



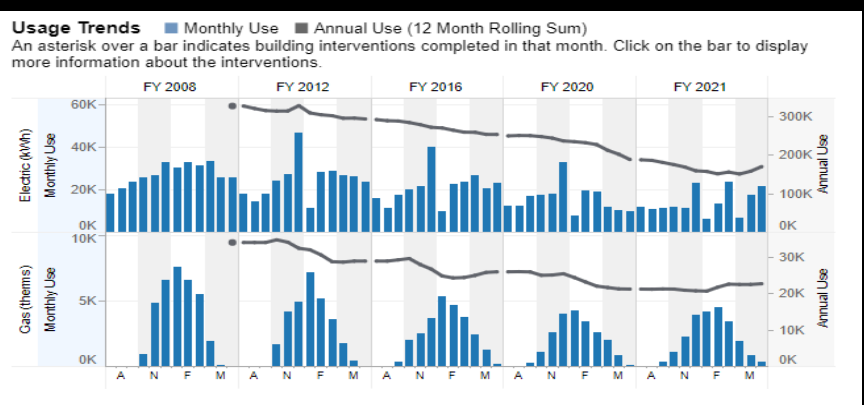
Photo by Paul Franz

Building Dashboard

Federal Street Elementary 125 Federal Street

Structural Details		HVAC		Condition	Equipment	Type/Age
Year Built	1906 - North Building 1930's est - South Building 1989 - Link Building	Heating System	Condensing Gas-fired Hot Water Rooftop Air-Handling units in gym and cafeteria	EXCELLENT GOOD	Interior Lighting	all upgraded to LEDs 2018
Square footage	62,140	Air Conditioning	Some Window air conditioners. In all year.	GOOD	Exterior Lighting	Wall packs and pole lights are LEDs 2018
Envelope	Masonry	Hot Water Heater	3 Electric Hot Water Heaters - 50 gal each	FAIR GOOD	2 Vending Machines	Vending misers installed 2013
Roof	2016 - Flat Membrane North and South; Gabled Center. Gabled roof replaced in 2016	Ventilation	8 Exhaust Fans; 25 Ventilators	GOOD		
Windows	Double-Pane Replaced in 2016	EMS	Controls Boilers, Pumps, Outdoor Lights Upgrades in Scheduling and Demand Control Ventilation in 2015			
Insulation	8" Blown Cellulose Added to North Attic 2016 - Vermiculite in South Attic	Heat Distribution	Two-pipe system with two primary pumps and four zone pumps. Unit ventilators in classrooms with fin tube wings, common areas have convectors, baseboards or fan coil units.			
Building Summary	Building has 3 parts, North, South and Center. Variable Frequency Drives added 2013; Roof, boiler and windows replaced 2016; Insulation added North Attic, 2016. Challenges: Vermiculite in South attic; inefficient heat distribution system.					

Energy Profile - FY2021		
Energy Usage		
Electric (kWh)	Heat (therms)	EUI (kBtu/sqft)
169,120	22,408	45
EUI ≤ 35 Meets Zero Energy Goal	EUI = 35-50 Efficient	EUI > 50 Priority to Improve
Annual Energy Cost		
Electric	Heat	Total
\$30,250	\$18,236	\$48,486
Berkshire Gas Rate Class		G42
Electric Service Rate Class		G2
Average Monthly Demand (kW)		45.1



Completed Work					
Fiscal Year	Project	Project Cost	Grant/Rebates	Life Expectancy	Warranty
2015	Siemens ESCO Work (Multiple buildings)	\$1,922,207	none	varied	varied
2016	Attic Insulation and air sealing	\$10,466	\$5,233	15-30 years	1 year
2016	Replaced boiler, windows, and roof (MSBA)	\$3,594,356	\$2,766,057	20+ years	N/A
2019	LED lighting upgrade- on bill financed	\$31,857	\$14,699	20+ years	5 years

Maintenance and Replacement Projects Identified				
Project	Predicted Cost	Payback Time	Supporting Info	
Motion detectors for interior lighting	N/A	N/A	N/A	

Audits/Assessments		
Fiscal Year	Type	Findings
2009	Siemens Whole building assessment	Report available upon request
2016	CET Insulation assessment	North attic would benefit from more insulation and air sealing
2019	Solect Solar Assessment	The North and South Buildings cannot support solar. The Center building can support a 63 kW array.