

TERMINAL PARK ELEMENTARY SCHOOL

HVAC System Assessment



Completed for:



February 23, 2021

Site Visits, Analysis & Report by:
Metrix Engineers
Josh Robischon, Principal, PE, LEED AP



SCOPE

Metrix Engineers was hired to perform an assessment of the existing heating, ventilation and air conditioning systems at the Terminal Park Elementary School site in Auburn School District. The goal of the assessment was to provide an executive summary level of detail regarding the type and condition of the existing mechanical systems, determine if the systems are operating in compliance with their original design intent, and identify any areas of improvement based on site observations.

The existing facility is a single-story building of approximately 38,750 square feet and also includes six portables on site. The facility was originally constructed in 1945 with additions in 1948, 1952 and 1982.

A site walk was conducted on February 16, 2021 to review the existing mechanical systems. This report summarizes Metrix observations based on that visit.

EXECUTIVE SUMMARY

The existing building appears to be operating per its original design intent. No major points of operational concern were observed.

There are a few spaces that have been modified from their original use as noted in the observations section below.

EXISTING HVAC SYSTEM OBSERVATIONS

All observed equipment is original to the building construction date, with unitary repairs completed for continuous operation. System was observed to be operational on day of site visit.

Heating, ventilation and air conditioning to classrooms spaces is provided by hydronic heating unit ventilators, typically hung overhead in the space but in a few locations provided at the exterior wall of the zones served.

A central boiler gas fired boiler plant comprised of three 670MBH boilers distributes heating water via central system pumps throughout the facility.

There is no building mechanical air conditioning.

A review of the Building Automation System and outside air damper setpoints was conducted and all systems and spaces appear to be meeting or exceeding design outdoor airflow ventilation rates. During control system review

A spot check of various HVAC system components was completed during the site visit, including the internals of various air handling units and unit ventilators. All heating and ventilation systems checked were verified operational with no major issues noted. The only deficiencies identified included:

- Exhaust fan located in the Custodial Closet adjacent to the boiler room space appears to have failed, or it's on/off switch has failed. Fan also could have been overridden to unoccupied schedule at BAS on day of site visit.

Note 1

A few additional observed operational considerations to be aware of include:



- The Kitchen has no dedicated supply air ventilation system and relies on operation of the cooking hoods for supply of ventilation airflow to the space.
- The Stage does not have a dedicated HVAC unit providing space temperature and ventilation system control. It is recommended the space not be occupied for prolonged use with the space separation curtain in the closed position. At present, the Stage appears to be being used for material storage.
- A Storage room adjacent the Workroom and Principal Office has been converted into an internally zoned Office space. Space exhaust and transfer air appears adequate for single occupancy use.

Note 2

Controls:

Building automation system controls are provided by an Alerton Envision direct digital control system. No major points of concern were observed.

A review of the Building Automation System and outside air damper setpoints was conducted and all systems and spaces appear to be meeting or exceeding design outdoor airflow ventilation rates.

During control system review the following space temperature deficiencies were identified:

- Cabinet Heater 4 located in Room 212 was well over setpoint with the heating valve position commanded to 0% open. This infers the valve may be in a failed position or partially open.





Terminal Park Elementary
HVAC System Assessment Notes

Note	Additional Notes		Estimated Completion Date	Final Completion Date
Note 1		Submit work order to restore automatic fan operation.	3/2/21	3/4/21
	1.1	Work Order 1-358495	3/10/21	3/8/21
Note 2		Provide direction to space occupants to manually operate exhaust fan during periods of occupancy.	3/5/21 In person Jones	3/5/21

Revision Date 3/17/21