-10)
- F-15 Flow meter and manifold kit (ship loose)
- P-__ Pump: __HP, 120V, 1 Ø , 60Hz
 - Cast iron
 - Bronze / SS
- S-12 High/low gas pressure switches, manual reset
- Z-12 Condensate treatment kit

Multi-Boiler System Controllers

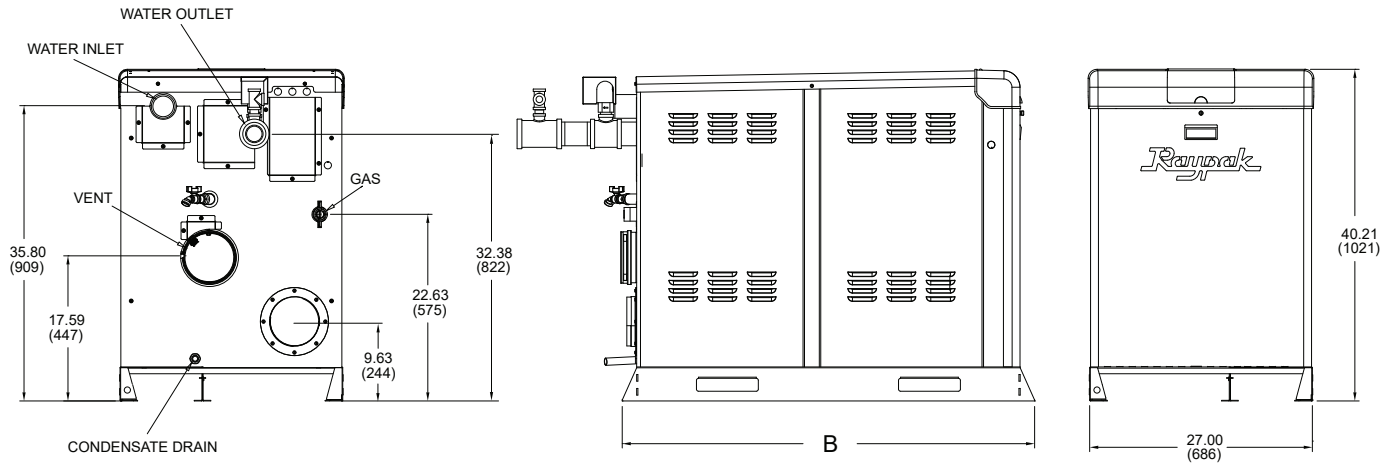
- TempTracker Mod+ Hybrid Digital Controllers,
 - B-36 2-4 boilers, OA reset
 - B-37 5-10 boilers, OA reset
 - B-38 11-16 boilers, OA reset
 - B-39* EMS 4-20 mA Remote
 - Setpoint Interface Module
 - B-62* BACnet MS/TP Interface (*only used with B-36 to B-38) Module (*only used with B-36 to B-38)

Additional Options or Accessories

- _____

Regulatory Agency requirements

- _____



Model H7-	MBTUH (kW)		Turn Down	AHRI Thermal Efficiency	Dimensions - inches (mm)				Operating Weight lbs(kg)
	Input	Output			B	Flue Ø*	Water Inlet/Outlet NPT	Air Intake Ø	
<input type="checkbox"/> 300B	300 (88)	289 (85)	7:1	96.5%	36.83 (935)	4 (100)	2 (50)	4 (100)	411 (186)
<input type="checkbox"/> 400B	399 (117)	383 (112)	7:1	96.0%	36.83 (935)	4 (100)	2 (50)	4 (100)	411 (186)
<input type="checkbox"/> 500B	500 (147)	480 (141)	7:1		36.83 (935)	4 (100)	2 (50)	4 (100)	411 (186)
<input type="checkbox"/> 650B	650 (191)	624 (183)	7:1		45.22 (1148)	6 (150)	2 (50)	6 (150)	501 (227)
<input type="checkbox"/> 800B	800 (235)	768 (225)	7:1		45.22 (1148)	6 (150)	2 (50)	6 (150)	547 (248)
<input type="checkbox"/> 1000B	1000 (294)	960 (281)	7:1		50 (1270)	6 (150)	2.5 (65)	6 (150)	627 (284)

* PVC/CPVC Standard

Clearance - inches (mm)

	Front	Rear	Right	Left	Top	Front	Vent
Combustible Minimum	0	24 (610)	0	0	0	Open	1 (25)
Minimum Service	0	24 (610)	0	0	0	30 (762)	1 (25)

Model H7-	Boiler Current Draw	
	<input type="checkbox"/> 120VAC	<input type="checkbox"/> 208VAC
<input type="checkbox"/> 300B	<7.5 A	<5.0 A
<input type="checkbox"/> 400B	<7.5 A	<5.0 A
<input type="checkbox"/> 500B	<5.0 A	<5.0 A
<input type="checkbox"/> 650B	<5.0 A	<5.0 A
<input type="checkbox"/> 800B	<7.5 A	<7.5 A
<input type="checkbox"/> 1000B	<7.5 A	<7.5 A

* Current draw is for heater only. Supply breaker must have delayed trip.

** Single phase only

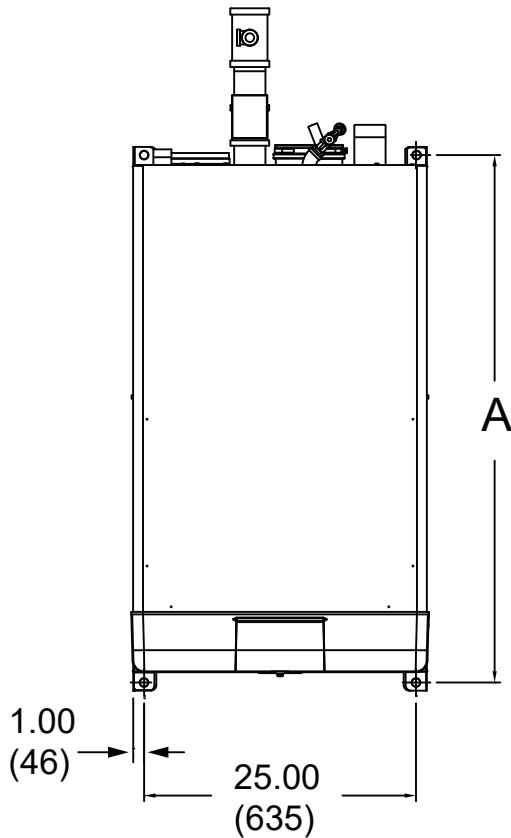
Flow and Pressure Loss Information

Model H7-	MBTUH (kW/h)		20 °F ΔT		30 °F ΔT		Min Flow			Max Flow		
	Input	Output	GPM (L/min)	ΔP ft.wc.(kPa)	GPM (L/min)	ΔP ft.wc.(kPa)	GPM (L/min)	ΔP ft.wc.(kPa)	ΔT-°F (°C)	GPM (L/min)	ΔP ft.wc.(kPa)	ΔT-°F(°C)
<input type="checkbox"/> 300B	300 (88)	288 (84)	29 (110)	6 (18)	19 (72)	3 (9)	15 (56)	2 (6)	39 (22)	38 (144)	10 (30)	15 (8)
<input type="checkbox"/> 400B	399 (117)	383 (112)	38 (144)	11 (33)	26 (97)	5 (15)	20 (74)	3 (9)	39 (22)	50 (189)	17 (51)	15 (8)
<input type="checkbox"/> 500B	500 (147)	480 (141)	48 (182)	12 (36)	32 (121)	6 (18)	25 (93)	4 (12)	39 (22)	62 (235)	20 (60)	15 (8)
<input type="checkbox"/> 650B	650 (191)	624 (183)	62 (235)	11 (33)	42 (158)	5 (15)	32 (121)	3 (9)	39 (22)	80 (303)	17 (51)	16 (9)
<input type="checkbox"/> 800B	800 (235)	768 (225)	77 (291)	12 (36)	51 (194)	6 (18)	39 (149)	4 (12)	39 (22)	90 (341)	16 (48)	17 (9)
<input type="checkbox"/> 1000B	1000 (294)	960 (281)	96 (363)	14 (42)	64 (242)	6 (18)	49 (186)	4 (12)	39 (22)	90 (341)	12 (36)	21 (12)

Maximum flow based on 15°F ΔT (8 °C) or 8 ft/s (2.4 m/s) velocity, whichever is less.

SHL = System Head Loss of water heater plus 100 equivalent feet (30 m) of pipe.

Footprint and Base Anchor Bolt Pattern



Model H7-	Dimensions inches (mm)
	A
<input type="checkbox"/> 300B-500B	35.33 (897)
<input type="checkbox"/> 650B-800B	43.75 (1111)
<input type="checkbox"/> 1000B	48.50 (1231)

Dimensions are shown in inches (mm)



**Product Submittal for XFIIRE™ - Type WH
Models 300B-1000B**

Date: _____ Job: _____ Location: _____
 Equipment Tags: _____ Engineer: _____ Contractor: _____
 Model: _____ Notes: _____
 Prepared by: _____ Indoor Outdoor Gas Type: Natural Gas Propane

Stainless steel water-tube construction, versatile and adaptive controls. Designed for ease of maintenance.

- Up to 96.5% thermal efficiency at full rate
- 100% factory fire-tested
- VERSA IC® modulating controller with 4.3" color touchscreen display
- Raymote™ remote connectivity - optional
- 7:1 turndown
- Fault history with full diagnostics
- Status display lighting in logo on front panel
- Cascade up to 4 heaters - no external sequencer required
- Modbus RTU BMS port
- Maximum outlet water temperature: 180°F
- Maximum setpoint 150°F
- Zero side clearance to combustibles
- Indoor/outdoor construction - standard
- PVC, CPVC, polypropylene or stainless steel venting certified
- Limited 5-year heat exchanger warranty (type WH)
- Meets SCAQMD R1146.2 requirements (NOx <20ppm)
- Proudly assembled in the USA





Standard Features

Heat Exchanger

- All stainless steel construction with brass connections
- Gasketless heat exchanger design
- ASME H stamped; 160 PSIG MAWP
- National Board registered
- ASME pressure relief valve (shipped loose)
 - 125 PSIG (standard)
 - ___PSIG (optional)
- T&P gauge (shipped loose)

Control

- 120V, 60Hz, 1Ø power supply (standard)
- E-16 208V, 60Hz, 1Ø power supply (optional)
- VERSA IC® with 4.3" color touchscreen display
- C-11 Raymote™ IoT connectivity (optional)
- Ignition module
 - 3-Try (standard)
 - C-6 single-try (optional)
- 0-10 VDC input for BMS
- Cascade up to 4 water heaters
- Remote flame sensor
- Fixed high limit, manual reset, 180°F
- Alarm dry contact connection
- On/off power switch
- Flow switch (factory mounted)
- Low water cut-off, remote probe
- Blocked vent pressure switch
- Boiler, DHW & System Pump contacts
- Water temperature sensors 10kΩ (3 total, tank sensor ships loose)
- Modbus RTU BMS port
 - B-85 BMS Gateway, Modbus RTU to Modbus TCP, N2 Metasys, BACnet IP, or BACnet MS/TP (optional)
 - Loose
 - Factory mounted
 - B-86 BMS Gateway, Modbus RTU, LONWorks (optional)
 - Loose
 - Factory mounted

Burner

- Direct spark ignition (DSI)
- Low NOx: less than 20 ppm

Gas Train

- Fuel
 - Natural gas
 - Propane (minimum grade HD-5)
- Dual-seat combination valve
- WH7 electronic modulating firing mode

Construction

- Indoor/outdoor construction
- Enclosed front controls
- PolyTuf powder coat finish
- Rear connections (water, gas, vent, electrical, combustion air, condensate, and drain)
- Design certified ANSI Z21.10.3/CSA 4.3
- Built-in combustion air filter
- Built-in condensate trap and switch

Cat IV Venting

(PVC-CPVC-Polypropylene-Stainless Steel)

- Vent termination
 - D-11 Outdoor flue exhaust termination kit (stainless steel)
- Extractor fan cascade vent as needed
 - By others
 - Not required
- Other Options
 - Truseal® Air Intake
 - D-22 Loose
 - D-21 Factory mounted
 - D-33 Polypropylene Vent Adapter (Centrotherm InnoFlue®)
 - D-37 Motorized combustion air damper

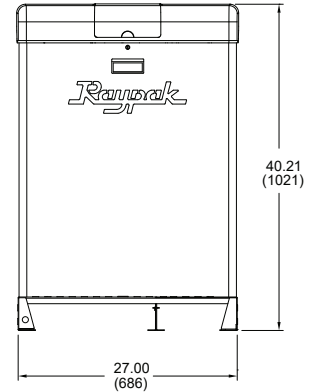
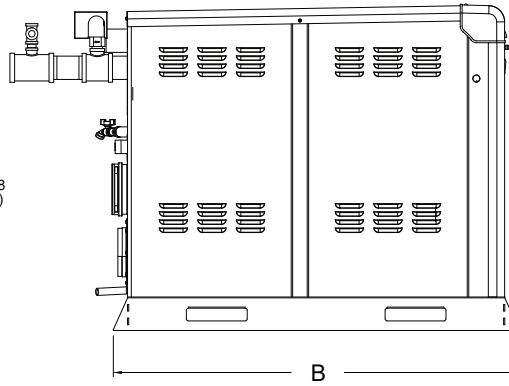
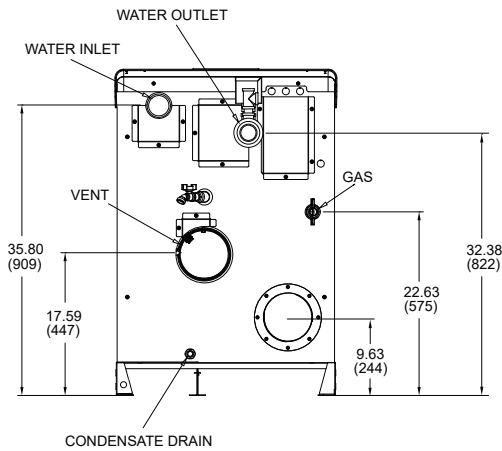
Options

- B-31 Sensor well
- B-32 Outdoor air sensor
- B-65 Indirect DHW tank aquastat control
- E-5 Boiler alarm with 4" bell
 - Loose
 - Factory mounted
- E-15 Boiler alarm with buzzer
 - Loose
 - Factory mounted
- I-5 High limit adj. manual reset, 200°F
- I-13 high limit adj. auto reset, 200°F
- I-14 high limit adj. auto reset, 180°F
- I-20 High limit adj. manual reset, 180°F

- I-21 High limit fixed auto reset, 200°F
- M-1 Safety valve - motorized
- M-10 Safety valve - solenoid
- M-15 Safety valve - vent valve (must use with M-1 or M-10)
- F-15 Flow meter and manifold kit (shipped loose)
- P-___ Pump: ___HP, 120V, 1Ø, 60Hz, Bronze/SS
- S-12 High/low gas pressure switches, manual reset
- Z-12 Condensate treatment kit

Additional Options or Accessories

Regulatory Agency requirements



Model WH7-	MBTUH (kW)		Turn Down	Thermal Efficiency	Dimensions - inches (mm)				Operating Weight lbs(kg)
	Input	Output			B	Flue Ø*	Water Inlet/Outlet NPT	Air Intake Ø	
<input type="checkbox"/> 300B	300 (88)	289 (85)	7:1	96.0%	36.83 (935)	4 (100)	2 (50)	4 (100)	411 (186)
<input type="checkbox"/> 400B	399 (117)	383 (112)	7:1		36.83 (935)	4 (100)	2 (50)	4 (100)	411 (186)
<input type="checkbox"/> 500B	500 (147)	480 (141)	7:1		36.83 (935)	4 (100)	2 (50)	4 (100)	411 (186)
<input type="checkbox"/> 650B	650 (191)	624 (183)	7:1		45.22 (1148)	6 (150)	2 (50)	6 (150)	501 (227)
<input type="checkbox"/> 800B	800 (235)	768 (225)	7:1		45.22 (1148)	6 (150)	2 (50)	6 (150)	547 (248)
<input type="checkbox"/> 1000B	1000 (294)	960 (281)	7:1		50 (1270)	6 (150)	2.5 (65)	6 (150)	627 (284)

* PVC/CPVC Standard

Clearances-inches (mm)

	Front	Rear	Right	Left	Top	Front	Vent
Combustible Minimum	0	24 (610)	0	0	0	Open	1 (25)
Minimum Service	0	24 (610)	0	0	0	30 (762)	1 (25)

Model WH7-	RECOVERY RATES - GPH (LPH)								
	Temperature Rise - °F (°C)								
	20 (11)	30 (17)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)
<input type="checkbox"/> 300B	1727 (6537)	1152 (4360)	864 (3270)	691 (2615)	576 (2180)	494 (1870)	432 (1635)	384 (1453)	349 (1321)
<input type="checkbox"/> 400B	2297 (8694)	1532 (5799)	1149 (4349)	919 (3478)	766 (2899)	656 (2483)	574 (2173)	511 (1934)	464 (1756)
<input type="checkbox"/> 500B	2879 (10897)	1919 (7263)	1439 (5447)	1152 (4360)	960 (3634)	823 (3115)	720 (2725)	640 (2422)	582 (2203)
<input type="checkbox"/> 650B	3742 (14163)	2495 (9444)	1871 (7082)	1497 (5666)	1247 (4720)	1069 (4046)	936 (3543)	832 (3149)	756 (2861)
<input type="checkbox"/> 800B	4604 (17434)	3071 (11624)	2303 (8717)	1842 (6972)	1535 (5810)	1316 (4981)	1152 (4360)	1024 (3876)	931 (3524)
<input type="checkbox"/> 1000B	5758 (21794)	3838 (14527)	2879 (10897)	2303 (8717)	1919 (7263)	1645 (6226)	1439 (5447)	1279 (4841)	1164 (4406)

Model WH7-	Boiler Current Draw	
	<input type="checkbox"/> 120VAC	<input type="checkbox"/> 208VAC
<input type="checkbox"/> 300B	<7.5 A	<5.0 A
<input type="checkbox"/> 400B	<7.5 A	<5.0 A
<input type="checkbox"/> 500B	<5.0 A	<5.0 A
<input type="checkbox"/> 650B	<5.0 A	<5.0 A
<input type="checkbox"/> 800B	<7.5 A	<7.5 A
<input type="checkbox"/> 1000B	<7.5 A	<7.5 A

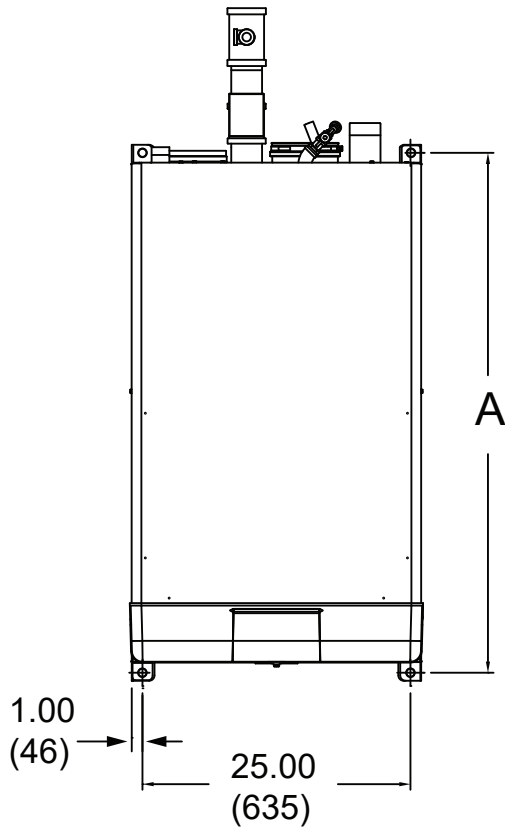
* Current draw is for heater only. Supply breaker must have delayed trip.
 ** Single phase only

Flow and Pressure Loss Information

Model WH7-	MBTUH (kW/h)		Up to 15 GPG				Min Flow			Max Flow		
	Input	Output	ΔT-°F (°C)	GPM (L/min)	ΔP ft.wc.(kPa)	SHL ft.wc.(kPa)	GPM (L/min)	ΔP ft.wc.(kPa)	ΔT-°F (°C)	GPM (L/min)	ΔP ft.wc.(kPa)	ΔT-°F (°C)
<input type="checkbox"/> 300B	300 (88)	288 (84)	16 (9)	37 (140)	10 (30)	14 (42)	28 (106)	6 (18)	21 (12)	38 (144)	10 (30)	15 (8)
<input type="checkbox"/> 400B	399 (117)	383 (112)	21 (12)	37 (140)	10 (30)	14 (42)	28 (106)	6 (18)	27 (15)	50 (189)	17 (51)	15 (8)
<input type="checkbox"/> 500B	500 (147)	480 (141)	22 (12)	44 (167)	11 (33)	16 (48)	33 (125)	6 (18)	29 (16)	62 (235)	20 (60)	15 (8)
<input type="checkbox"/> 650B	650 (191)	624 (183)	21 (12)	59 (223)	10 (30)	17 (51)	44 (164)	6 (18)	28 (16)	80 (303)	17 (51)	16 (9)
<input type="checkbox"/> 800B	800 (235)	768 (225)	21 (12)	74 (280)	11 (33)	22 (66)	55 (208)	7 (21)	28 (16)	90 (341)	16 (48)	17 (9)
<input type="checkbox"/> 1000B	1000 (294)	960 (281)	22 (12)	88 (333)	12 (36)	24 (72)	66 (250)	7 (21)	29 (16)	90 (341)	12 (36)	21 (12)

Maximum flow based on 15°F ΔT (8 °C) or 8 ft/s (2.4 m/s) velocity, whichever is less.
 SHL = System Head Loss of water heater plus 100 equivalent feet (30 m) of pipe.

Footprint and Base Anchor Bolt Pattern



Dimensions are shown in inches (mm)

Model WH7-	Dimensions inches (mm)
	A
<input type="checkbox"/> 300B-500B	35.33 (897)
<input type="checkbox"/> 650B-800B	43.75 (1111)
<input type="checkbox"/> 1000B	48.50 (1231)



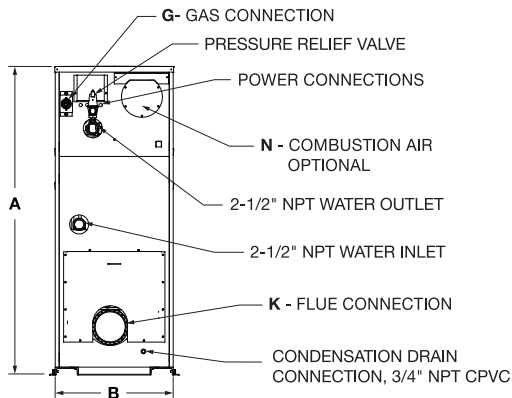
XTherm - Type H & WH Models 1005A - 4005

Model	MBTUH (kw/h)						Dimensions in. (mm)						Lbs. (kg)	
	Input	Output (H)	Output (WH)	Turndown	Thermal Efficiency (H)	Thermal Efficiency (WH)	A Height	B Width	C Base Depth	D Overall Depth*	G NPT	K Flue ø		N Comb. Air ø
1005A	999 (292.8)	959 (281.1)	969 (284)	7 to 1	96%	97%	55.25 (1403)	31 (787)	50 (1270)	57.3 (1455)	1-1/4**	6	6	1065 (483)
1505A	1500 (439.6)	1440 (422)	1455 (426.4)	7 to 1	96%	97%	67.125 (1705)	31 (787)	50 (1270)	57.5 (1461)	1-1/4**	8	8	1234 (560)
2005A	1999 (585.8)	1919 (562.4)	1939 (568.3)	7 to 1	96%	97%	81.125 (2061)	31 (787)	50 (1270)	57.5 (1461)	2**	8	8	1461 (663)
2505	2501 (733)	2401 (703.7)	2381 (698)	13 to 1	96%	95.2%	68.25 (1734)	31 (787)	97.5 (2477)	107.5 (2731)	2-1/2	10	10	2656 (1205)
3005	3000 (879.2)	2880 (844)	2856 (837)	13 to 1	96%	95.2%	73.25 (1861)	31 (787)	97.5 (2477)	107.5 (2731)	2-1/2	10	10	2775 (1259)
3505	3500 (1025.7)	3360 (984.7)	3332 (977)	13 to 1	96%	95.2%	78.25 (1988)	31 (787)	97.5 (2477)	107.5 (2731)	2-1/2	10	12	2925 (1327)
4005	4000 (1172.3)	3840 (1125.4)	3808 (1116)	7 to 1	96%	95.2%	83.25 (2115)	31 (787)	97.5 (2477)	109 (2769)	2-1/2	12	12	3058 (1387)

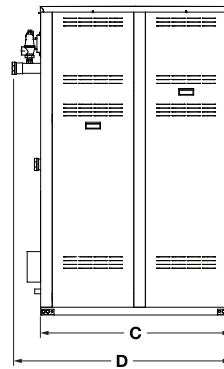
WH units have a minimum turndown of 60% of full rate.

*For 60 PSI PRV standard on H models. Shipped loose on 2505-4005.

**For natural gas. 1" NPT for propane.

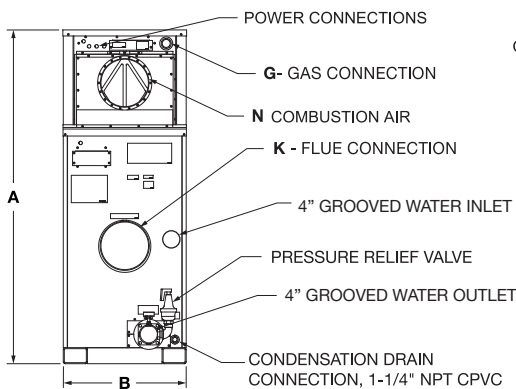


REAR VIEW
1005A-2005A

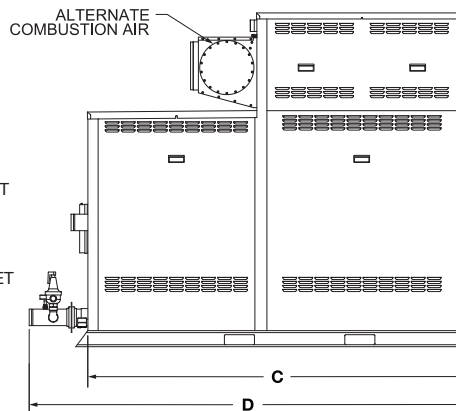


SIDE VIEW
1005A-2005A

	Clearances in. (mm)	
	Combustible Minimum	Service Minimum
Front	24 (610)	30 (762)
Rear	12 (305)	36 (915)
Right	1 (25)	24 (610)
Left	1 (25)	1 (25)
Top (indoor)	0	12 (305)
Floor	0	N/A
Vent Stack (indoor)	1 (25)	N/A
Vent Cap (outdoor)	12 (305)	12 (305)



REAR VIEW
2505-4005



SIDE VIEW
2505-4005

www.raypak.com

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High Efficiency Boilers & Water Heaters



XTherm[®]
ULTRA HIGH EFFICIENCY



**Touch Screen
VERSA IC[®] Control
Platform**

Models

1005A, 1505A, 2005A

2505, 3005, 3505, 4005

Up to **99%** thermal efficiency!

Xtreme performance powered by



Xtreme Performance

Up to **99%** thermal efficiency!



Raypak's Next Generation Condensing Modulating Heater

Time-honored technologies unite with cutting-edge advancements in Raypak's new XTherm® modulating vertical heater. Never before has a vertical heater provided both the installer and building owner such installation flexibility, ease-of-commissioning, reliability and long-term performance. Small space, not a problem. The XTherm has one of the smallest installed footprints of any vertical condensing heater. Our compact design makes it the perfect choice for those hard to reach retrofit projects. Raypak's XTherm is built with commercial-grade components and materials. From our structural steel base to our stainless steel flue wrapper, and condensing heat exchanger, you can tell the XTherm is built to last. It's easy to handle and install, but still user friendly to service. Now is the perfect time to take a closer look at Raypak.

Flexibility

Industry-leading vent length allowances afford greater vent location options, thus reducing wasted space. Vent versatility is further enhanced by the self-tuning combustion system which compensates for unusual chimney and vent configurations.

Category IV -CSA-certified 96% efficiency for all sizes of hydronic boilers at full fire. 97% efficiency on all sizes for domestic hot water heaters (*Up to 99% at part load!*) When the job requires high efficiency, XTherm meets your needs.

At the heart of every Raypak XTherm is a unique integral evaporator system - the first defense against condensation in the non-condensing heat exchanger. Raypak's evaporator system collects and re-evaporates condensate which may form during initial start-up.

True Modulation

Modulation is nothing new to Raypak-we have honed our gas modulation experience for over 60 years. The Raypak XTherm will precisely track the heating load with its built-in VERSA IC® Integrated Control platform, eliminating costly overshooting. Utilizing the latest technology for the combustion components, the optimum fuel-air ratio is maintained throughout the entire range of the load-tracking operation.

With up to 12.5:1 turndown, maximum efficiency is maintained throughout the firing rate and actually increases during part load, right when you want it! The XTherm automatically self-tunes to accommodate the widest range of gas supply pressures. The high-quality integrated blower-gas valve is self-correcting and allows smooth operation with fluctuating gas supply pressures. The Raypak XTherm is cutting-edge technology with atmospheric simplicity.

Key Features

- 7 models from 1,000,000 to 4,000,000 BTUH
- 96% thermal efficiency hydronic and up to 97% DHW
- CSA Certified Low Lead Compliant
- Indoor/outdoor construction
- Small footprint, less than 11 square feet (1005A thru 2005A)
- Minimum continuous inlet water temperature (50°F)
- Water heater models are equipped with all copper and bronze, or stainless waterways.
- Pump outputs - System, indirect and injector (2505-4005)
- Modulating gas valve and burner, up to 12.5:1 turndown
- Ultra Low NOx
 - 1005A-2005A -SCAQMD Certified at less than 20ppm
 - 2505-4005 - less than 30ppm.
- Whisper-quiet operation
- 7" Color touch screen display
- 0-10 VDC BMS Interface (setpoint or direct drive)
- Built-in cascade function for up to 4 boilers
- Complete cabinet protects all controls and wiring
- Tough rust-resistant powder coat finish
- Easy to service - air filter
- Suitable for altitudes up to 10,000 ft.
- Modbus BMS port

Vent with:

- PVC* (D-32 Option) **factory mounted only** - 1005A-2005A
 - *PVC requires Max 170°F return water
- Polypropylene (D-33 Option) field install - 1005A-2005A
- Stainless steel Category IV vent, standard - All Models

Options

- Outdoor air sensor (B-32)
- Indirect sensor
- Condensate neutralizer (Z-12)





1. Low Voltage Wiring Terminal

Up front and easy to get to. Makes sensor wiring and BMS wiring simple and clean.

2. VERSA IC® Control

The VERSA IC®, Integrated Control system is CSA listed and certified as a combined temperature, safety, and ignition control device. Easy front access to all field wiring. This includes outdoor sensor, DHW sensor, system alarm, Modbus BMS port and 0-10V DC input connections. Each unit comes factory-equipped with cascade control capability. Simple, quick access daisy chain of up to 4 boilers, link to Raypak Temp Tracker Mod+ Hybrid Master control for up to 16.

3. 7" Color Touch Screen Display

Large easy to read (7") color display. Will continuously monitor flame strength (μ) sensor temps, BMS signal (0-10V) set points, delta-T, all safety signals, full diagnostics and fault history for last 15 events. Everything you need from set-up to service is at your fingertips, all in one location.

4. Combustion Air Blower

Cast-aluminum, non-sparking construction. The state-of-the-art variable-speed blower is controlled by the VERSA IC® integrated controller and works in smooth harmony with the main gas valve.

5. Dungs Gas Valve

The XTherm uses a state-of-the-art main gas valve manufactured in Germany. This precision gas valve works in perfect unison with the combustion air blower. The result is silky smooth light-offs and up to a 12.5:1 turndown.

6. Flow Switch

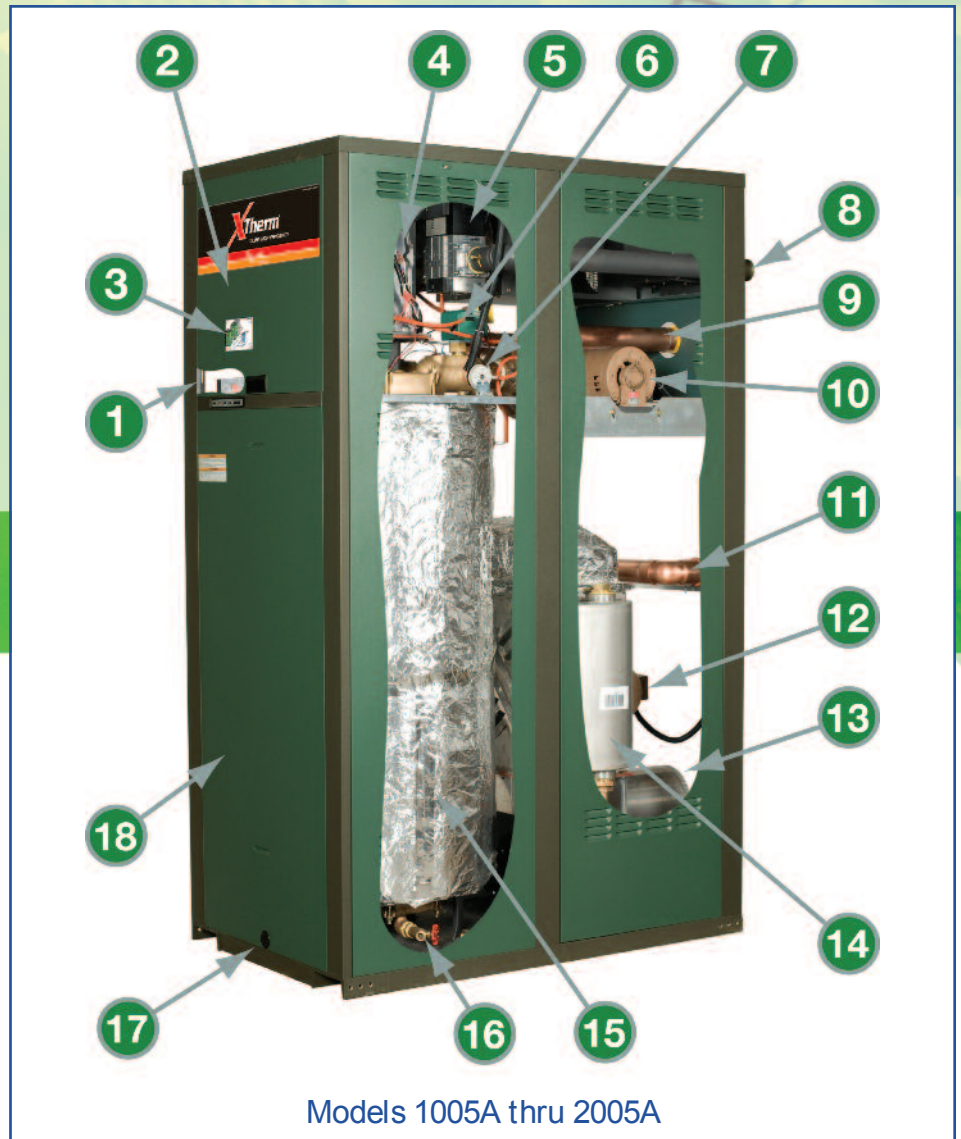
Monitors water flow and provides safe shut down if water flow drops below the minimum required.

7. Vent Pressure Switch

Monitors vent pressure and provides safe shut down if back pressure is excessive.

8. Gas Inlet

The XTherm will operate at 100% full rate with gas pressures as low as 4.0" w.c.



Models 1005A thru 2005A

9. Water Outlet

With PRV and T & P gauge installed.

10. Boiler Pump

Sometimes referred to as the primary pump. This pump keeps flow through the heat exchanger

11. Water Inlet

The XTherm can accept 50°F continuous inlet water temperature and as low as 32°F during system start-up.

12. Cold Water Run Pumps

The XTherm comes factory equipped with a built-in Cold Water Run system. This advanced water control system keeps the inlet water temperature to the non-condensing heat exchanger above 120°F, regardless of the incoming water temperature. It constantly self adjusts and regulates the incoming water flow while still maintaining a constant delta-T in the heat exchanger.

13. Flue Outlet

The stainless steel flue outlet is compatible with CAT IV stainless steel. Sizes 1005A-2005A are offered with the factory-installed D-32 (PVC or CPVC) or field-installed D-33 (Polypropylene) vent options. Dramatically cut your installation costs by using these non-metallic vent materials.

14. 316L Stainless Steel Condensing Heat Exchanger

Recovers waste heat to boost efficiency up to 96%+ range. The XTherm utilizes a high-grade stainless steel heat exchanger. This allows the corrosive combustion condensate to be collected safely without damaging the heater. There is a condensate disposal connection on the rear of the heater. The XTherm is also equipped with a condensate switch that will sense a blocked condensate drain, which protects the heater.

15. Vertical Non-Condensing Heat Exchanger

Cylindrical, multi-pass heat exchanger captures all radiant energy, eliminating the need for heavy refractory.

16. Drain Valve

Up to three drain valves located at the bottom of the non-condensing heat exchanger. Another valve is located on the condensing heat exchanger. This allows for complete winterizing and drainage of the heater.

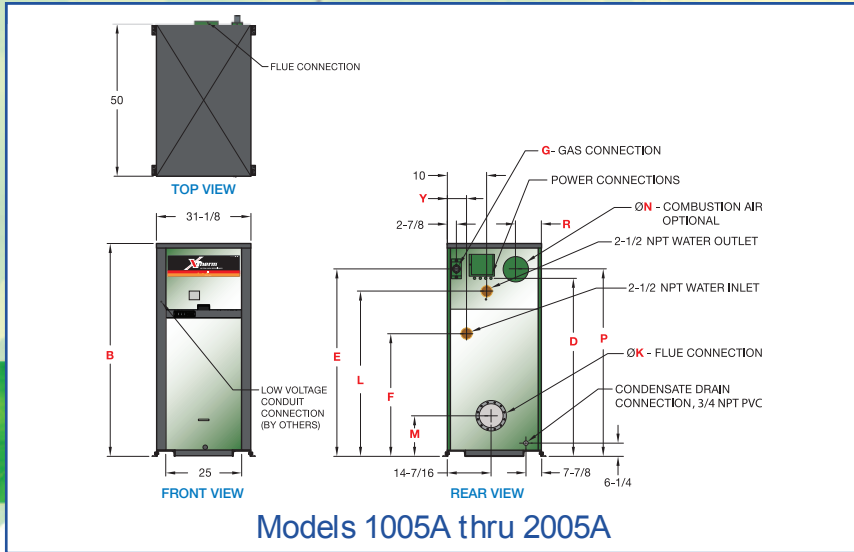
17. Viewing Port

Allows for easy burner inspection.

18. Weather-Proof Jacket

Heavy gauge galvanized steel with a UV-resistant Polytuf powder coat finish is impervious to weather and corrosion.

Xtreme Small Footprint



1005A thru 2005A Heating Boiler

PHYSICAL DATA	Model	Dimensions (inches)											H-Models Hydronic			
		B Ht.	D	E Gas	F Inlet	G NPT	K Flue Ø	L Outlet	M	N C/A Ø	P	R	Y	Weight (lbs.)	Boiler Amps	Pump Amps [†]
	1005A	55-1/8	45	47-1/8	36-1/2	1-1/4	6	40-1/16	11-1/2	6	47-1/8	8-1/16	6-1/16	1065	12	10
	1505A	67-1/8	57	59-1/16	38-1/2	1-1/4	8	52-1/16	12-5/8	8	59-1/8	8-3/16	6-1/16	1234	12	14
	2005A	81-1/8	71	71-3/16	38-1/2	2*	8	64-1/16	12-5/8	8	73-1/8	8-3/16	6-1/4	1461	18	17
	2505	68-3/16	65	64-13/16	21-1/8	2-1/2	10	7-5/16	18-1/2	10	70	-	-	2656	12**	15**
	3005	73-3/16	70	69-13/16	26-1/8	2-1/2	10	7-5/16	23-1/2	10	65	-	-	2775	15**	16**
	3505	78-3/16	75	74-13/16	31-1/8	2-1/2	10	7-5/16	28-1/2	12	60	-	-	2925	17**	16**
	4005	83-3/16	80	79-13/16	30-7/8	2-1/2	12	7-5/16	29-1/4	12	55	-	-	3058	20**	24**

* For propane gas, 1-1/4 NPT. † Separate wiring connection required for pumps ** At 240VAC

MBTUH	Model	AHRI Certified			Not AHRI Certified			
		MBTUH Input	Boiler		MBTUH Input	Water Heaters		Minimum Input
			Output	Efficiency		Output	Efficiency	
	1005A	999	959	96%	999	969	97%	140
	1505A	1500	1440	96%	1500	1455	97%	210
	2005A	1999	1919	96%	1999	1939	97%	280
	2505	2501	2401	96%	2501	2426	97%	200
	3005	3000	2880	96%	3000	2910	97%	240
	3505	3500	3360	96%	3500	3395	97%	280
	4005	4000	3840	96%	4000	3880	97%	560

CLEARANCES	Heater Side	From Combustible Surfaces (min.)	For Service (recommended)
	Floor*	0	N/A
	Rear	12	36
	Right Side	1	24
	Left Side	1	1
	Front	24	24
	Top	Indoor	0
		Outdoor	Unobstructed
	Vent Stack	Indoor	1
		Outdoor	N/A
	Vent Cap	Outdoor	12

* Do not install on carpeting
Note: Local codes may require increased clearances

XTherm Model	Water Heater Power Requirements						
	Soft		Medium		Hard		External Injector Pump
	Heater	Pumps	Heater	Pumps	Heater	Pumps	
1005A	12	10	12	10	12	14	-
1505A	12	10	12	14	12	17	-
2005A	18	17	18	17	N/A	N/A	-
2505**	12	8	12	8	12	8	7
3005**	15	8	15	16	15	16	8
3505**	17	8	17	16	17	16	8
4005**	20	16	20	16	20	16	8

Water hardness grains per gallon Soft = 3-4 • Medium = 5-15 • Hard = 16-25

** At 240VAC

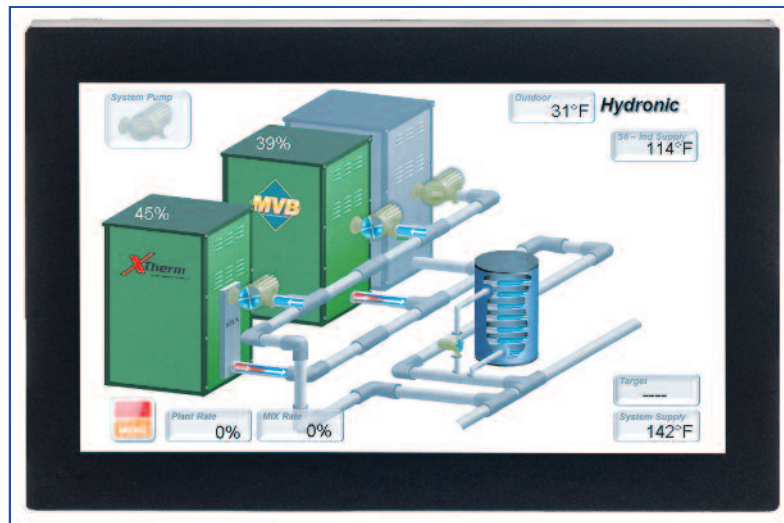
Xtreme Pumping



Cold Water Run System

The XTherm 1005A-2005A come standard with a state-of-the-art Cold Water Run system factory mounted and plumbed. Raypak's Cold Water Run system provides constant protection against condensation in the non-condensing heat exchanger. The system utilizes one or two variable speed pumps, depending on model size and type, to inject just the right amount of water from the main system loop into the heater to maintain the optimum inlet temperature. This allows the full capacity of the heater to be utilized to meet the system load, while at the same time continuously maintaining the optimum inlet water temperature to prevent condensation in the non-condensing heat exchanger. For models using the twin pump design, each pump acts independently giving the heater up to a 10:1 flow turndown. All of this keeps the condensate where it belongs, in the stainless steel condensing heat exchanger.

VERSA IC[®]



VERSA IC[®] Boiler Control and On-Board Diagnostic Center

VERSA IC[®] merges safety, ignition and temperature control, outdoor reset and freeze protection, plus system monitoring, alarm and diagnostics, and BMS transmission all in one Integrated Control Platform. Easy front access to read, set up and trouble shoot on a 7" color touch screen. The entire package is CSA certified, and listed for each individual function.

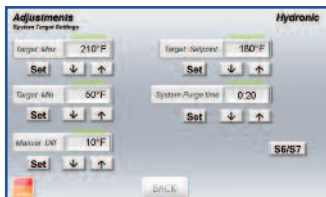
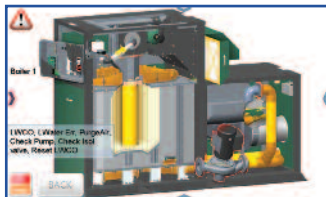
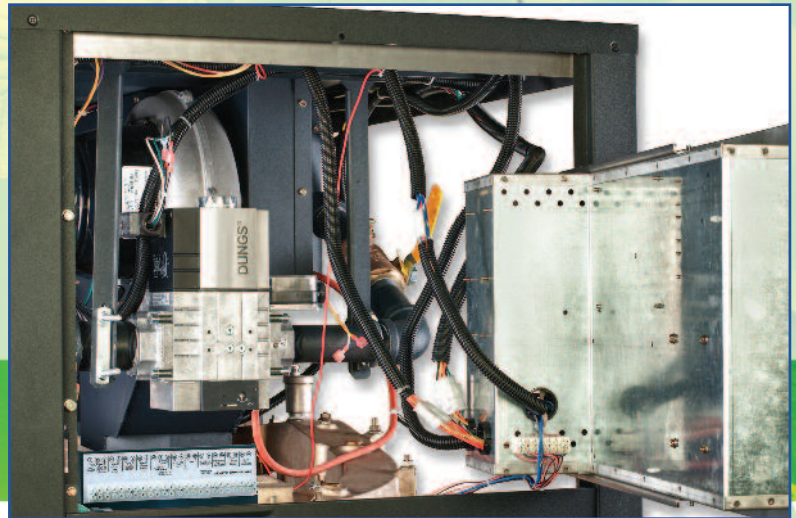
Inlet and outlet sensors factory installed in boiler. Remote sensor for system included. BMS all point diagnostics transmission port. 0-10V DC set point input standard. Also can drive and monitor external motorized auxiliaries such as extractors and louvers. Additional connections for auxiliary functions such as indirect DHW, and dry contact remote alarm relay are provided.



Xtreme Control

Raypak Leadership in Boiler Management

The modulating VERSA IC® fully integrates temperature control, ignition, safety, temperature safety and individual fault monitoring as well as the internal cold water protection for the non-condensing exchanger for complete boiler control. A Modbus communications port is standard for continuous monitoring, trending, and troubleshooting.



Diagnostic Information

Control Faults

- Low 24VAC
- Control Setup
- ID Card Fail
- Device Lost
- Device Error
- PIM Error

Ignition Control Faults

- Ignition Lockout
- False Flame
- Ignition Failure
- Low HSI Current
- Blower Speed

Safety Faults

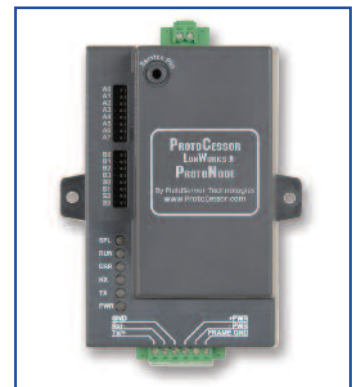
- Sensor Failure - 6
- Condensate Full
- Vent Temp (PVC and Poly)
- Vent Block
- Manual Limit
- Auto Limit
- Water Flow
- Delta T Fault
- Low Water
- Low Gas
- High Gas
- Extra 1
- Options
- Mix Lock

Optional Gateways

- Cascade up to 4 boilers
- All faults and interlocks monitored and reported in real English
- Building Management System integration via optional gateways:
 - BACnet MS/TP, BACnet IP, N2 Metasys or Modbus TCP
 - LonWorks



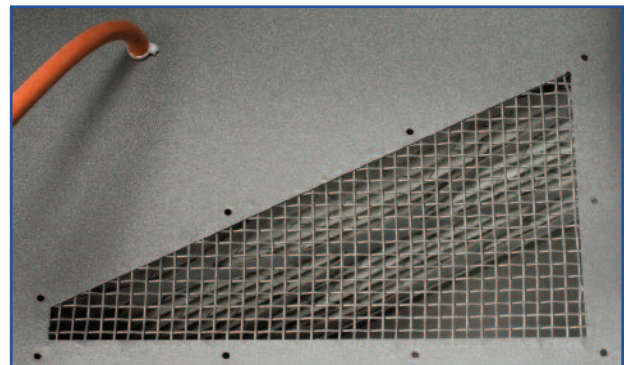
BACnet®, Metasys®
Modbus®
gateway module (optional)



LonWorks®
gateway module (optional)

Xtreme Versatility

Can be installed indoors or outdoors!



1. High Voltage Wiring Box

120VAC (1005A-2005A) and 240VAC (2505-4005) connections.

2. Removable Air Filter

Easy access and easily removable for inspection and replacement. High capacity filter is rated MERV 8.

3. Direct Vent Capability

Every XTherm is direct vent capable. By removing the air intake rear cover and screen, then installing the internal air plenum plug, your XTherm is ready for direct vent.

3a. Outdoor Cover

The outdoor intake air cover is standard. The combustion is drawn from inside the heater through the screened plenum openings. See photo above right.

* Models 1005A-2005A only

4. Gas Inlet

The XTherm will operate at 100% full rate with gas pressures as low as 4.0" w.c.

5. Water Outlet

6. Water Inlet

The XTherm can accept as low as 50°F continuous inlet water temperature without damage to the non-condensing heat exchanger.

7. Access Panel to Cold Run Pumps

Easily removable access panel even when unit is plumbed in place. Provides full access to inspect and service the Cold Run Pump system and condensate drain switch.

Internal Air Intake

8. Flue Outlet

The stainless steel flue outlet is compatible with CAT IV stainless steel. For a dramatic cost reduction over Category IV stainless steel, PVC or CPVC vent material may be used in conjunction with the D-32* vent option. Also available with optional D-33* Polypropylene vent material.

9. Condensate Drain

PVC connection for condensate removal. Raypak offers condensate treatment kits (option Z-12) that can be plumbed between the heater and the drain.

		Water Heaters (Type WH)	Boilers (Type H)	
HEAT EXCHANGER	ASME, National Board Registered, 160 PSI Non Condensing Heat Exchanger	<ul style="list-style-type: none"> • HLW Stamp • H Stamp 	<ul style="list-style-type: none"> • N/A 	
	Heat Exchanger Tubes (Non Condensing)	<ul style="list-style-type: none"> • Copper • Cupro Nickel 	<ul style="list-style-type: none"> • N/A 	
	Bronze Headers		<ul style="list-style-type: none"> • N/A 	
	Cast Iron Headers		<ul style="list-style-type: none"> • N/A 	
	Stainless Steel Condensing Heat Exchanger	<ul style="list-style-type: none"> • U Stamp 	<ul style="list-style-type: none"> • N/A 	
	Pressure Relief Valve (mounted on outlet)	<ul style="list-style-type: none"> • 60 PSI • 125 PSI • 30, 45, 75, 150 PSI 	<ul style="list-style-type: none"> • N/A 	
	Temperature & Pressure Gauge		<ul style="list-style-type: none"> • N/A 	
	Pump	<ul style="list-style-type: none"> • 120V, Single-Phase on 1005A-2005A • 240V, Single-Phase on 2505-4005 	<ul style="list-style-type: none"> • N/A 	
	JACKET	Indoor/Outdoor Construction		<ul style="list-style-type: none"> • N/A
		Vent Terminal	<ul style="list-style-type: none"> • Outdoor • Through-the-Wall 	<ul style="list-style-type: none"> • N/A
Fully-Enclosed Controls			<ul style="list-style-type: none"> • N/A 	
Combustible Floor Rated			<ul style="list-style-type: none"> • N/A 	
OPERATING CONTROLS	120VAC Power Supply (1005A-2005A); 240VAC 1Ø Power Supply (2505-4005)		<ul style="list-style-type: none"> • N/A 	
	On/Off Switch		<ul style="list-style-type: none"> • N/A 	
	Programmable Pump Time Delay, Single-Phase	<ul style="list-style-type: none"> • Included in 	<ul style="list-style-type: none"> • N/A 	
	Terminal Block Connections (Front mounted)	<ul style="list-style-type: none"> • Enable / Disable • External Interlocks • 0-10 VDC Setpoint/Direct Drive Input dry contacts 	<ul style="list-style-type: none"> • N/A 	
	Color Touchscreen		<ul style="list-style-type: none"> • N/A 	
	Status Display Lights (4)		<ul style="list-style-type: none"> • N/A 	
	Temperature Controller with 3 Water Sensors	<ul style="list-style-type: none"> • VERSA IC (Up to 12.5:1 Turndown) • Outdoor Reset Sensor 	<ul style="list-style-type: none"> • N/A 	
	Multiple Boiler Controller	<ul style="list-style-type: none"> • VERSA IC , up to 4 boilers • TempTracker Mod+, up to 16 boilers 	<ul style="list-style-type: none"> • N/A 	
	SAFETIES	Hot Surface Ignition System	<ul style="list-style-type: none"> • 1-try • 3-try 	<ul style="list-style-type: none"> • N/A
		High/Low Gas Pressure Switches (HGPS Standard on 2505-4005)		<ul style="list-style-type: none"> • N/A
Blocked Vent and Air Pressure Switches			<ul style="list-style-type: none"> • N/A 	
High Limit Switch		<ul style="list-style-type: none"> • Manual Reset, Fixed • Manual Reset, Adjustable • Automatic Reset, Adjustable 	<ul style="list-style-type: none"> • N/A 	
Low Water Cut-Off, 24V		<ul style="list-style-type: none"> • With Manual Reset and Test Buttons 	<ul style="list-style-type: none"> • N/A 	
Flow Switch			<ul style="list-style-type: none"> • N/A 	
GAS TRAIN	Modulating Combination Gas Valve		<ul style="list-style-type: none"> • N/A 	
	Combustion Air Blower		<ul style="list-style-type: none"> • N/A 	
	Additional Safety Valve	<ul style="list-style-type: none"> • Motorized (externally mounted) • Solenoid (externally mounted) 	<ul style="list-style-type: none"> • N/A 	
OTHER	CSA-Certified Efficiency	<ul style="list-style-type: none"> • Up to 96% at Full Fire • Up to 97% at Full Fire 	<ul style="list-style-type: none"> • N/A 	
	Air Filter		<ul style="list-style-type: none"> • N/A 	
	TruSeal Direct-Vent Ready		<ul style="list-style-type: none"> • N/A 	
	Alarm System		<ul style="list-style-type: none"> • N/A 	
	CSD-1 / GE GAP Control System		<ul style="list-style-type: none"> • N/A 	
	Low NOx	<ul style="list-style-type: none"> • Certified Less than 20ppm (1005A-2005A) 	<ul style="list-style-type: none"> • N/A 	
	Cold Water Run	<ul style="list-style-type: none"> • Prevents condensation in non-condensing heat exchanger 	<ul style="list-style-type: none"> • N/A 	

● ● = Standard ○ ○ = Optional





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Name	Skid Number	Status	City	Fabrication Start	Developer	RC: 0 - 247 Group	RC: 1 - 143 Agreement Delivery Date	RC: 2 - 32 Commencement Date	RC: 3 - 56 Execution Date	RC: 4 - 171 Construction Delivery	RC: 5 - 157 Construction Start	RC: 6 - 107 Style
10300 Metropolitan (aka Capital Beverage)		Construction	Austin		Cypress Real Estate Advisors	Teal 2.0	1/1/2023	3/1/2024	10/13/2021	12/1/2022	5/19/2021	Wrap
120 W. Josephine		Design	San Antonio		Lynd Development Partners	Teal 2.0					8/9/2021	Wrap
14811 Kierland		Design	Phoenix		The Related Group	Teal 2.0	6/1/2023	8/1/2024	11/8/2021			Wrap
2400 Seton (aka Waterloo)	260	Delivered	Austin	04/05/2021, 02/22/2021	Lincoln Ventures	Teal 1.0	5/1/2022	7/1/2023	8/21/2020	9/2/2021		Student Housing High Rise
2nd & Fillmore	272	Construction	Phoenix	08/23/2021	Fore Property CO.	Teal 1.0	9/1/2021	11/1/2022	7/22/2020	1/5/2022	6/23/2020	Wrap
315 College Main (aka TAMU Student Housing)		Construction	College Station		Parallel Company	Teal 2.0				5/10/2022	5/17/2021	High-Rise
44th & Camelback		Design	Phoenix		Street Lights Residential	Teal 2.0					11/1/2021	Wrap
4552 S. Ulster		Design	Denver		Legacy Partners	Teal 2.0					2/1/2022	High-Rise
600 Guadalupe	266	Construction	Austin	02/28/2022	Kairoi Residential	Teal 1.0	5/1/2022	7/1/2023		5/2/2022		High Rise
859 Spring		Construction	Atlanta		Lincoln Ventures	Teal 2.0	6/1/2023	8/1/2024			9/1/2021	High-Rise
9000 Broadway		Design	Oklahoma City		NE Development	Teal 2.0	5/1/2023	7/1/2024			11/8/2021	Wrap
Adeline (aka Colliers Center (aka 24 Jefferson))	259	Soft Start	Phoenix	11/30/2020	Hines	Teal 1.0	3/1/2021	5/1/2022	11/6/2019	2/2/2021	9/3/2019	High Rise
Album Marana		Construction	Tucson		Greystar Development	Teal 2.0	8/1/2022	10/1/2023	9/15/2021	8/1/2022	8/13/2021	Wrap
Alders at Cross Creek	289	Construction	Fulshear	01/31/2022	Alder Group	Teal 1.0	3/1/2022	5/1/2023	10/22/2019	3/8/2022	5/27/2021	Wrap
Alexan Belleview Station		Construction	Denver		Trammell Crow Residential	Teal 2.0	6/1/2023	8/1/2024	8/30/2021	6/1/2023	4/15/2021	High-Rise
Allen Parkway Condo	275	Construction	Houston	08/09/2021	DC Partners	Teal 1.0	12/1/2021	2/1/2023	7/26/2021	1/25/2022	3/1/2019	High Rise
Allen Parkway Hotel	276	Delivered	Houston	08/16/2021	DC Partners	Teal 1.0	8/1/2021	8/1/2022	7/26/2021	9/28/2021	3/1/2019	High Rise
Alloy Sunnyside Apartments (AKA Sunnyside Apts)		Construction	Denver		Prime West Development, LLC.	Teal 2.0	12/1/2022	2/1/2024	11/3/2021	11/8/2022	8/18/2021	Podium
Alta at The Farm - Allen, TX		Design	Allen		Wood Partners	Teal 2.0	10/1/2022	12/1/2023	10/18/2021			Wrap
Alta Blue Goose		Design	Manor		Wood Partners	Teal 2.0					9/1/2021	Wrap
Alta Bluewater		Design	Phoenix		Wood Partners	Teal 2.0					10/1/2021	Wrap
Alta Burnet		Construction	Austin		Wood Partners	Teal 2.0	7/1/2022	9/1/2023	7/14/2021		6/1/2021	Wrap
ALTA Chandler at the Park		Construction	Chandler		Wood Partners	Teal 2.0	6/1/2022	8/1/2023	11/8/2021	6/1/2022	7/14/2021	Garden
Alta Depot (Gateway Phase II)		Construction	SALT LAKE CITY		Wood Partners	Teal 2.0					9/13/2021	Wrap
ALTA Raintree	264	Delivered	Scottsdale		Wood Partners	Teal 1.0	10/1/2021	12/1/2022	12/16/2020	6/30/2021	7/15/2020	Wrap



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ALTA Verde	298	Construction	Gilbert	11/29/2021	Wood Partners	Teal 2.0	2/1/2022	4/1/2023	7/26/2021	2/1/2022	4/29/2021	Wrap
Alta Wildhorse Ranch (aka Streamsong Parkside)		Design	Austin		Wood Partners	Teal 2.0					12/1/2021	Garden
Alta- Berry Creek		Design	Georgetown		Wood Partners	Teal 2.0					12/1/2021	Garden
Arco (aka KCG - Georgetown Active Adult)		Design	Georgetown		KCG	Teal 2.0	4/1/2023	6/1/2024			12/15/2021	Mid-Rise
Ariza Easton Park	279	Construction	Austin	09/27/2021	Cypressbrook Company	Teal 2.0	3/1/2022	5/1/2023	2/19/2021	2/17/2022	2/15/2021	Garden
Aspire Post Oak (aka Vantage (aka San Felipe Residential & Post Oak Residential))	251, 254 Hydronic	Soft Start	Houston	10/05/2020, 10/26/2020, 10/19/2020	Dinerstein Companies	Teal 1.0	7/1/2021	9/1/2022	4/30/2020	11/24/2020	9/25/2018	High Rise
Avid Living 713		Design	Houston		The Shelter Companies, LLC	Teal 2.0					1/1/2022	Podium
Avid Living Bishop Arts		Design	Dallas		The Shelter Companies, LLC	Teal 2.0					6/1/2022	Podium
Avid Living SoCo		Design	Austin		The Shelter Companies, LLC	Teal 2.0					9/1/2022	Podium
Barvin Braeswood Stella Link - Phase 2		Design	Houston		Barvin	Teal 2.0					4/1/2022	Mid-Rise
Baybrook	280	Construction	Friendswood	10/04/2021	D'agostino Companies	Teal 2.0	2/1/2022	4/1/2023	1/27/2021	12/14/2021	10/15/2020	Wrap
Block 42	262	Delivered	Houston	05/10/2021, 02/01/2021	Hines	Teal 1.0	6/1/2021	8/1/2022	3/20/2020	7/15/2021	9/10/2019	High Rise
Boone Manor Apts	253	Soft Start	Houston	11/02/2020	Allen Harrison Company	Teal 1.0	4/1/2021	6/1/2022	10/14/2020	4/27/2021	10/14/2019	High Rise
Broadstone at Portland (3rd & Portland)	252	Soft Start	Phoenix	10/12/2020	Alliance Residential	Teal 1.0	11/1/2020	1/1/2022	5/29/2020	11/10/2020	2/1/2020	Podium
Broadstone Bryson		Design	Leander		Alliance Residential	Teal 2.0					6/15/2021	Garden
Broadstone Cross Creek Ranch		Design	Fulshear		Alliance Residential	Teal 2.0					3/1/2022	Garden
Broadstone Delta Drive (aka Prose at the Domain)	291	Construction	Austin	08/22/2022	Alliance Residential	Teal 2.0	4/1/2022	6/1/2023	6/4/2021	10/6/2022	5/1/2021	Wrap
Broadstone Jordan Ranch		Design	Fulshear		Alliance Residential	Teal 2.0					3/1/2022	Garden
Broadstone La Frontera- Ph II		Construction	Austin		Alliance Residential	Teal 2.0	7/1/2022	8/1/2023	9/27/2021	9/6/2022	5/15/2021	Garden
Broadstone McDowell (Papago Marketplace)	273	Delivered	Scottsdale	09/06/2021	Alliance Residential	Teal 1.0	9/1/2021	11/1/2022	5/29/2020	10/7/2021	4/27/2020	Podium
Broadstone North Lamar	292	Construction	Austin		Alliance Residential	Teal 2.0	4/1/2022	6/1/2023	6/4/2021	1/6/2023	5/1/2021	Podium
Broadstone on 7th		Design	Phoenix		Alliance Residential	Teal 2.0						Podium
Broadstone Think East	293	Construction	Austin	04/04/2022	Alliance Residential	Teal 2.0	4/1/2022	6/1/2023	6/4/2021	5/26/2022	4/5/2021	Wrap



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Broadstone Uptown	282	Construction	Phoenix	03/21/2022	Alliance Residential	Teal 2.0	9/1/2022	11/1/2023		9/1/2022	4/1/2021	Podium
Broadway Station (aka Gates District)		Design	Denver		Endeavor	Teal 2.0						Mid-Rise
Camber Ice House (aka SLC-Ice House)		Construction	Salt Lake City		Endeavor	Teal 2.0	8/1/2023	10/1/2024	10/25/2021	8/1/2023	9/13/2021	Podium
Crystal Springs - BLDG 1	269	Construction	Fort Worth	09/13/2021	Stillwater Capital	Teal 1.0	12/1/2021	2/1/2023	10/14/2020	4/6/2022		Wrap
Crystal Springs - BLDG 2	270	Construction	Forth Worth	08/30/2021	Stillwater Capital	Teal 1.0	1/1/2022	3/1/2023	10/14/2020	4/6/2022		Wrap
CSW South Lamar		Design	Austin		CSW	Teal 2.0						Wrap
DCDB Test 7-31-2020		Construction	Houston									Campus
Denargo Market Phase 4		Construction	Denver		Cypress Real Estate Advisors	Teal 2.0	1/1/2023	3/1/2024		1/1/2023	8/18/2021	High-Rise
District at Warner Center - North Building		Design	Woodland Hills		Kaplan Development Group	Teal 2.0						Mid-Rise
East 51st Street		Design	Austin		Endeavor	Teal 2.0					11/4/2021	Wrap
East River - Building C		Design	Houston		Midway Companies	Teal 3.0						Mid-Rise
East River Building D		Design	Houston		Midway Companies	Teal 3.0						Other
East River Building F		Design	Houston		Midway Companies	Teal 3.0						Other
East Village (RA-8) - BLDG 1		Design	Austin			Teal 1.0					1/4/2021	Podium
East Village (RA-8) - BLDG 2		Design	Austin			Teal 1.0					1/4/2021	Podium
East Village (RA-9 Apts)	297	Construction	Austin	01/03/2022	Daniel Corp	Teal 1.0	3/1/2022	5/1/2023	6/4/2021	3/17/2022	1/4/2021	Garden
Elan City North Phase I		Design	Desert Ridge		Greystar Development	Teal 2.0	5/1/2023	7/1/2024	9/15/2021		9/1/2021	Wrap
Elmira Apartments		Design	San Antonio		Silver Ventures	Teal 2.0	8/1/2023	10/1/2024			12/15/2021	Wrap
Floodgate Apartments	263	Construction	San Antonio	07/12/2021	Keller Henderson Interiors	Teal 1.0	12/1/2020	2/1/2022	5/3/2021	3/3/2022		High Rise
Frontera Ridge		Design	Round Rock		Alliance Residential	Teal 2.0					3/1/2022	Garden
Gables Governor's Park		Design	Denver		Gables Residential	Teal 2.0					2/1/2022	High-Rise
Generation Park- 300 Block		Design	Houston		McCord Development	Teal 2.0					6/1/2021	Wrap
Haven at Elgin		Construction	Houston		Guefen Development Partners	Teal 2.0	3/1/2023	5/1/2024		11/8/2022	6/8/2021	High-Rise
Highland East		Design	Albuquerque		Titan Development	Teal 2.0					3/1/2022	Podium
Highland Village	283	Construction	Austin	01/17/2022	NRP Group	Teal 2.0	4/1/2022	6/1/2023	4/19/2021	4/6/2022	2/1/2021	Wrap



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Homestead II		Design	Prescott Valley		Fain Signature Group	Teal 2.0					1/15/2022	Multi-Story
Knight Road Multifamily	284	Construction	Houston	09/20/2021	Barvin	Teal 2.0	10/1/2021	12/1/2022	8/20/2020	12/14/2021	8/14/2020	Mid-Rise
Koenig Lane Apartments (aka Riverside Resources)		Design	Austin		Seco Ventures	Teal 2.0					11/15/2021	Wrap
La Ventana		Design	Lubbock		Martin Indermann Development, LLC	Teal 2.0					3/1/2022	Garden
Lakeshore Pearl II	277	Construction	Austin	02/07/2022	Cypress Real Estate Advisors	Teal 1.0	11/1/2022	1/1/2024	7/21/2021	10/6/2022	4/30/2020	Podium
Manor Scottsdale	274	Construction	Scottsdale	02/14/2022	The Related Group	Teal 2.0	12/1/2021	2/1/2023	12/9/2020	3/16/2022	11/1/2020	Wrap
Maple Terrace		Design	Dallas		Hines	Teal 2.0					5/15/2021	
Memorial Lofts (aka Memorial and Highway 6)		Design	Houston		Allied Realty	Teal 1.0						Wrap
Museum Place- Block A		Construction	Fort Worth		Crescent Real Estate	Teal 2.0					8/15/2021	Wrap
NOMA (aka Tulsa Rt66 Mixed Use)		Design	Tulsa		ITulsa, LLC	Teal 2.0	6/1/2023	8/1/2024			10/15/2021	Wrap
One Scottsdale		Design	Scottsdale		Street Lights Residential	Teal 2.0					5/1/2022	Wrap
Overture Arcadia (aka Marvelle Apartments)	285	Construction	Scottsdale	03/28/2022	Alliance Residential	Teal 2.0	10/1/2022	12/1/2023		10/1/2022	4/1/2021	Wrap
Overture Raintree (aka 90th & Raintree)		Design	Scottsdale		Greystar Development	Teal 2.0	10/1/2022	12/1/2023			12/1/2021	Garden
Parkway at Stone Oak		Design	San Antonio		Gen Cap Partners	Teal 2.0	7/1/2022	9/1/2023			9/1/2021	Garden
Parmer Village Apartment		Construction	Austin			Teal 1.0	9/1/2022	11/1/2023			1/18/2021	Mid-Rise
Pathways at Chalmers Courts West	294	Construction	Austin	08/15/2022	Carleton Residential	Teal 1.0	12/1/2021	2/1/2023	4/20/2021	10/20/2022	3/1/2021	Garden
Pearl Rosemont (aka Helena Street)	271	Construction	Houston	03/07/2022	Morgan Group	Teal 1.0	8/1/2021	10/1/2022	6/22/2020	4/5/2022	11/1/2020	Podium
Piliare (aka KCG - Georgetown Multi-Family)		Design	Georgetown		KCG	Teal 2.0	4/1/2023	6/1/2024			12/15/2021	Garden
Presidio III	278	Construction	Austin	12/20/2021	Street Lights Residential	Teal 1.0	10/1/2022	12/1/2023		8/2/2022	2/15/2021	Wrap
Presidium Velocity		Design	Austin		Presidium	Teal 2.0					1/4/2022	Wrap
Presidium- River Park		Design	Austin		Presidium	Teal 2.0					1/1/2022	Mid-Rise
Presidium- Tech Ridge		Design	Austin		Presidium	Teal 2.0					3/15/2022	Garden
PV Trails		Design	Albuquerque		PAC Ventures	Teal 2.0					12/15/2021	Garden
Rail (The)	261	Delivered	Austin	06/28/2021	Lonestar Development	Teal 1.0	8/1/2021	10/1/2022	7/30/2019	9/23/2021	8/6/2018	Podium
Residences Kierland (LMC Kierland)	265	Delivered	Scottsdale	08/02/2021	Lennar Multi Family	Teal 1.0	8/1/2021	10/1/2022	12/15/2020	9/8/2021	3/10/2020	Podium
Reve Residential - Building 1 North Garage (aka 30th & Pearl)	218	Soft Start	Boulder	06/15/2020	Southern Land Company	Teal 1.0	9/1/2020	11/1/2021	10/15/2019	9/17/2020	1/4/2018	Aquatherm Mid Rise

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Monthly Construction Report

Name	Skid Number	Status	City	Fabrication Start	Developer	RC: 0 - 247 Group	RC: 1 - 143 Agreement Delivery Date	RC: 2 - 32 Commencement Date	RC: 3 - 56 Execution Date	RC: 4 - 171 Construction Delivery	RC: 5 - 157 Construction Start	RC: 6 - 107 Style
Riverside (aka Aspen Heights & Willow Creek Drive - Woodland Drive)	267	Construction	Austin	11/08/2021	Aspen Heights	Teal 1.0	1/1/2022	3/1/2023	4/23/2020	2/3/2022	2/3/2020	Wrap
Riverwalk Residences		Design	Ft. Lauderdale		Gables Residential	Teal 2.0					10/1/2021	High-Rise
Sapphire Bay Apartments East Block		Design	Rowlett		Floridays Development Co	Teal 2.0					3/1/2022	Wrap
Sapphire Bay Apartments West Block		Design	Rowlett		Floridays Development Co.	Teal 2.0					8/1/2022	Wrap
SLR Tempe II		Design	Tempe		Street Lights Residential	Teal 2.0	11/1/2022	1/1/2024		11/1/2022	10/25/2021	Wrap
SLR Viridian II	286	Construction	Arlington	10/25/2021	Street Lights Residential	Teal 2.0	8/1/2022	10/1/2023		5/3/2022	3/1/2021	Garden
SLR- Paradise Valley Mall		Design	Phoenix		Street Lights Residential	Teal 2.0					11/1/2021	Wrap
St. John's Square		Design	San Antonio		Weal Development	Teal 1.0	8/1/2023	10/1/2024			8/23/2021	Wrap
Stanmore Crossing at Palm Valley		Design	Round Rock		Stanmore Partners	Teal 2.0						Wrap
Stanmore Warner Ranch	281	Construction	Round Rock	08/23/2021	Stanmore Partners	Teal 2.0	12/1/2021	2/1/2023	7/26/2021	12/16/2021	1/20/2021	Garden
TCC- River Street		Design	Austin		Trammell Crow Co.	Teal 2.0					1/1/2022	High-Rise
Teal Test Stand	296	Design	Missouri City		Teal Test Stand Inc	Teal 3.0						Other
Test Project		Construction	Montgomery		test							
The Cameron	287	Construction	Denver	11/01/2021	Cypress Real Estate Advisors	Teal 2.0	7/1/2022	9/1/2023	9/9/2020	7/1/2022	11/2/2020	Mid-Rise
The Charles Denver West - Building 1 & 2		Construction	Golden		The Greystone Group, Inc	Teal 2.0	1/1/2023	3/1/2024	11/8/2021	1/1/2023	9/27/2021	Garden
The Charles Denver West - Building 3 & 4		Design	Denver		Greystone Multi Family Builders	Teal 2.0	1/1/2023	3/1/2024	11/8/2021			Garden
The Gage (AKA Denargo Market Ph 3)	246	Soft Start	Denver	07/20/2020, 11/16/2020	Cypress Real Estate Advisors	Teal 1.0	2/1/2021	4/1/2022	8/21/2019	1/14/2021	11/26/2018	Aquatherm Mid Rise
The Laura- East River		Design	Houston		Midway Companies	Teal 2.0	8/1/2023	2/1/2025	8/27/2021			Wrap
The Linden (aka 5th & Lincoln)		Design	Denver		Sable Partners	Teal 2.0					10/1/2022	High-Rise
The Linden Condos(aka 1615 Guadalupe (aka 17th & Guadalupe Tower)		Construction	Austin		Armenia Group	Teal 1.0	7/1/2021	9/1/2022	12/1/2019		8/26/2021	High Rise
The Mustang		Design	Las Colinas		American Residential Group	Teal 2.0					4/1/2022	Garden
The Reserve at Cypress		Design	Cypress		D'agostino Companies	Teal 2.0	9/1/2022	11/1/2023			10/1/2021	Garden



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Two Herman Place		Design	Houston		Tema Development	Teal 1.0					4/3/2019	High Rise
View at Estancia	290	Construction	Austin	01/24/2022	Gen Cap Partners	Teal 2.0	3/1/2022	5/1/2023	4/29/2021	5/3/2022	4/1/2021	Garden
View House Apartments - TMS		Design	Albuquerque		Total Management System	Teal 2.0					4/1/2022	Garden
Village at Wells Branch	288	Construction	Pflugerville	03/14/2022	Wilson Capital	Teal 2.0	3/1/2022	5/1/2023	10/18/2021	2/10/2022	4/3/2021	Multi-Story
Waller Creek		Design	Austin		Kairoi Residential	Teal 2.0					3/1/2022	High-Rise
Waterford Center Apartments		Construction	Austin		Presidium	Teal 2.0	1/1/2023	3/1/2024	9/24/2021		3/1/2021	Podium
Westwood Village of Bentonville		Design	Bentonville		Wood Capital Group	Teal 2.0						Podium
Wynkoop Apartments	268	Construction	Denver	11/22/2021	Hines	Teal 1.0	6/1/2022	8/1/2023	9/22/2020	6/1/2022	10/5/2020	Mid-Rise
Z Modular - Glendale		Design	Glendale		Z Modular	Teal 2.0					4/1/2022	Wrap
Z Modular - Manor		Design	Manor		Z Modular	Teal 2.0					4/1/2022	Wrap
ZOM Scottsdale Bldg A (8 Story)		Design	Scottsdale		ZOM	Teal 2.0					7/1/2022	Mid-Rise
ZOM Scottsdale Bldg B (12 Story)		Design	Scottsdale		ZOM	Teal 2.0					7/1/2022	High-Rise