

**Contract To Perform Ground Floor Heating-System Work at
2280, 2300, & 2440 Olinville Avenue
Bronx, New York**

Contractor agrees to perform heating-system work for the sum shown below, to be paid by Owner. (Note: these prices will hold for thirty days from the date of the Contractor's signature). Prices given are inclusive of any applicable sales tax.

The work is specified in the attached pages of this Contract. The Work does not include asbestos abatement. Any changes to the Work resulting in extra costs will require a change order, to be signed by both the Owner and the Contractor. No substitution of specified equipment or materials shall be allowed without the prior written approval of the Construction Manager. Contractor shall have general-liability and workman's compensation insurance. The Owner and Jonathan Flothow shall each be named as additionally insured parties. All labor and materials will be warranted for a period of one year commencing with receipt of all signoffs. All equipment shall be installed in strict conformance with the manufacturers' recommendations, requirements, and instructions. The work shall conform to all applicable laws, codes, and standards. Contractor is responsible for confirming all site conditions, and for immediately reporting all problems, discrepancies, errors, or omissions relating to the site or this specification to the Construction Manager.

A COPY OF THE ATTACHED SPECIFICATION SHALL BE MAINTAINED ON THE JOBSITE AT ALL TIMES THAT WORK IS BEING PERFORMED!

COST FOR ALL WORK: \$ _____

Offered By:

Accepted By:

Date

Date

("Contractor")

Pinnacle Bronx, LLC

("Owner")

❖

Revisions

Materials

Steel And/Or Copper Acceptable

Steel and Type L copper piping can both be used, together or separately. No dielectric unions are needed.

If copper is used, flux MUST be water-soluble. If conventional flux is used, Contractor will replace all copper piping and perform a boil-out on the boiler at no extra charge.

Isolation-Valves and Drain-Valves

All isolation-valves and drain-valves shall be domestic-quality full-port ball-valves. **Install no gate-valves!**

General Piping Work in All Basements

Counts and Locations

Counts and locations vary by building.

Replace Elements in Base-Of-Riser Drip-Traps

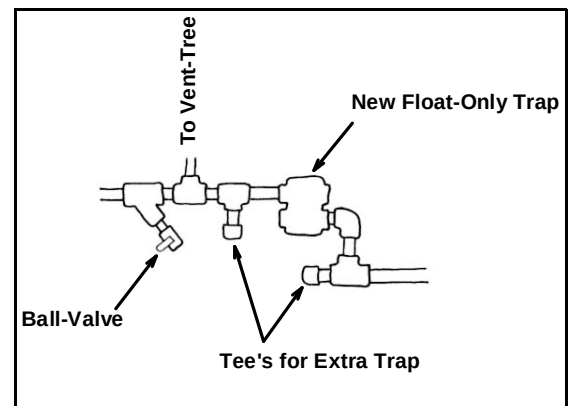
- Install cartridge repair units into the base-of-riser drip-traps.
- Except where noted, traps are $\frac{3}{4}$ " Dunham/Mepco model 2E. Use Mepco CA-2 cartridge units.
- Owner warrants that ceiling access panels are accessible and operable.
- If additional traps are found, change the element and notify the Construction Manager.

Eliminate Master Traps

- Eliminate the master traps. Pipe the inlet to the outlet, with no trap.
- When eliminating master traps, also eliminate all associated valves, strainers, and unnecessary unions.

Replace End-Of-Main F&T Traps

- Replace the end-of-main drip-traps with entirely new traps.
- New traps shall be Barnes & Jones $1\frac{1}{2}$ " Float-Only F2015-6.
- Traps shall be float-only. F & T traps are NOT acceptable.
- At each trap, pipe Tee's upstream and downstream of the trap, so that an additional trap could be added easily. Install capped nipples into the open ports, not plugs.
- At each building, supply and leave on site a trap re-build kit, model #RK2015-6-Float-Only. Leave it in its box, and tie it onto one of the traps.
- At each trap, remove the $\frac{1}{2}$ " gate-valve from the strainer, and replace it with a full-port ball-valve.



Vent-Trees

- Build vent-trees of three Gorton #2 vents, as shown in the photo at right.
- Install one vent-tree upstream of each new end-of-main trap.
- Nipples and fittings shall be $\frac{3}{4}$ ". Install the vents into $\frac{3}{4}$ "x $\frac{1}{2}$ " bushings.
- For compactness, use cross-trees and street-elbows as shown.
- Pipe each tree from the bull of a Tee, not an end-port..
- Elevate the trees as high as practicable.



Cap Vari-Vac "Equalizers"

At each building, cut and cap the connections to the Vari-Vac Equalizer. (These look like convectors, mounted high on a wall in a service area. See photo at right). Locations vary for each building. Feeds are typically $\frac{3}{4}$ ", returns are $\frac{1}{2}$ ".



Install Anode Bars into Boilers

- At each building, install sacrificial anode bars into the boilers.
- Anode bars shall be by Neutro-Chem, at (516) 671-8554 (a division of Rock-Mills boiler).
- At the same time, replace the manhole gasket.
- Drain all water from the boiler, then refill it. Fire it until the aquastat is satisfied.

Detergent Clean Boilers

Detergent-clean each boiler. At the beginning of the heating season add the specified quantities of detergent, Return a week later to drain and refill the boilers.

Work in 2280 Olinville Avenue Basement

2280 Riser Drip-Trap Locations

Service Areas

Hallway to Front of Building
 Oil Tank Room
 Steam Room
 Boiler Room
 Compactor Room
 Room Behind Elevators (two riser traps)

Apartment 101

Master Bedroom
 Corner Bedroom

Apartment 102

Corner Bedroom- West Wall
 Corner Bedroom- South Wall
 End Bedroom

Apartment 103

Living Room

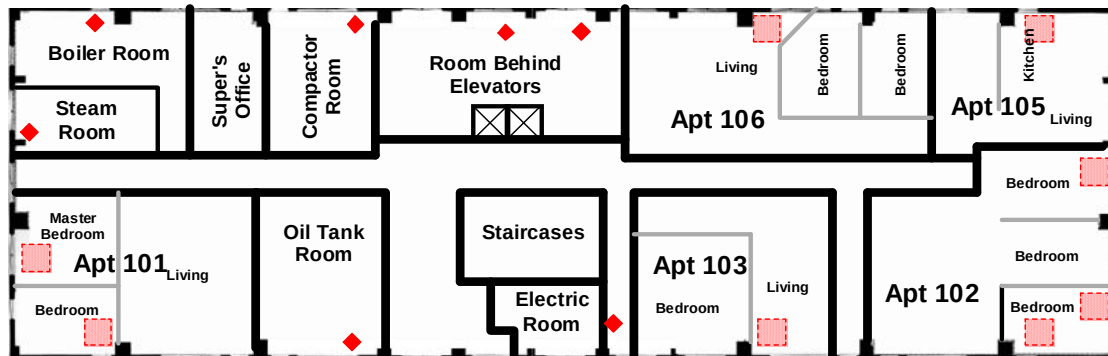
Apartment 105

Kitchen

Apartment 106

Living Room

2280 Riser Drip Traps



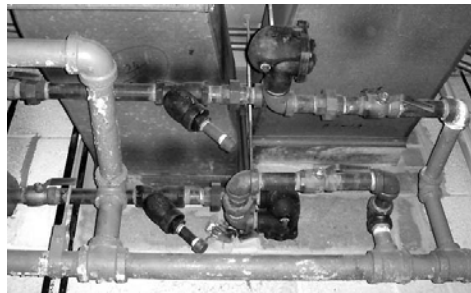
- ◆ Exposed Riser-Drip Trap
- Access Panel with Trap Above

2280 Master Traps

- The master traps are in the room behind the elevators (photo at right).
- Two are 2", one is 1¼".

**2280 End-Of-Main Traps & Vent-Trees**

- The three traps are in the room behind the elevators (photos at right).
- Upstream of one of the new traps, install a new pressure-gauge, with a siphon-tub. It can be Tee'd off the vent-tree.

**2280 Typical Work**

- Install three anode bars into the boiler. Drain and refill the boiler.
- After boiler runs to make heat, add one large box of detergent into the boiler. Drain it a week later.
- Cut and cap the Var-Vac Equalizer connections (location to be determined).

Work in 2300 Olinville Avenue Basement

2300 Riser Drip-Trap Locations

Staff WC

Compactor Room

Room Behind Elevators

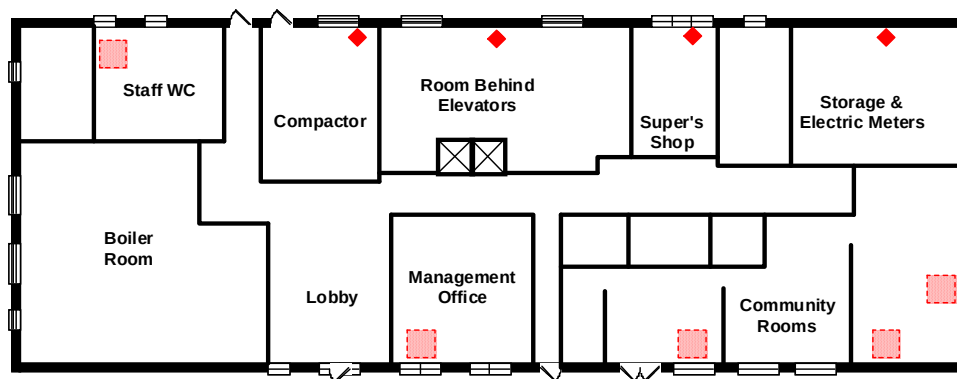
Super's Shop (Additional Work: Replace Trap with $\frac{3}{4}$ " Mepco #2E)

Storage & Electric Meters

Community Rooms (Three riser traps)

Management Office (Assume two riser traps)

2300 Riser Drip Traps



◆ Exposed Riser-Drip Trap

▤ Access Panel with Trap Above

2300 Master Trap (Water-trap at Receiver)

- Remove the water-trap from behind the condensate receiver, including both elbows (photo at right).
- Re-pipe the 3" connection with no offsets. Install no valve.



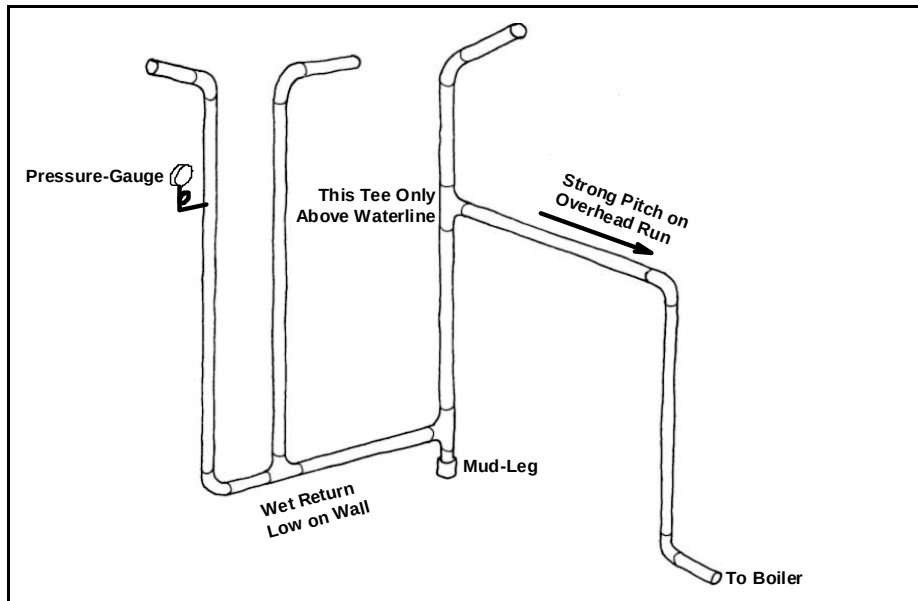
2300 End-Of-Main Traps & Vent-Trees

- Two traps are in the Super's Shop.
- One trap is in the room behind the elevators.



2300 Boiler Room Wet Return

- In the boiler room, remove six drip-traps. Three of the traps are riser-drips. The other three come off of steam-mains: one comes off the main header, one comes off the steam main above the receiver, and one is high against the North wall.
- Pipe the drips directly back to the boiler with no traps or valves.
- It is acceptable to join the drips into low wet returns running along the perimeter wall, and then to offset up to run overhead. Put strong pitch on the overhead run. Where a wet return offsets up before running overhead, connect one of the drips to serve as an equalizer (see sketch below). Pipe mud-legs at vertical offsets.
- Except for the single Tee at the overhead, all Tee's in new piping must be at least 24" below the boiler's waterline.
- Pipes shall be at least 8' above the floor where they cross walkways.
- Connect to the boiler at the rear drain piping. Existing piping there is 2" copper. Connect downstream of the existing ball-valve, and then add an additional valve downstream of the new Tee.
- In one of the drips coming down from steam-piping, install a pressure-gauge and siphon-tube. Locate it above the boiler water line.



2300 Typical Work

- Install five anode bars into the boiler. Drain and refill the boiler.
- After the boiler runs to make heat, add one large box of detergent into the boiler. Drain it a week later.
- Cut and cap the Vari-Vac Equalizer connections, in the Northwest corner room (which is next to the boiler room).

Work in 2440 Olinville Avenue Basement

2440 Riser Drip-Trap Locations

Service Areas

Super's Shop
Storage Next to Lobby
Stairwell

Apartment 111

End Bedroom
Middle Bedroom

Apartment 112

Bedroom

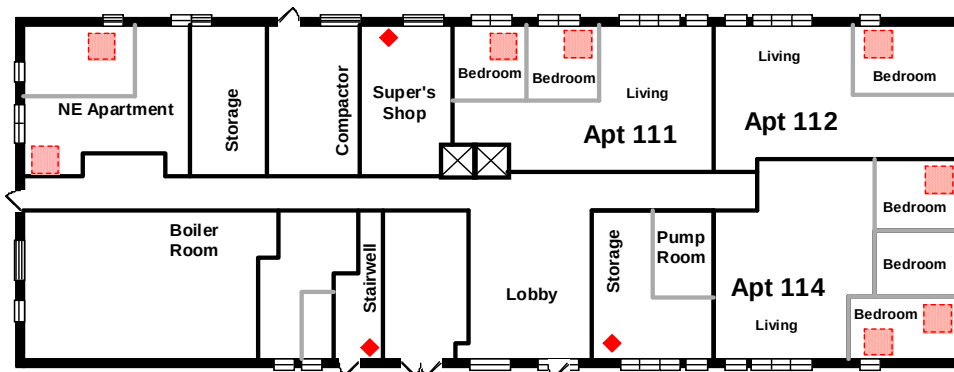
Apartment 114

Corner Bedroom- West Wall
Corner Bedroom- South Wall
End Bedroom

NorthEast Apartment

Next to Entrance
Bathroom

2440 Riser Drip Traps



◆ Exposed Riser-Drip Trap

■ Access Panel with Trap Above

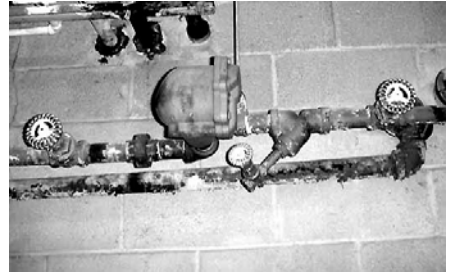
2440 Master Traps

- The two master traps are in the pump room (photo at right).
- All piping is 2" copper.



2440 End-Of-Main Traps & Vent-Trees

The three traps are in the pump room (photos at right).



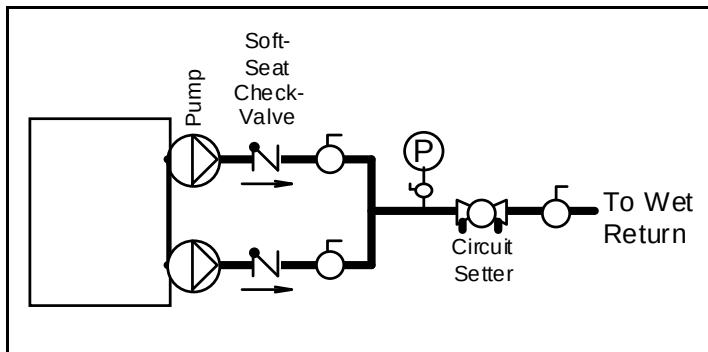
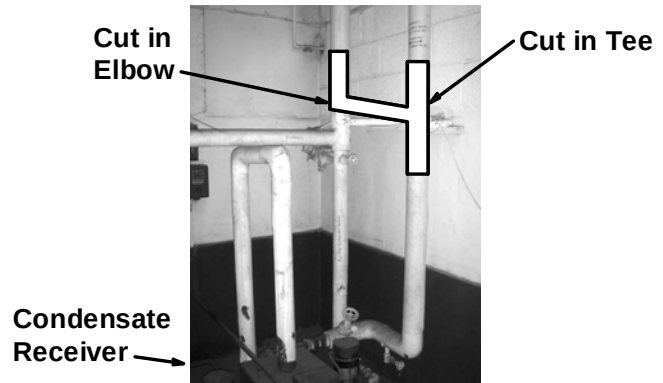
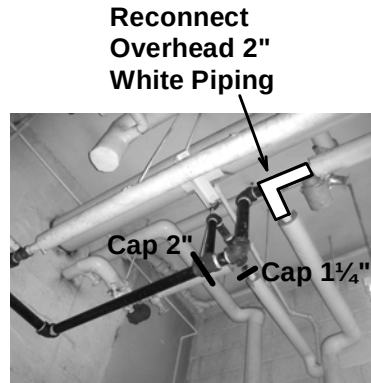
2440 Typical Work

- Install two anode bars into the boiler. Drain and refill the boiler.
- After boiler runs to make heat, add one large box of detergent into the boiler. Drain it a week later.
- Cut and cap the Vari-Vac Equalizer connections, in the Super's shop.

Reconnect 2440 Condensate Unit: Piping

In the Southwest corner of the boiler room, repipe the condensate unit as follows:

- Overhead, disconnect the insulated 2" main from the newer 2" black piping (photo top right). Redirect it back to the older 2" piping, which goes down to the condensate receiver.
- Cap the 2" black piping. Also cap the open 1½" connections.
- Disconnect the 2" downcomer from the pump discharge piping. Tie it into the other 2" downcomer (photo bottom right).
- Extend the receiver vent higher than the boiler water line, then pipe it back down to the floor.
- Remove the existing pump discharge piping. Tee the discharges together, and pipe to the new wet return (see following page).
- In the common discharge piping, pipe in a 0-60 PSI liquid-filled pressure-gauge mounted on a ball-valve, then a Circuit-Setter. Fully open the Circuit Setter. With the pump running and the boiler off, throttle the Circuit Setter until the pressure gauge reads 12 PSI. See sketch below.

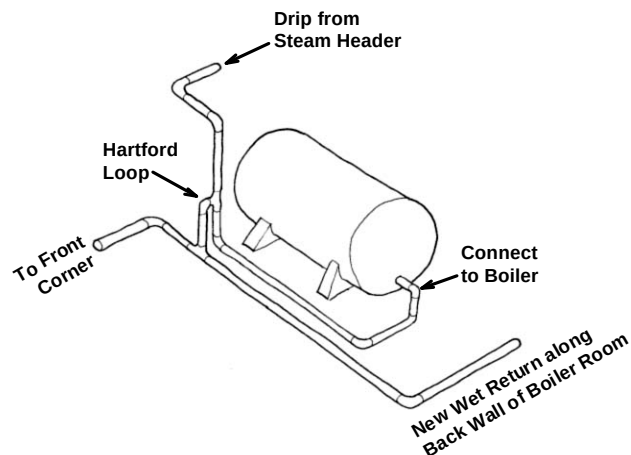
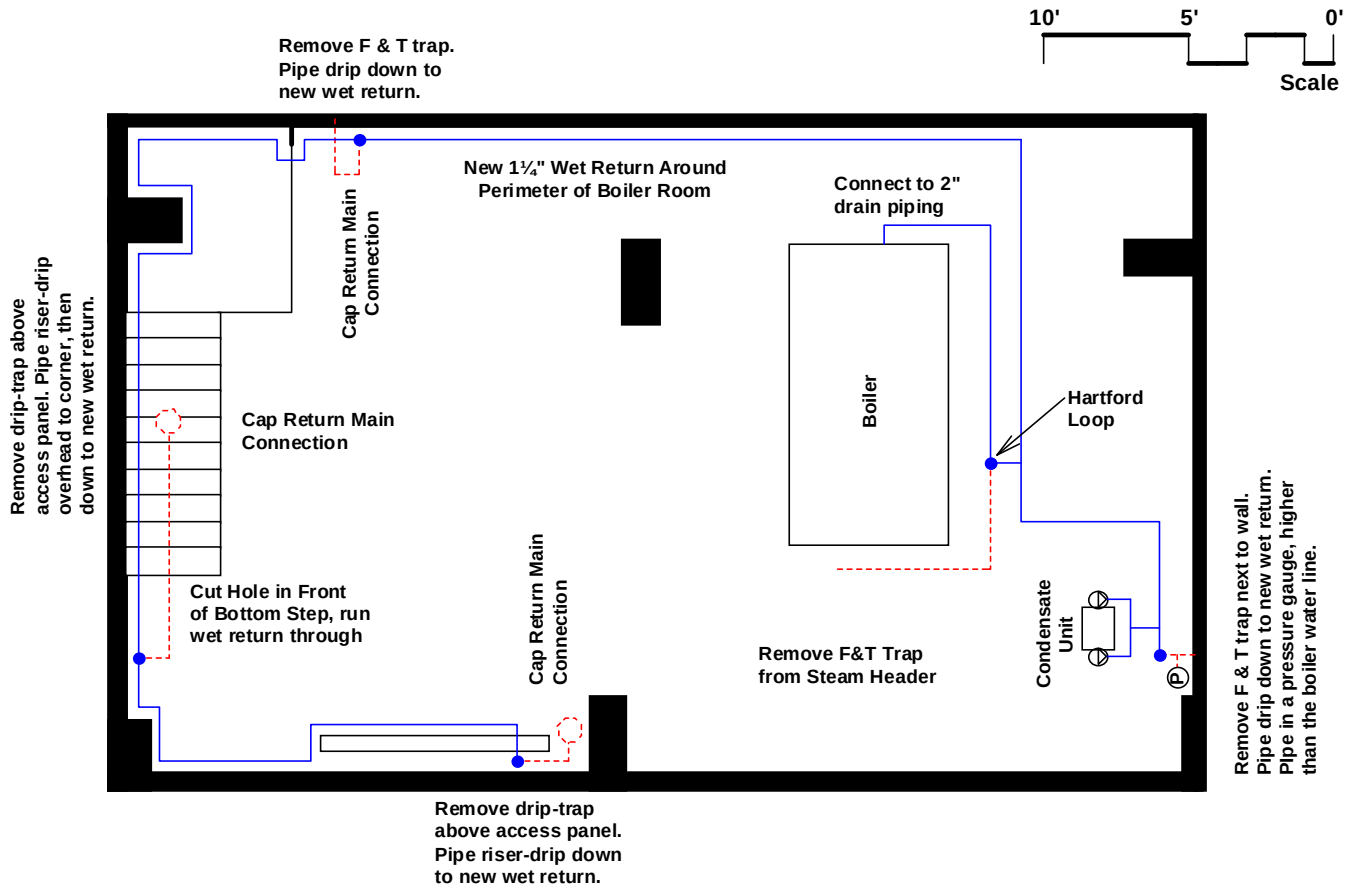


Reconnect 2440 Condensate Unit: Wiring

- Replace or repair the fused shutoff switches.
- Check the Size 0 contactors. Repair or replacement will be extra work not in contract.
- Oil the motors (if possible).
- Repair or replacement of pumps or motors is excluded.

2440 Boiler-Room Wet Return

- Run a new 1½" wet return around the perimeter of the boiler room, low on the wall.
- Remove the five traps shown. Pipe the drips to the wet return. Cap the connections to the overhead return mains. Don't block the access panels.
- Install a pressure-gauge onto the drip near the condensate unit.
- Connect the wet return to the boiler through a Hartford Loop (sketch at bottom). Pipe the top of the Loop to the drip from the steam header. At the boiler, tie into the 2" drain piping, adding an additional valve.



Equipment Takeoff

This information is given to assist the Contractor in bidding, and is not to be considered a comprehensive list of contractually required materials. Pipe, tubing, fittings, ball-valves, wire, conduit, paint, and general supplies are not included.

<u>Count</u>	<u>Item</u>	<u>Make</u>	<u>Model</u>	
9	Float-Only traps	Barnes & Jones	1½" Float-Only F2015-6	_____
1	Trap re-build kit	Barnes & Jones	RK2015-6-Float-Only `	_____
33	Trap cartridge unit	Mepco	CA-2	_____
1	Thermostatic trap	Mepc	2E	_____
27	Main line vents	Gorton	#2 vents	_____
1	Circuit setter	Bell & Gossett	1½"	_____
1	Liquid-filled 0-60 PSI P-gauge	Weiss or equal	LF251 0-60 PSI	_____
3	6" 0-15 PSI Pressure Gauge	Weiss or Equal	NF601-015-4L	_____
3	Boiler Manhole Gasket			_____
10	Boiler Anode Bars	NeutroChem		_____