



Condensing Gas Boiler & Weatherization Installation Proposal

Client: Brent Vanni & Jenna Martellucci
Address: 19 Atlantic Street
Portland, ME 04101
Date: December 20, 2013



Model

Prestige TriMax Solo 110
w/ Heat Flo 40-gallon Tank

Performance

- 95% AFUE
- ENERGYSTAR Certification
- Stainless Steel Heat Exchanger and Burner
- Outdoor Reset Sensor
- Digital TriMax Control Panel
 - 60-second Set-Up
 - Two Reset Curves/Set Points
 - Control of 2 Space Heating Call Inputs and 4 Circulators

Cost (including weatherization)

\$19,832 Fully Installed

Projected 40% Efficiency Improvement



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The *reVision* Difference

reVision heat is not your average heating contractor. What makes us different is our passion for saving energy. We're motivated for a number of reasons to reduce the amount of energy Mainers use heating their homes, and also to reduce the demand for dirty imported oil. We want to keep you warm, yes, but in the most energy efficient and environmentally responsible manner possible. Technology requires smart technicians and people who understand the drivers of efficiency, and can set up the systems with low energy use in mind.

Efficiency is in the margins, but boilers last a long time. If we can squeeze 5% to 10% more out of a boiler for the next 25 years, that effort will pay for itself over and over again over time. Not every heating contractor does what we do, and it can make our competitors' prices appear less expensive than ours. We wouldn't feel good doing anything other than the very best job possible to save you energy over the life of your system; we hope you appreciate the *reVision* difference!

On your job, here are a few of the things that we do better than most:

- We set up our systems to use as **little electricity as possible**. A typical boiler, driven by 5 pumps will require 450 watts to operate. Our systems, because of the boiler and the pumps we choose, typically use less than 40 watts.
- We **calibrate the system** to minimize energy use. We take the extra step and put a flue gas analyzer on every system we install, to ensure the factory settings are accurate and the system is working at the highest efficiency. Where there are parameters to set, we set them aggressively to save energy.
- We've learned through monitoring of energy systems that most of the energy wasted from a water tank is wasted from the pipes that connect to the tank. To reduce that energy loss, we **insulate the pipes around the tank** to keep the heat in.
- We have a strong commitment to **Reduce, Reuse, and Recycle**. If anything comes out of your home that has some value in it, we'll get it to someone who can use it.
- We **safely dispose of waste oil sludge** on the bottom of your tank. Once we have a full drum, we call Clean Harbors to dispose of the waste material.

Energy costs will continue to escalate in the coming years and decades ahead. We believe in setting things up to use as little energy as possible in the long run. The *reVision* difference - your home is worth the investment.

Overview

Based on an evaluation of the proposed buildings heating requirements, reVision heat proposes to install a Triangle Tube Prestige TriMax Solo 110 modulating/condensing gas boiler with a boiler piping station.

The natural gas boiler will be installed and controlled to provide optimum response and efficiency. Triangle Tube's Prestige is one of the most sophisticated, well-constructed boilers currently manufactured. The burner and proprietary heat exchanger are built of the highest-quality stainless steel available. Triangle Tube boilers, are rated at 96% AFUE efficiency, are capable of better than 96% combustion efficiency in low-temperature applications, and can modulate down to 25% of the rated input. An outdoor reset control supplied with the boiler matches its supply water temperature to the seasonally-variable heat loss of the building. All of this means that Triangle Tube boilers are among the very lowest in fossil fuel consumption among all other boilers on the market. In addition, the built-in TriMax Control supports up to four circulators, allows for two custom heating zones and one domestic hot water zone.



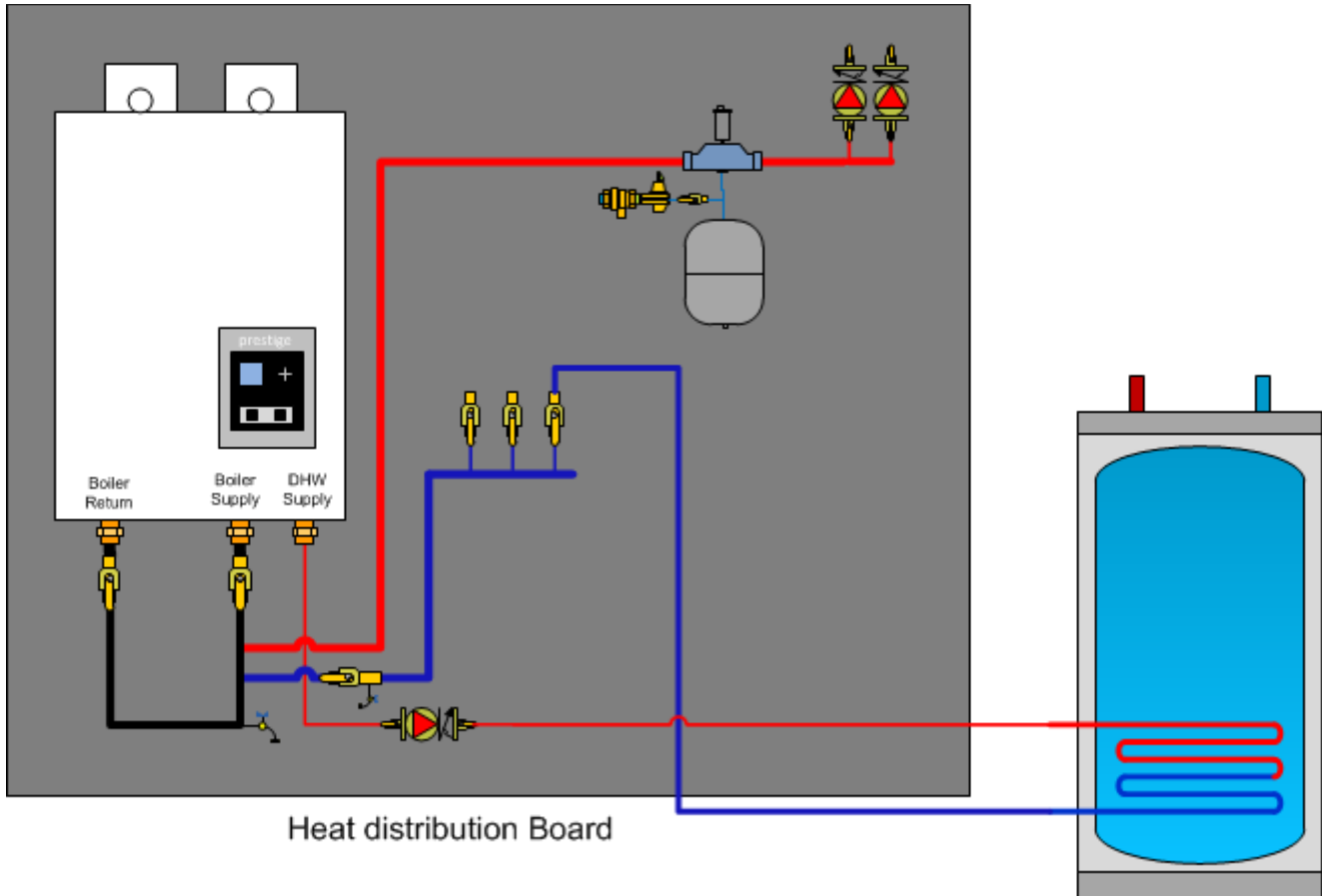
Component Specification

- [One Prestige TriMax Solo 110 Condensing boiler](#)
- Outdoor Reset Control Sensor
- Optima SZC5 Zone Controller
- Grundfos Alpha Variable-Frequency Circulator
- Grundfos SuperBrute Three-Speed Circulator
- [Heat Flo 40-gallon Indirect Tank](#)

System Operation

Whenever the room temperature falls below a set level, a call for heat is created and the Prestige boiler will come on and the variable frequency pump will pump heat into the distribution system. The boiler will provide the correct temperature based on feedback from the outdoor temperature sensor and the room thermostats and the boiler controller will essentially take over control of the boiler to provide the perfect temperature for maintaining the room temperature and minimizing fuel usage. Whenever there is a call for domestic hot water, the system will prioritize the call and ignore the reset curve for optimal domestic hot water recovery. The Optima SZC5 control will be programmed to post-purge waste heat from the heat exchanger into the heating zone or domestic hot water tank.

System Design (actual design will vary)



Scope of Work

Price to include the following:

- BPI-Certified energy audit to qualify for Efficiency Maine financing & rebates
- Summary of efficiency improvement recommendations
- General contracting services for insulation improvements

TriangleTube Prestige Solo – \$14,120

- Purchase and complete installation of the boiler, including venting and piping to distribution manifold. Boiler will be installed on 2 x 4 wall on south side of house
- Installation of Heat Flo 40-gallon stainless steel indirect tank for domestic hot water
- Integration of Heat Flo 40-gallon tank with existing domestic hot water lines
- Tying condensate from boiler into drainage



- Removal of unused basement piping
- Safe removal of two oil boilers and two oil tanks
- Connecting gas piping from single meter to boiler and interfacing with Unitil
- Installation of flammable gas and CO detector in basement
- All necessary licenses and certifications for a code-compliant installation

Insulation and Air Sealing – \$5,712

- ATTIC Air Sealing: Apply expanding foam to any electrical, plumbing, or vent chases leading to attic – block gable end walls
- ATTIC HATCH: Air seal around frame, install 4” rigid board insulation to hatch, an insulation barricade, weather stripping and clasps to compress hatch
- CHIMNEY CHASE(S) – Attic: Seal chimney chase with sheet metal, fire rated caulking, and a barricade 2” away for insulation to abut
- BATHROOM EXHAUST DUCT - Replace: replace existing bath fan duct with insulated duct and vent adjacent to the existing gable vent – install a draft diverter on the end of the duct
NOTE: The attic is too high for our crew to install a proper bath fan vent cap – we would need a lift for the front the of house, but that would be a very long duct run for the fan
- INSULATE – Enclosed Slopes: Fill rafter cavities with dense pack cellulose – R20
- INSULATE – Attic/Ceiling Flat: Install R49-60 (15”-17”) to all attic flat sections with loose fill blown cellulose
- INSULATE – Dormer Vertical Walls: Install ~R13 to wall sections. Try to access walls from the attic – if not accessible install via drill & fill from the 3rd floor.

Price does not include the following:

- Removal of belongings for adequate access to perform work
- Any additional gas piping
- Any other work not listed in the scope of work above

Available Incentives

This installation qualifies for a **\$1,900 rebate** through Efficiency Maine’s Home Energy Savings Program. The rebate will be made available after project completion. Please [read the Efficiency Maine Home Energy Savings Program Manual](#) for details.

Warranty

Triangle Tube provides a limited 10 year warranty on the boiler.
Heat Flo offers a limited lifetime warranty on the indirect tank.
reVision heat provides a 1 year warranty on all labor.

Payment Terms

30% due upon acceptance of this proposal
30% due upon delivery of boiler



30% due upon substantial completion (firing of boiler)

Balance due upon fulfillment of the contract

Important Notes

- If drill and fill is needed for the dormers, we will install foam plugs to the plaster holes – finishing mud & tape are to be done by homeowner.
- Some sections of plaster are noticeably weak (i.e. above the staircase to the 3rd floor) – if needed, we may have to install sections of plywood screwed into the lathe to combat plaster breaking. If plaster still breaks, homeowner is responsible for replacement of plaster.
- If specified by the client, *reVision heat* will reutilize existing parts or controls that appear to be salvageable and serviceable. The chance exists that during installation, we will discover that the part is in fact past its useful life. Any new necessary parts will be additionally billed on a time and materials basis.
- If the client specifies design changes which result in the need for materials or labor beyond the scope of this proposal, these should be discussed as early as possible. A change order will be negotiated and drawn up in writing after the details are agreed upon by the client and *reVision heat*. Non-contract labor is billed at \$85/hour; this rate applies to additional travel time and additional office time (design changes, preparation of a change order, etc.).
- Condensing boilers can produce a gallon or more of mildly acidic waste water per day. Condensate will be drained into the appropriate location.
- The Prestige boiler is a very high efficiency boiler that will achieve AFUE combustion efficiencies of 90+ %. It is the highest efficiency boiler available on the market today. However, at the end of the day the amount of energy consumed by a house is primarily determined by the efficiency of the house itself. Poor or minimal insulation will lead to poor energy performance. *reVision heat* makes no claims of the actual performance of any boiler other than it will achieve AFUE ratings as per manufacturer's claims.
- Estimates of equipment or system efficiency, performance or expected energy savings are for informational purposes only. Due to the large number of variables affecting efficiency and performance that are beyond *reVision heat's* control, *reVision heat* makes no warranty or guaranty that the equipment or system installed in accordance with this proposal shall perform in accordance with such estimates.
- In some cases, matching a new boiler to an existing distribution system presents unexpected results. *reVision heat* will work to make the existing distribution system achieve its desired performance, but reworking the distribution system is not included in this proposal.
- The scope of work does not include asbestos abatement. *reVision heat* requires that asbestos be removed at least three feet from any area where work is being completed. Any asbestos removal or encapsulation is the responsibility of the property owner unless otherwise negotiated in the proposal.
- *reVision heat* requires that all necessary areas be accessible to perform the scope of work. This includes, but is not limited to removal of belongings or debris from the basement, crawlspaces, closets, storage areas or other areas in the living space, clearing of snow from pathways and



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access doors. Areas of access will be clarified before work begins. Any required removal of belongings, debris, or snow will be billed at the non-contract labor rate of \$85/hour.

- *reVision heat* strongly recommends the installation of carbon monoxide detectors with all gas fired equipment.