



REQUEST FOR PROPOSAL
FOR
BOILER REMOVAL AND REPLACEMENT

Town of Burlington RFP 4357

The following items are to be included with the proposal and made part of any agreement entered into pursuant to the RFP. Failure to include all required items may lead to automatic rejection of the Proposal.

SUBMIT 4 HARD COPIES OF PROPOSAL AND 1 ELECTRONIC COPY

Cover Letter
Description of products/services
Firm, Management and Staff Qualifications
References
Itemized Cost Proposal
Non-Collusive Proposal Certificate
Disclosure of Prior Non-Responsibility Determinations
Bidder's/Proposer's Affirmation and Certification
Company and Contact Information Form
Contractor Certification Form ST-220-TD (if over \$100,000)
Manufacturer's Specifications and Literature
Warranty

THE RFP NUMBER MUST BE REFERENCED ON ALL SUBMITTALS AND CORRESPONDENCE

**TOWN OF BURLINGTON
REQUEST FOR PROPOSAL NO. 4357**

Proposals must be received by the undersigned by 11:00 a.m. on Friday, August 23, 2019.

BOILER REMOVAL AND REPLACEMENT

in accordance with the attached proposal documents. The Town reserves the right, in its sole discretion, to reject any or all proposals, or to waive any informality in the proposal. Proposals shall be submitted in a sealed envelope showing Proponent's name and addressed to:

**TOWN OF BURLINGTON
FIRST SELECTMAN'S OFFICE
ATTENTION: TED SHAFER
200 SPIELMAN HIGHWAY
BURLINGTON, CT 06013**

selectmensoffice@burlingtonct.us

MARK ON LOWER LEFT HAND CORNER OF ENVELOPE:

<p><u>RFP: 4357</u></p> <p><u>DUE DATE: AUGUST 23, 2019</u></p> <p><u>FOR: BOILER REMOVAL AND REPLACEMENT</u></p> <p><u>NAME OF PROPONENT:</u></p>
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PROPOSALS MUST BE RECEIVED AT THE ABOVE ADDRESS BEFORE THE TIME DESIGNATED FOR OPENING IN ORDER TO BE CONSIDERED.

THE SUCCESSFUL BIDDER WILL BE REQUIRED TO ENTER INTO A WRITTEN AGREEMENT APPROVED BY THE BURLINGTON TOWN ATTORNEY.



Specification for 28HE Series Boiler

Job: BURLINGTON TOWN HALL
Engineer:
Contractor:
Unit Tagging:

1.01. SECTION INCLUDES

- A. Boiler
- B. Safety Controls
- C. Electrical Supply
- D. Fuel Burning Equipment

1.02. REFERENCES

- A. American Society of Mechanical Engineers (ASME) Section IV- Boiler and Pressure Vessel Code.
- B. Hydronics Institute (HI) – Testing and Rating Standard for Cast Iron and Steel Heating Boilers.
- C. UL Approved Burner

1.03. SUBMITTALS

- A. Submit product data, wiring diagrams and near boiler piping schematics for manufactured heating units.

1.04. OPERATION AND MAINTENANCE DATA

- A. Submit operations and maintenance data, including manufacturer's descriptive literature, installation instructions, operating instructions and maintenance and repair data.

1.05. WARRANTY

- A. Units that do not carry a standard published warranty of ten or more years are not acceptable to this project. Job specific warranties are not acceptable unless executed by an authorized officer of the manufacturer under seal and submitted five (5) working days prior to the bid date of this project.

2.01. GENERAL DESCRIPTION

- A. Furnish and install as herein specified, (1) new boiler/burner unit(s) for low pressure Water heating service and arranged for completely automatic operation firing oil. Boiler shipped Knocked-Down for field assembly by installing contractor.
- B. The boiler shall be furnished complete with an insulated Metal jacket; Forced draft burner; Cast iron smoke hood with integral 14 gauge aluminized steel damper; Pressure-tight front and rear flame observation ports with covers; Steel angle floor rails; Cast iron burner mounting plate with insulation and additional controls and devices as hereafter specified.
- C. The boiler shall be supplied with an integral Return Temperature Stabilizer or "RTS". The "RTS" shall be installed in a 5" flanged opening located on the upper portion of the back section. The internal port area of the boiler shall have a minimum cross sectional area of 58.4 square inches to provide for mixing and blending of the return water before it comes in contact with the surfaces of the boiler to enhance

thermal shock resistance. Those boilers models that do not have an integral system Shall Not be considered equal or acceptable for this project.

(Those boilers that rely on an external pump and valve arrangement which results in parasitic power losses to energy usage on the project Shall Not be considered acceptable for this project.)

- D. Safety controls and limit devices shall be installed in accordance with the requirements of (NFPA31), (BOCA). In every instance, the boiler installation shall be accomplished in accordance with the recommended good practice and installation requirements of the A.S. M.E. Boiler and Pressure Vessel Code.
- E. The boiler/burner units shall have been rated in accordance with the Hydronics Institute Testing and Rating Standard for Heating Boilers, and shall be performance tested and listed by I=B=R at +0.10 ins. water draft as follows:
 - 1. Develop an I=B=R Gross Output of not less than 1722 MBTU/Hr. when fired at a rate of 14.4GPH of #2 light oil.
- F. The boiler/burner units shall be Model LO28HE-W-7 as manufactured by Westcast Boilers.

2.02. BOILER CONSTRUCTION/INSTALLATION

- A. Boiler sections shall be manufactured from a flake graphite eutectic cell cast iron. The sections shall be of the wet base type designed for pressure firing and it shall be constructed and tested for in accordance with the A.S.M.E. Section IV Rules for the Construction of Heating Boilers. Individual sections will have been subjected to a hydrostatic pressure test of 200 PSIG at the factory before shipment and they shall be marked, stamped or cast with the A.S.M.E. Code symbol. Boilers with less than 200-PSI pressure test will not be acceptable for this project. Boiler sections shall be cast in the U.S.A. to meet U.S. Steel content requirements.
- B. Boiler sections shall be of one piece design incorporating the furnace space and flue gas collector space with perimeter joints between the sections arranged for permanent pressure sealing with high temperature ceramic fiber rope. Upper and lower ports for connecting the water space of adjacent sections shall be sealed by means of a graphite composition port connector. The port connectors will be inert and have a temperature rating of 1800 F in steam. The port connector will meet ASTM F-37 and ASTM F-36 standards for sealability and recovery. Sections shall be assembled with short draw rods, tightened to final torque after the section assembly is complete.
- C. All boiler discharges shall be piped to the floor. Blowdown valves shall be brass, ball type and not less than one-inch IPS and they shall discharge to a floor drain or away for the boiler. Pipe ends shall be cut at a 45-degree angle to prevent a cap or plug from being installed. Hangars or standoffs to prevent the valve body from undue stress or strain shall support all such discharge piping.
- D. Boiler drain valves shall be connected to the lowest water space available and shall be installed with pipe and fittings to connect the bottom blow off full size drain.
- E. All individual sections shall have legs to provide support on both sides. Two 3" X 3" base angles shall be furnished to be set under field assembled boilers to provide level support for the sections when shimmed and grouted to a concrete floor. The base angles shall be tapped to receive the supporting frame for the insulated metal jacket.
- F. Insulating metal jacket shall consist of 20-gauge steel panels fitted with 3" 1 ½ Lb./Cu.Ft. density fiberglass insulation glued to the inside of the panels. Jacket panels shall be finished with blue hammertone paint baked on and shall be arranged with slots and knockouts to accommodate the boiler piping and to allow

jacket installation after the piping is in place. Left-hand side panels shall be furnished with chrome plated knobs for easy removal and to provide easier access to the boiler clean out covers and draw rods.

- G. Cleanout covers shall be sized and located to allow full access to the extended pin type heating surface areas for cleaning with a wire brush. Cleanout covers shall have grooves to contain high temperature ceramic fiber rope seals for gas-tight fit to the sections and incorporate cast on horizontal baffles to reduce short-circuiting of flue gasses and also enhance performance by maximizing heat transfer.
- H. Stop valves of the outside stem and yoke type shall be provided in the supply and return pipe connections to the boiler. Provisions shall be made for the expansion and contraction of the heating mains connected to the boiler by providing substantial anchorage at suitable points and assisted by the use of swing joints to allow the piping to expand and contract without imposing excessive forces on the boiler castings.
- I. Boiler shipped Knocked-Down for field assembly by installing contractor.
- J. Boiler installation shall be accomplished within acceptable A.S.M.E piping practices and requirements and in strict accordance with the boiler manufacturer's recommendations and instructions.
- K. A hydrostatic pressure test of one-and one-half times the working pressure of the boiler shall be conducted on this boiler for a period of not less than five hours. Such tests shall be of such duration as necessary and as directed by the Town Building Official to ensure the boiler has been assembled and installed correctly with no leaks or improper operating conditions.
- L. The installing contractor shall contact and notify the Town Building Official when the installation of the boiler, burner and controls is substantially complete. Installing contractor shall request an Inspection of the boiler to be conducted by the Town Building Official and to have a Certificate of Approval issued upon satisfactory inspection.

2.03. WATER TRIM

- A. The boiler shall be supplied with a minimum of the following trim:
 - 1. A.S.M.E. Schedule Side Outlet Relief Valve set for 40 PSI
 - 2. Pressure Temperature Gauge
 - 3. Honeywell L4006E Manual Reset High limit
 - 4. Honeywell L4006A Operating Temperature Control
 - 5. Honeywell L4007A Low-High-Low Control
- B. The boiler shall be supplied with the following equipment: (1) Hydrolevel 550 Electric probe with manual reset and test switches, (2) Model XPS90 expansion tanks or equal shall be provided

2.04. COMBUSTION SYSTEM

- A. The unit shall include a high pressure atomizing flame retention type, forced draft oil burner listed by Underwriters Laboratories and complying with the rules and regulations of the local authorities having jurisdiction.
- B. The burner shall be capable of firing a Series LO28HE-W-7 with #2 fuel oil at a rate of 14.4GPH, against 0.56 inches of water column furnace pressure. The burner shall be driven by a 0.75 HP, 3450 RPM, 230 volts, 60 hertz, single phase 60-cycle alternating current motor.
- C. Burner shall be equipped with a 150 PSI fuel unit driven off the same motor shaft as the blower. The fuel unit shall have two-stage pumping gears, self-contained pressure regulating valve and shall be suitable for 3450 RPM service with suction vacuum up to 15" of mercury. The burner shall be equipped for Low-Hi-Off Firing and shall employ a dual nozzle.

D. Ignition shall be accomplished by direct spark.

E. Flame Safeguard:

1. Burner shall be furnished with an electronic flame safeguard control and flame detector. A Carlin CCT60200 Flame System microprocessor-based, burner management control system with self-diagnostics and non-volatile memory.
2. Provide all new fusible link oil valves, swing check valves, burner service switch, and thermal cutoff switches.
3. Furnish and install a screw-on type fuel oil filter with a capacity of not less than 50 GPH of oil filtering rate. Fuel oil lines shall be manufactured with ½" O.D. continuous copper tubing. Flared fittings shall be utilized for all fuel oil lines connections supply and return. Compression fittings or any other type not specifically recommended by the burner manufacturer shall not be considered acceptable to this installation. Fuel oil piping shall be installed in accordance with the burner manufacturer's recommendations and instructions for outside tank installations and two-pipe operation.
4. Installing contractor shall furnish and install an electrical junction box complete with a single pole, single throw switch marked "ON/OFF" to be wired into the limit circuit to function as the burner service switch. Switch box shall be mounted on the boiler jacket panel within arm's reach of the burner.

2.05. BURNER LIGHTOFF AND WARRANTY SERVICE

- A. The contractor shall provide factory certified lightoff for the burners and one year of warranty service on burner controls starting on the lightoff date. The warranty service shall include labor materials to replace any parts or controls, which fail in service as the result of a defect in material or manufacture.
- B. The owner shall be responsible for the cost of normal maintenance, such as replacement of filter medium, cleaning, oiling, etc. service control system malfunctions, etc., shall be paid for by the owners.
- C. The owner's operating personnel shall be instructed in the operations and maintenance of the burner and controls at the time of lightoff. The owner shall arrange to have the people who require training to be present at the lightoff.

2.06. REQUIRED WORK

The tasks that must be performed in order to replace the failed boiler include, but is not limited to, the following:

1. Disconnect and lock out the fuel oil and electrical connections
2. Drain the system as necessary
3. Disconnect of hot water piping, drains and stack connections
4. Removal of all connections that will not be required by the resulting system
5. Removal and proper disposal of the failed boiler
6. Position the replacement boiler over the footprint of the failed boiler
7. Installation of and connection of new shut off valves
8. Reconnect piping, drains and stack connections
9. Reconnect oil and electrical connections
10. Installation and interconnection of the necessary sensors and controls
11. Fill system as necessary
12. Start system and confirm system functionally

13. Calibrate and/or program the system to meet the required functionality
14. Test all safety devices
15. Install a new filter/feeder system

2.07. COMPONENTS AND EQUIPMENT

This section lists suggested components and equipment. The replacement boiler shall be a Smith Cast Iron boiler, Model 28HE Series, oil fired.

2.08. DELIVERY OF GOODS AND SERVICES

The delivery of goods and services required must be completed with 45 days after receipt of P.O.

2.09. WARRANTY

The proponent must provide a warranty for labor costs for a period of one year after the required work has been completed. The proponent must administer the component or equipment manufacturer's warranty during the one year labor warranty period. The proponent must provide the Town of Burlington with the component or manufacturer's warranty documents.

2.10. SAFETY

The contractor must comply with the applicable Federal, State and Local safety requirements.

2.11. SITE VISITS

A site visit is scheduled for August 9, 2019 at 9:00 a.m. Please contact the First Selectman's Office to confirm you will be attending the site visit (860) 673-6789.