

# Aldersgate Energy Improvement Project 2019

## A Pictorial History

### December 2019

**Description:** Transform a heavily used meeting room (Room 4) and adjacent women's restroom from being uncomfortable during weather extremes and very energy inefficient to comfortable areas that are inexpensive to heat and cool. The project also serves as demonstration of what could be done for the rest of the original building constructed of uninsulated concrete walls, as funding becomes available.

#### Components

- Replace two large windows in Room 4 that had uninsulated metal frames and failing seals. The new windows include a thermal break in the frame, insulation in the metal frame, and eliminate the moveable window sashes.
- Replace two old PTAC HVAC units (the type common in motels) in Room 4 and an electric resistance heater in the women's restroom. The new system is a high efficiency split system heat pump.
- Address the lack of insulation (other than vermiculite in the voids) of the concrete walls. The solution provided 2" of insulation as part of an EIFS (Exterior Insulation and Finish System).

**Cost: \$17,500**

#### Estimated Benefits

- 2" of exterior insulation and better windows will reduce total heat loss in the two rooms by 77% (from 54 million Btu to 12 million Btu).
- The high efficiency split system heat pump has an efficiency rating of 17 SEER compared to 8 SEER for the old PTAC units it replaced.
- Projected cost savings in electricity are \$670 per year.

The pictures, below show frost on the old window (left), the outside concrete wall with a PTAC unit (middle), and concrete construction of the exterior walls with no insulation (right).



**Photos of the project under construction.**



**Photos of the completed project.**

