

Aurora Free Library – Heating Improvement for Two Library Basement Rooms

The Aurora Free Library is housed in a 1899 Tudor Revival building at 370 Main Street, Aurora, NY. The basement of the Library, which lies partially below the exterior land surface, consists of five rooms – (1) a 300-ft² meeting room, (2) a 100-ft² office room, (3) a 60-ft² bathroom, (4) a 2,100-ft² storage room, and (5) a 5x12-foot access hallway that connects to a stairway from the first floor. The storage room houses three forced-air propane furnaces, with each one also connected to external air-conditioning condensers. Two of these units serve the second floor opera house, and one serves the first floor Library rooms. The existing basement heat sources consist of (1) a hot-water circulating radiant-heat system within the concrete floors of the hallway and bathroom, and (2) a small wall-mounted electric space heater in the meeting room. Both of these existing basement heat sources are inadequate during wintertime periods.

During the winter months, temperatures in these basement rooms rarely rise above 50 degrees F. Additional portable space heaters that plug into wall outlets have been used but only bring temperatures into the mid to upper 50 degree range. Thus, it is difficult to use the basement rooms for any significant periods during the coldest months of the year.

The Library Board of Trustees and the Library Director want to utilize these rooms more often than is currently permitted during winter months, especially the meeting room, which houses Library files, a meeting table with 12 chairs, and a large-screen television/monitor that is used for training and children's activities. In consultation with a heating contractor, we have considered several additional heating sources – an external heat pump with interior splits, an additional hot-water circulation system with forced air, and adding new forced-air heat conduits from the existing Library furnace. The new forced-air conduits from the existing Library furnace appears to be the most feasible and cost cost-efficient solution, with new heat thermostat controls and dampers that would allow additional on-demand basement heating that would operate independently of the first-floor heating demands.

HSC Associates of Ithaca, NY has provided specifications and a cost estimate for installation of two new basement heating zones – one for the large storage room (which is used for sorting book donations and storing opera house and Library materials), and one for the meeting room (which is sometimes referred to as the "Old Jail," as it provided that service for the Village of Aurora when the building was first commissioned). A third existing heating zone that serves the main Library rooms on the first floor will remain unchanged. The two new basement heating zones will be added to the existing force-air furnace, with each new zone having the necessary ductwork, dampers, and thermostat controls. The specifications and cost estimate from HSC Associates is attached as part of this application.

No special permits other than SHPO approval are required for this work, and no exterior work will be conducted outside the Library building. The proposed work to add the two new heating zones to the building will involve just the two affected basement rooms. Four photos that show the existing conditions in the storage and meeting rooms, with the proposed new ductwork installations are attached to this application.