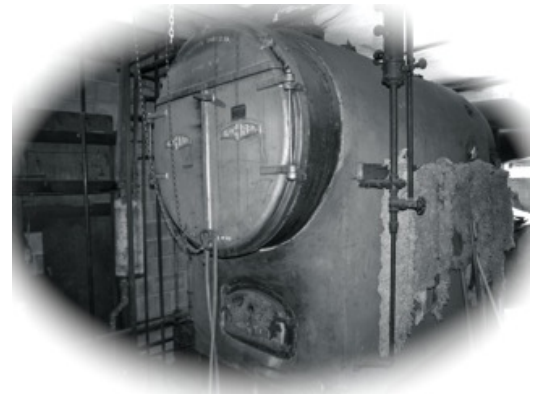


## **Project overview**

### *Heating and cooling.*

The heating and cooling system will be a Mitsubishi City Multi variable refrigerant flow heat pump system for all areas of the church except for the sanctuary and chapel. The sanctuary will be served by a high efficiency Trane natural gas system, and the chapel will be served by a split system heat pump. The current system serving all but the chapel will remain intact and removed at a later time. The chapel heat exchanger will be removed and the new system connected to the current duct work.



*Our boiler*



*Steam valve*

There will be three smaller heat pumps located on the roof for the City Multi system that serves each of the rooms in the buildings and one larger gas unit also roof-mounted that will serve the sanctuary. The heat pump for the chapel system will be located on the ground below the front office entry and the balance of the system in the Parlor mechanical room. The heating or cooling refrigerant will travel from the heat pump, to a manifold or distribution unit, and then to each of the rooms. The refrigerant travels in small piping which will run along the ceiling of the rooms and be covered.

The systems are zoned as to room activity and location so that the individual heat pump units will only need to be on when heat is called for in a room or area served by that heat pump. There will be thermostatic controls so that heating or cooling can be limited to a certain area.

### *Electrical.*

The heat pump units all have electric power requirements as do each of the individual room units. Power will need to be run to each of those units and a new panel installed to serve part of the system. We will also need to replace the transformer unit on the power pole outside because of our increase in power use. The power will be run in the same runways as the refrigerant piping for the heating system.

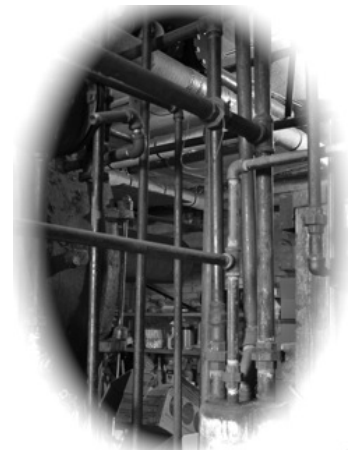
### *Insulation*

Three inches of closed cell foam insulation will be sprayed on the interior of the dome above the dome ceiling we can see from the sanctuary. That will seal the dome so that the heat is retained inside rather than escaping outside. Bat or blown insulation will be placed above the classrooms and music room and other second floor areas.

## **Progress Report**

### *Preliminary work*

Much of the preliminary work has been done. We have conducted the Sustainability Study and have, through the process of discussion and review, identified the scope of the project. We have received a bid (or bids) for the



*Steam pipes*



*Nursery register*

heating, electrical, and insulation portions of the project and have contacted a structural engineering company to conduct a structural survey to assure that our roof is strong enough to support the proposed system.

We were initially excited about the energy savings we anticipated because we would be leaving the extremely high cost of steam for a highly efficient gas-electric system, but we have been unable to calculate that savings, if any, because we will be adding cooling

with the new heating system, and we will be using the cooling system during a portion of the summer time when we did not use steam. We are still hopeful that there will be significant savings.

#### *What is next?*

We are prepared to enter into a contract with Comfort Flow Heating for the heating and cooling portion of the project and are still seeking bids on the electrical portion of the project. We have contacted a structural engineer and will await their analysis before proceeding with any roof top placement. As soon as we enter into the contract with comfort flow, they will obtain permits and then the project can begin. We anticipate hiring the electrician soon and after that permit process we can begin with the electrical also. The heating and electrical work can be performed at the same time.

The existing heating system will remain on until we are ready to convert to the new system, with the exception of the chapel work which will cause the removal of a portion of the system that does serve the chapel.

#### **Repayment**

Various sources for payment of the project costs were explored. We found that while we may have some energy conservation credits or payments, they will be a very minor amount. We found that we were not eligible for the major energy credits available for some types of projects and were unable to find a grant or gift resource.

After reviewing our options, it was decided that we would raise the \$450,000 through a three year capital campaign named the “Warming Hearts Campaign”. Pledges from the Capital Campaign Committee members and early contacts have resulting in pledges of \$200,000 to date. We are seeking your support and pledges for the remaining balance.

We are exploring construction financing through a non-renewal line of credit to cover the project payments. We have arranged for a \$450,000 loan from the EWEB Steam Transition Fund to repay the line of credit advances. The loan is a 4% loan and the money would be available 30 days after the project is completed. The capital campaign will pay off that loan.

These are exiting times for all of us in pursuing the mission and ministries of our church. Your pledge and contributions make this all possible. We are seeking 100% participation (as able) to move this project forward in further support of all of our ongoing ministries and those that start, grow and flourish from the warmth of our hearts.



*Steam gauge*