

IEA, INC.

2023 - 2024 Ventilation Assessment



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Saint Paul Public Schools Journeys Secondary School

Assessment Date:
Monday, April 17, 2023

Project Description

IEA conducted a ventilation inspection in Journeys Secondary School by IEA representative, Eddie Anderson, with the intent of gathering visual observations and overall ventilation information which will assist the District in making informed and proactive decisions to improve and maintain acceptable air quality in the building. This inspection is based upon the Environmental Protection Agency's (EPA's) Tools for Schools IAQ guidelines and the recommended Minnesota Department of Education (MDE) portion of a school district's IAQ management plan. Ventilation verification is also recommended by American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

Some observations gathered during the inspection may identify issues which may require additional testing, evaluation, further investigation, or maintenance on the ventilation systems.

The findings, conclusions and recommendations presented herein are believed to be accurate and representative of the building on the date and time of the inspection.

GENERAL COMMENTS

The analysis and opinions expressed in this report are based upon data obtained from Saint Paul Public Schools at the indicated locations. This report does not reflect variations in conditions that may occur across the site, property, or facility. Actual conditions may vary and may not become evident without further assessment.

The report is prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted indoor air quality practices. Other than as provided in the preceding sentence, no warranties are extended or made.

Building Information

General information regarding the building was collected by IEA during an interview with building maintenance staff. The information gathered during this process is a vital component, as it is helpful in determining how these items may play a role in possible IAQ related issues.

Below is a summary of the information gathered during the interview:

- Automation controls are managed internally.
- A Building Automation System is present. The automation control software program is Tridium and controls can not be accessed remotely.
- Schedules:

Ventilation operation:

Day:	Occupied?	Start Time:	End Time:
Monday-Friday	Yes	6:00 AM	5:00 AM
Saturday	No		
Sunday	No		
Holiday	No		
Notes: Half day in the summertime			

Typical occupancy:

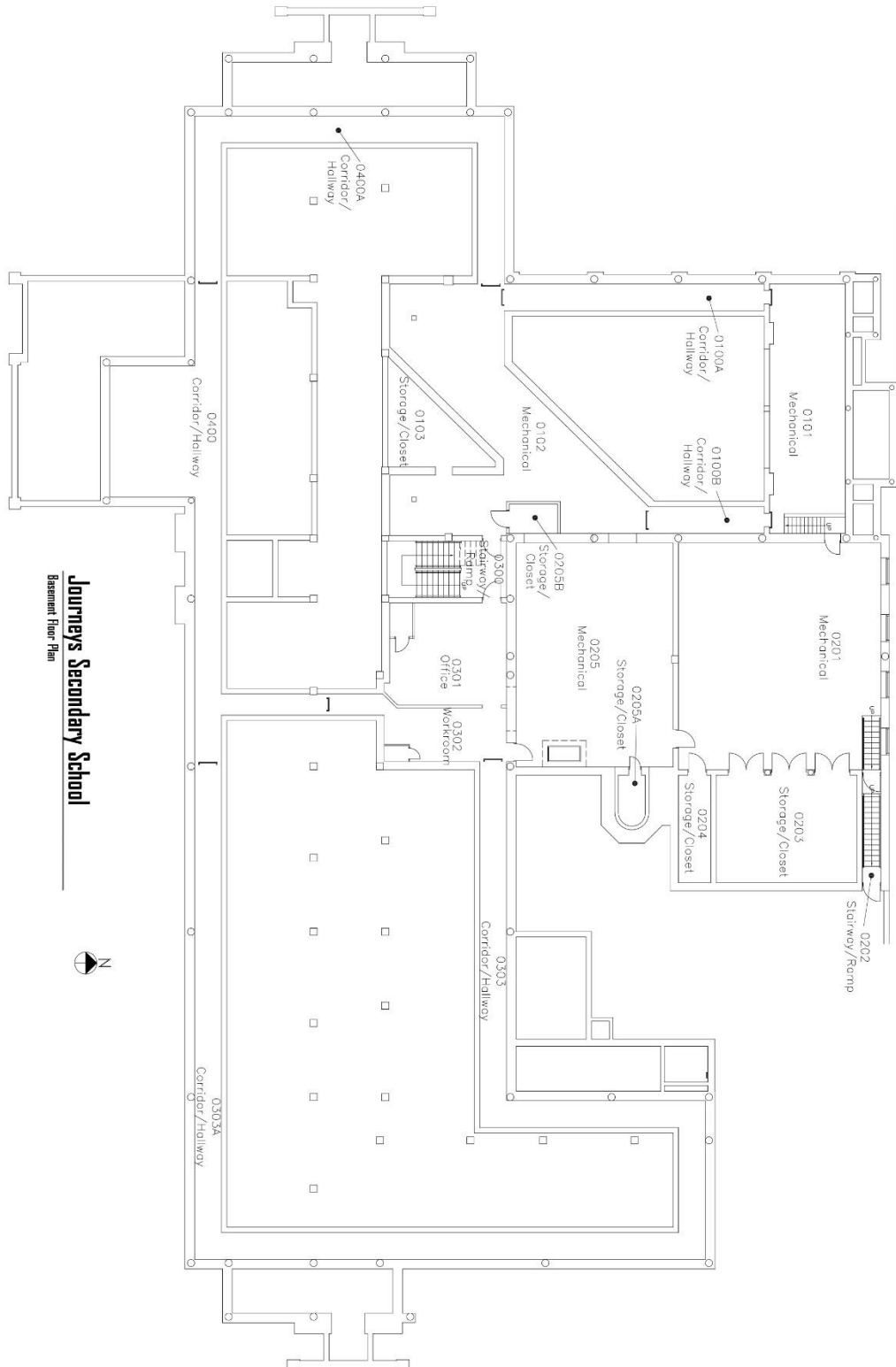
Day:	Occupied?	Start Time:	End Time:
Monday-Friday	Yes	7:00 AM	4:00 PM
Saturday	No		
Sunday	No		
Holiday	No		

- CO2 sensors are not associated with the ventilation system.
- VAVs are not present.
- It is not known whether or not the building has variable frequency drives (VFD).
- The heating system is a steam boiler.
- A cooling system is not present.
- Filters used are:

Filter Type	MERV Rating
Pleated	MERV 11

- Filters are changed quarterly.
- Energy Recovery Units are not present.
- Units do not contain system Enhancements.
- Personal air purifiers are not supplied for individual rooms.
- It is not known whether or not the building was commissioned during the original construction.

Air Handling Unit Designations & Service Zones: Basement

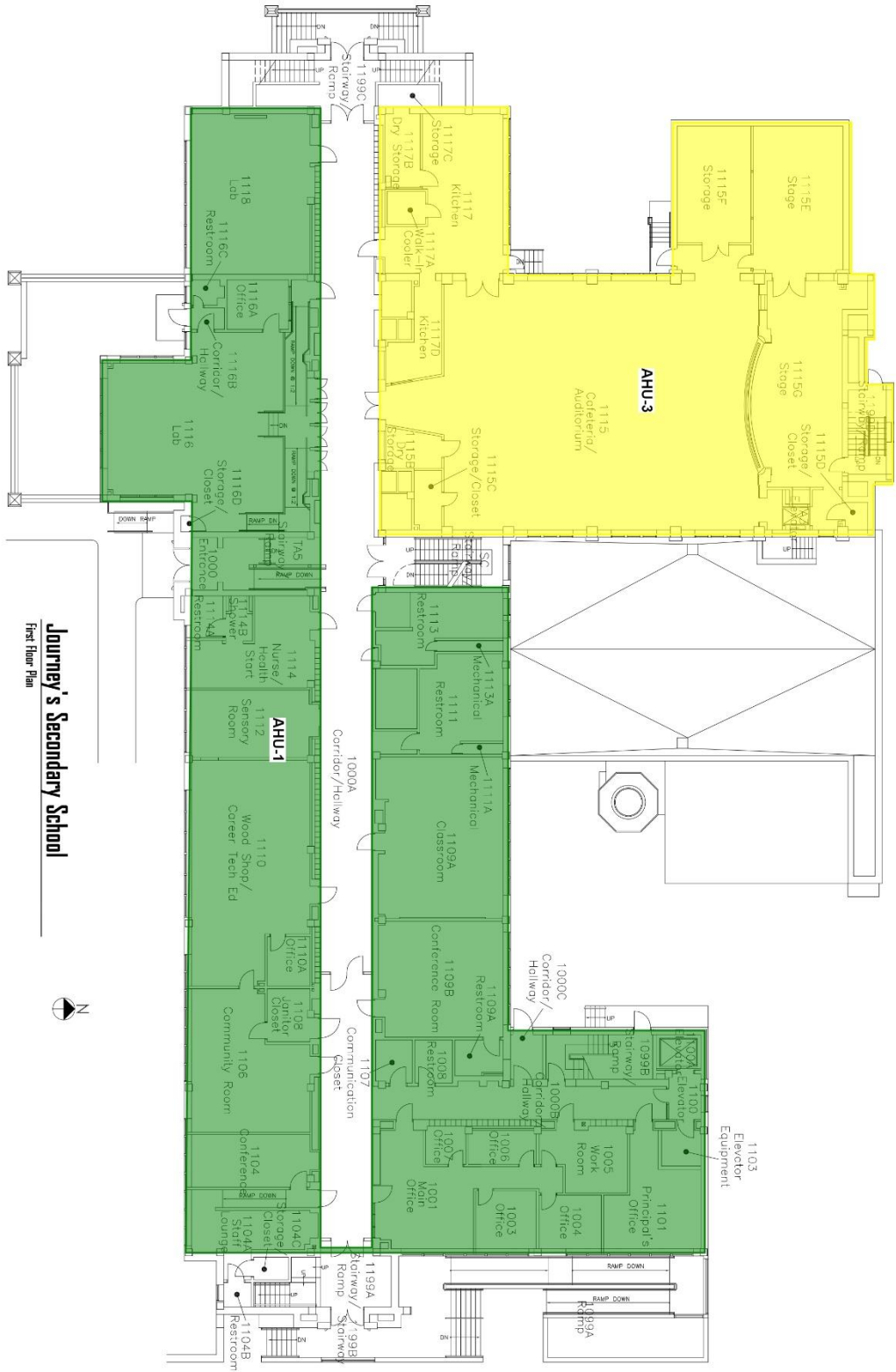


Journeys Secondary School
Basement Floor Plan

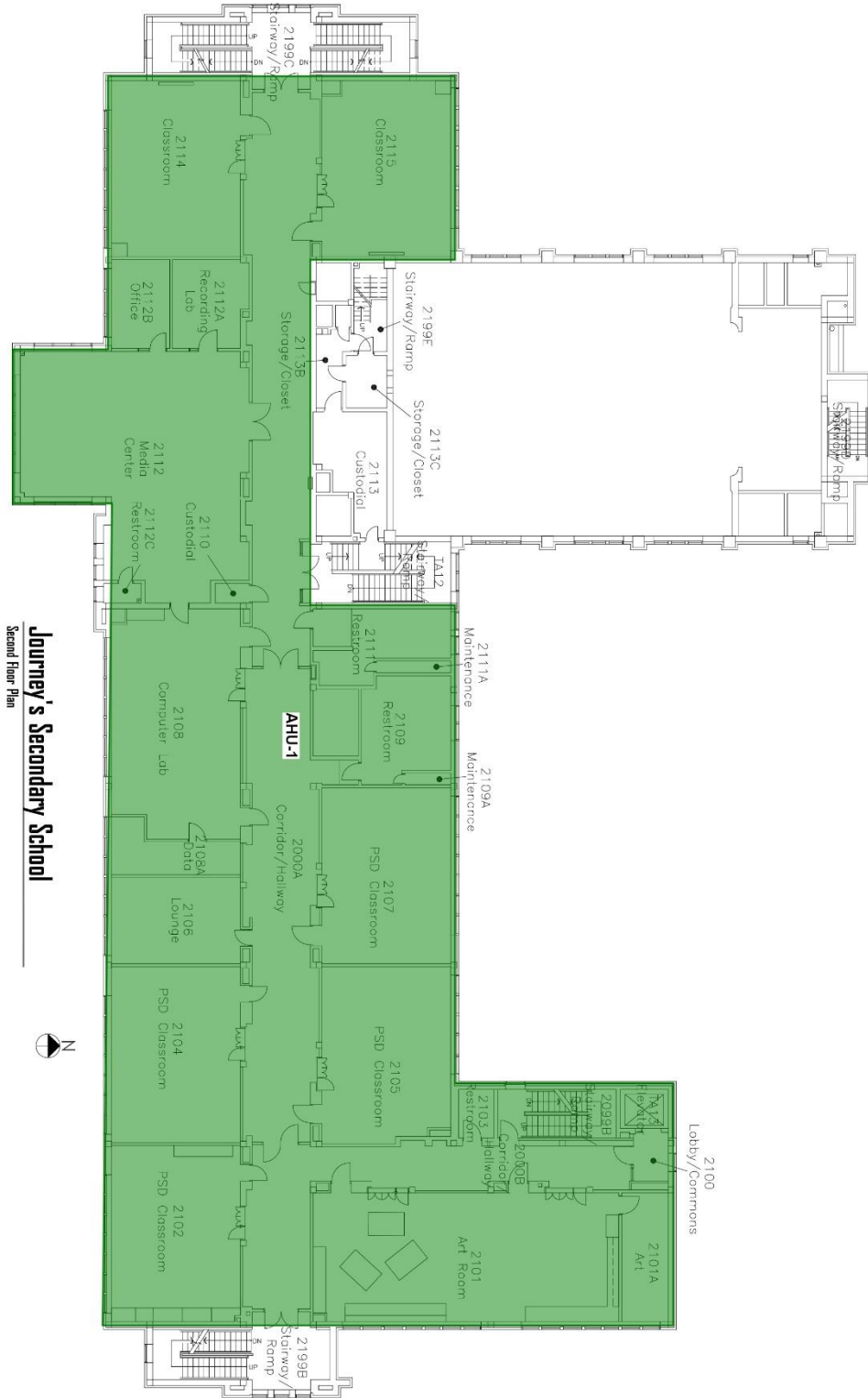


Air Handling Unit Designations & Service Zones:

1st Floor

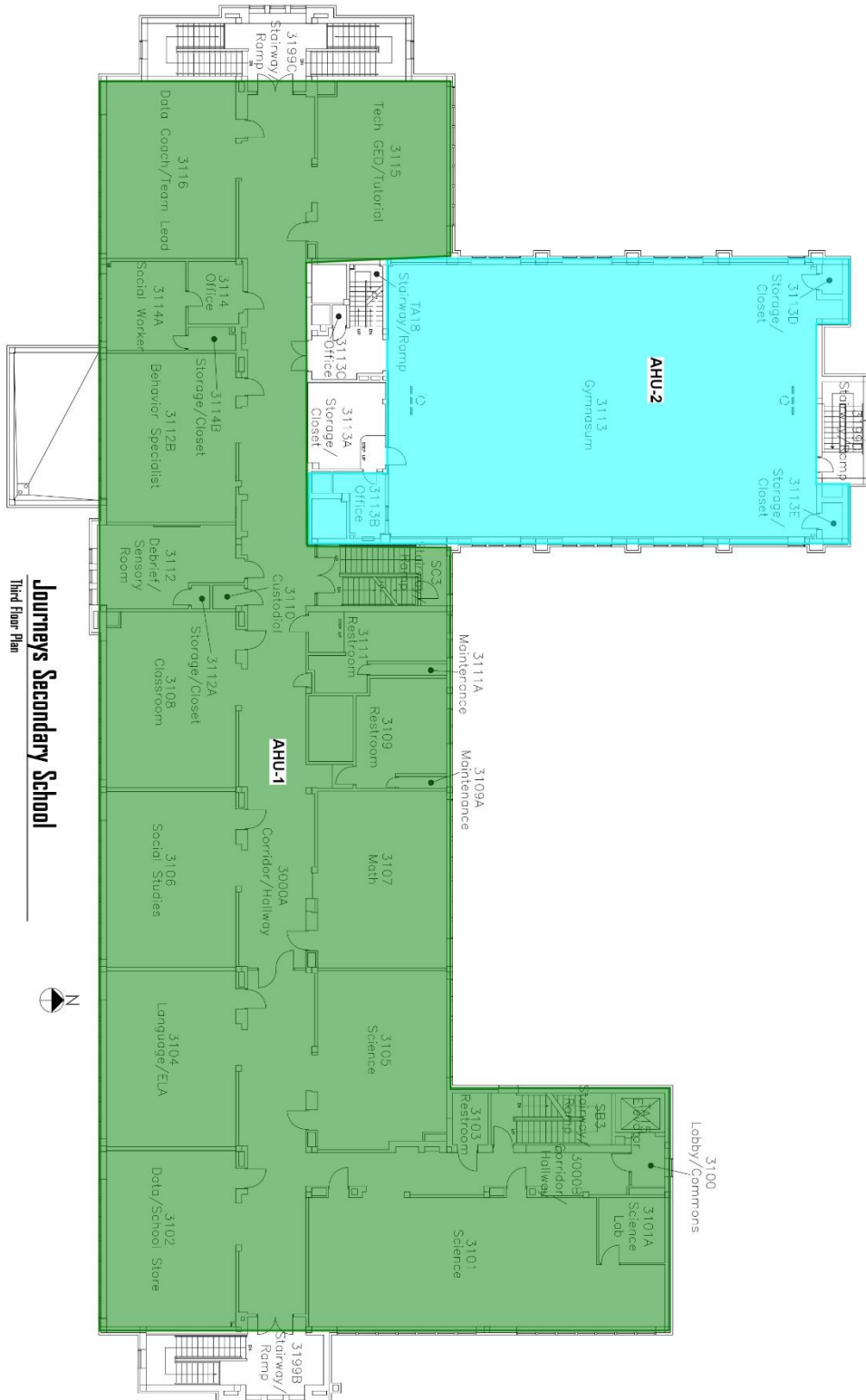


Air Handling Unit Designations & Service Zones: 2nd Floor



Journey's Secondary School
Second Floor Plan

Air Handling Unit Designations & Service Zones: 3rd Floor



Assessment

Ventilation System

The following information was gathered by IEA on Monday, April 17, 2023 with support from the district building representative during the on-site interview. The type of heating, ventilating and air-conditioning (HVAC) system and its assessment is included for each unit below:

Unit Designation:	AHU_01	
Location of Unit:	Mechanical room LL Fan Room	
Areas Served:	Classrooms See attached map	
System Enhancements:	None	
Supply System	Outdoor Air	Cleanliness and Observations
Type <ul style="list-style-type: none"> Supply System - Constant Volume Heating - Hot Water Cooling - None Energy Recovery Unit (ERU) - None 	<p>Outdoor air intake is inaccessible</p> <p>Outdoor air intake is located in an unknown location.</p> <p>It is not known if there are nearby pollution sources.</p>	<p>Outdoor air filters are not present.</p> <p>Return air filters are not present.</p> <p>Mixed air pre-filters are not present. Mixed air main filters are clean and not in need of replacement (scoring 2 out of 5) and fit well. Mixed air main filters are installed correctly.</p> <p>Drain pans are not applicable or not present. Drain pan condition is not known.</p>
Filter Type - Mixed <ul style="list-style-type: none"> Pre-filter: None Main filter: Pleated, MERV 11 	<p>Outdoor air intake is in good condition.</p>	<p>Heating coils are clean.</p> <p>Heat wheels are not present.</p> <p>Exterior ducting is visible. Exterior ducting insulation is not present.</p> <p>Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness.</p> <p>Air handling room is free of trash/chemicals.</p> <p>Outside damper is inaccessible, and its condition is not known.</p> <p>Return damper is inaccessible, and its condition is not known.</p> <p>The general condition of the unit is good.</p>

Unit Designation:	AHU_02	
Location of Unit:	Mechanical room LL Fan Room	
Areas Served:	(Cafe)	
System Enhancements:	None	
Supply System	Outdoor Air	Cleanliness and Observations
Type <ul style="list-style-type: none"> Supply System - Unknown Heating - Hot Water Cooling - None Energy Recovery Unit (ERU) - None Filter Type - Mixed <ul style="list-style-type: none"> Pre-filter: None Main filter: Pleated, MERV 11 	<p>Outdoor air intake is inaccessible</p> <p>Outdoor air intake is located in an unknown location.</p> <p>It is not known if there are nearby pollution sources.</p> <p>Outdoor air intake is in good condition.</p>	<p>Outdoor air filters are not present.</p> <p>Return air filters are not present.</p> <p>Mixed air pre-filters are not present. Mixed air main filters are clean and not in need of replacement (scoring 2 out of 5) and fit well. Mixed air main filters are installed correctly.</p> <p>Drain pans are not applicable or not present. Drain pan condition is not known.</p> <p>Heating coils are clean.</p> <p>Heat wheels are not present.</p> <p>Exterior ducting is visible. Exterior ducting insulation is not present.</p> <p>Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness.</p> <p>Air handling room is free of trash/chemicals.</p> <p>Outside damper is inaccessible, and its condition is not known.</p> <p>Return damper is inaccessible, and its condition is not known.</p> <p>The general condition of the unit is good.</p>

Unit Designation:	AHU_03	
Location of Unit:	Mechanical room LL Fan Rm	
Areas Served:	Cafeteria/Auditorium 1115 See attached map (Gym)	
System Enhancements:	None	
Supply System	Outdoor Air	Cleanliness and Observations
Type <ul style="list-style-type: none"> • Supply System - Constant Volume • Heating - Hot Water • Cooling - None • Energy Recovery Unit (ERU) - None 	<p>Outdoor air intake is inaccessible</p> <p>Outdoor air intake is located in an unknown location.</p> <p>It is not known if there are nearby pollution sources.</p>	<p>Outdoor air filters are not present.</p> <p>Return air filters are not present.</p> <p>Mixed air pre-filters are not present. Mixed air main filters are clean and not in need of replacement (scoring 2 out of 5) and fit well. Mixed air main filters are installed correctly.</p> <p>Drain pan plugged status is not known. Drain pan condition is not known.</p>
Filter Type - Mixed <ul style="list-style-type: none"> • Pre-filter: None • Main filter: Pleated, MERV 11 	<p>Outdoor air intake is in good condition.</p>	<p>Heating coils are clean.</p> <p>Heat wheels are not present.</p> <p>Exterior ducting is visible. Exterior ducting insulation is not present.</p> <p>Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness.</p> <p>Air handling room is free of trash/chemicals.</p> <p>Outside damper is inaccessible, and its condition is not known.</p> <p>Return damper is inaccessible, and its condition is not known.</p> <p>The general condition of the unit is good.</p>

Recommendations
