

2023 - 2024 Ventilation Assessment



Contact Us:

BROOKLYN PARK OFFICE

9201 W. BROADWAY, #600 BROOKLYN PARK, MN 55445 763-315-7900

MANKATO OFFICE

610 N. RIVERFRONT DRIVE MANKATO, MN 56001 507-345-8818

ROCHESTER OFFICE

210 WOOD LAKE DRIVE SE ROCHESTER, MN 55904 507-281-6664

BRAINERD OFFICE

601 NW 5TH STREET SUITE #4 BRAINERD, MN 56401 218-454-0703

MARSHALL OFFICE

1420 EAST COLLEGE DRIVE MARSHALL, MN 56258 507-476-3599

VIRGINIA OFFICE

5525 EMERALD AVENUE MOUNTAIN IRON, MN 55768 218-410-9521

www.ieasafety.com

info@ieasafety.com

800-233-9513

Saint Paul Public Schools Mississippi Elementary School

Assessment Date: Tuesday, April 4, 2023

Project Description

IEA conducted a ventilation inspection in Mississippi Elementary School by IEA representative, Sashya Wandmaker, 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	10:00 PM
Saturday	No		
Sunday	No		
Holiday	No		

Typical occupancy:

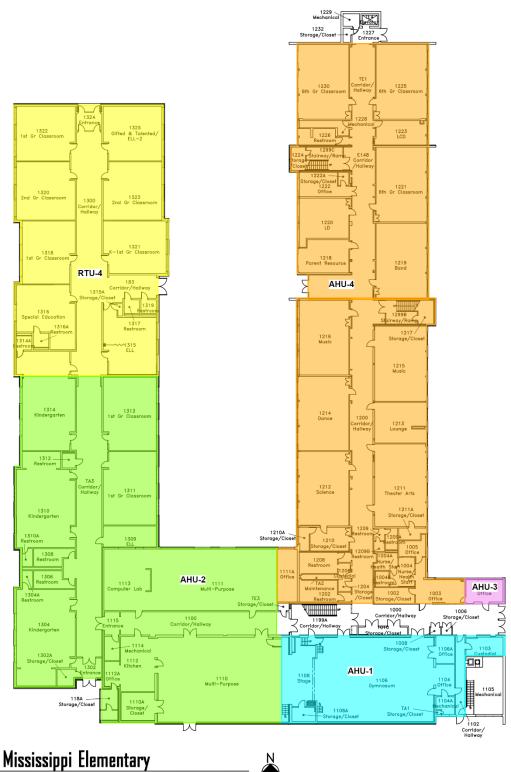
Day:	Occupied?	Start	End
		Time:	Time:
Monday- Friday	Yes	9:00 AM	3:30 PM
Saturday	No		
Sunday	No		
Holiday	No		

- CO2 sensors are not associated with the ventilation system.
- VAVs are present. They are not fan powered.
- Building has variable frequency drives (VFD).
- The heating system is a steam boiler.
- A cooling system is present and is a Dx type system.
- Filters used are:

Filter Type	MERV Rating
Pleated	MERV 11
Pleated	MERV 13

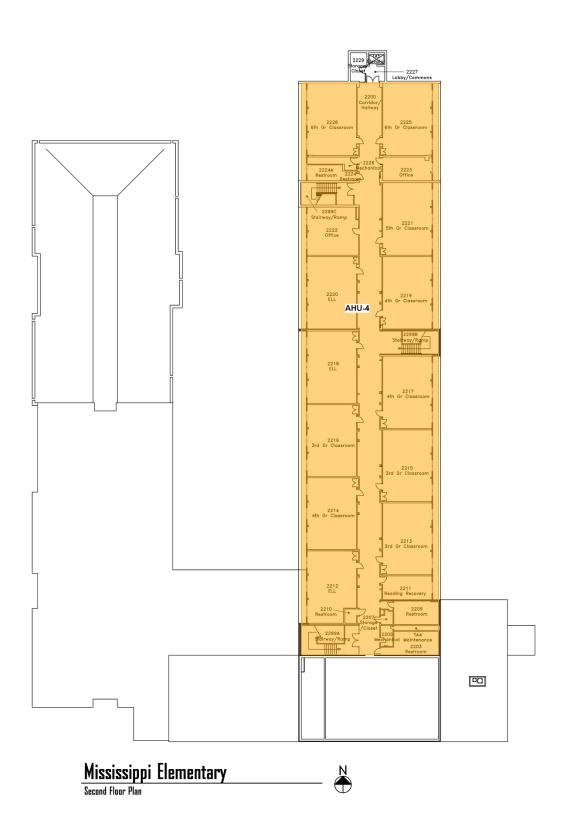
- Filters are changed quarterly.
- Energy Recovery Units are not present.
- Units do not contain system Enhancements.
- Personal air purifiers are supplied for individual rooms. They are of unknown make or model.
 - o Location: All classrooms
- It is not known whether or not the building was commissioned during the original construction.

Air Handling Unit Designations & Service Zones: 1st Floor





Air Handling Unit Designations & Service Zones: 2nd Floor



Assessment

Ventilation System

The following information was gathered by IEA on Tuesday, April 4, 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:

Location of Unit: Ceiling of 1108 Areas Served: Gymnasium System Enhancements: None Supply System Outdoor Air Cleanliness and Observations Outdoor air intake is inaccessible VAV Heating - Steam Cooling - None Energy Recovery Unit (ERU) - None Filter Type - Outdoor Pre-filter: None Main filter: Pleated, MERV 11 Cleanliness and Observations Outdoor air pre-filters are not present. Outdoor air main filters are insta out of 5) and fit well. Outdoor air main filters are insta correctly. Return air filters are not present. Drain pans are not applicable or not present. Drain pans on the condition is not known. Heating coils are dirty. Exterior ducting is visible. Exterior ducting insulation is present.		asignation.	Tor each arms below.	
System Enhancements: None Supply System Outdoor Air Outdoor air intake is inaccessible • Supply System Outdoor air intake is inaccessible • Heating - Steam • Cooling - None • Energy Recovery Unit (ERU) - None Filter Type - Outdoor • Main filter: Pleated, MERV 11 Outdoor air intake is inaccessible Outdoor air intake is inaccessible Outdoor air intake is inaccessible Outdoor air intake is incated on an exterior wall. Prain pans are not applicable or not present. Drain pans are not applicable or not present. Outdoor air intake is in good condition. Heating coils are dirty. Exterior ducting is visible. Exterior ducting insulation is present.				
Supply System Outdoor Air Type Supply System - Outdoor air intake is out of 5) and fit well. Outdoor air main filters are instated on an exterior wall. Energy Recovery Unit (ERU) - None Filter Type - Outdoor Pre-filter: None - Main filter: Pleated, MERV 11 Present. Outdoor air intake is out of 5) and fit well. Outdoor air main filters are instated filters are clean and not in need of replacement (scorie out of 5) and fit well. Outdoor air main filters are instated filters are clean and not in need of replacement (scorie out of 5) and fit well. Outdoor air main filters are instated filters are clean and not in need of replacement (scorie out of 5) and fit well. Outdoor air main filters are instated for rectly. Return air filters are not present. Drain pans are not applicable or not present. Drain pant condition is not known. Heating coils are dirty. Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is present.				
Supply System Outdoor Air Cleanliness and Observations Outdoor air intake is Supply System - inaccessible Supply System - inaccessible Outdoor air intake is located on an Cooling - None Energy Recovery Unit (ERU) - None Filter Type - Outdoor Pre-filter: None Main filter: Pleated, MERV 11 Cleanliness and Observations Outdoor air intake is louddoor air pre-filters are not present. Outdoor air main filters are instal correctly. Return air filters are not present. Prain pans are not applicable or not present. Drain pans are not applicable or not present. Drain pans are not applicable or not present. Heating coils are dirty. Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is present.	eas Served:	Served: Gymnasium	Gymnasium	
Type Outdoor air intake is sinaccessible Supply System - VAV Heating - Steam Cooling - None Energy Recovery Unit (ERU) - None Filter Type - Outdoor	tem Enhancements:	Enhancements: None		
 Supply System - VAV Heating - Steam Cooling - None Energy Recovery Unit (ERU) - None Pre-filter: None Pre-filter: None Main filter: Pleated, MERV 11 Filter Type - MERV 11 Filter Type - Main filter: Pleated, MERV 11 Filter Type - Methodor (Steam out of 5) and fit well. Outdoor air main filters are instatiout of 5) and fit well. Outdoor air main filters are instation out of 5) and fit well. Outdoor air main filters are instation out of 5) and fit well. Outdoor air main filters are instation out of 5) and fit well. Outdoor air main filters are instation out of 5) and fit well. Outdoor air main filters are instation. Return air filters are not present. Drain pans are not applicable or not present. Drain pans are dirty. Heating coils are dirty. Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is present. 	Supply System	pply System Outdoor Air	Cleanliness and Observations	
in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals.	 Supply System - VAV Heating - Steam Cooling - None Energy Recovery Unit (ERU) - None Pre-filter: None Main filter: Pleated, MERV 	Outdoor air intake is supply System - inaccessible VAV Heating - Outdoor air intake is located on an exterior wall. Energy Recovery Unit (ERU) - None No nearby pollution sources were found. Ype - Outdoor Pre-filter: None Main filter: Pleated, MERV	Outdoor air pre-filters are not present. Outdoor air main filters are clean and not in need of replacement (scoring 2 out of 5) and fit well. Outdoor air main filters are installed correctly. Return air filters are not present. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coils are dirty. Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is not present. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is inaccessible, and its condition is good.	

Unit D	esignation:	AHU 02	
Locatio	on of Unit:	in 1108, hanging from ceiling	
Areas :	Areas Served: See attached map.		
Systen	n Enhancements:	None	
Su	ipply System	Outdoor Air	Cleanliness and Observations
Filter 1	Energy Recovery Unit (ERU) - None Type - Mixed Pre-filter: None	Outdoor air intake is inaccessible Outdoor air intake is located in an unknown location. It is not known if there are nearby pollution sources. Outdoor air intake is in good condition.	Outdoor air filters are not present. Return air filters are not present. 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. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coils are dirty. Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is not present. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is open, and its condition is good. Return damper is open, and its condition is good.

Unit Designation:	AHU 03	
Location of Unit:	office #1006, in ceiling	
Areas Served: See attached map.		
System Enhancements:	None	
Supply System	Outdoor Air	Cleanliness and Observations
Recovery Unit (ERU) - None <u>Filter Type - Return</u>	Outdoor air intake is inaccessible Outdoor air intake is located in an unknown location. It is not known if there are nearby pollution sources. Outdoor air intake is in good condition.	Outdoor air filters are not present. Return air pre-filters are not present. Return air main filters are clean and not in need of replacement (scoring 2 out of 5) and fit well. Return air main filters are installed correctly. Drain pan plugged status is not known. Drain pan condition is not known. Heating coils are inaccessible and cooling coils are inaccessible. Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is not present. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is inaccessible, and its condition is not known. Return damper is inaccessible, and its condition is not known.

Unit D	esignation:	AHU 04	
Locatio	on of Unit:	of Unit: Conference room 1005 CEILING	
Areas S	Served:	Vice Principal/Confe	rence Room
		See attached maps	
System	Enhancements:	None	
Su	ipply System	Outdoor Air	Cleanliness and Observations
Type •	Supply System - Constant Volume Heating - Steam Cooling - Dx Energy Recovery Unit (ERU) - None	Outdoor air intake is accessible Outdoor air intake is located on an exterior wall. No nearby pollution sources were found. Outdoor air intake is in good condition.	Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are clean and not in need of replacement (scoring 1 out of 5) and fit well. Mixed air main filters are installed correctly. Drain pan plugged status is not known. Drain pan condition is good. Heating coils are inaccessible and cooling coils are inaccessible. Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is not present. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals.
			Outside damper is inaccessible, and its condition is good. Return damper is inaccessible, and its condition is good. The general condition of the unit is good.

Mechanical room RO	OF
Addition	
See attached maps	
None	
Outdoor Air	Cleanliness and Observations
Outdoor air intake is accessible Outdoor air intake is located on the roof. No nearby pollution sources were found. Outdoor air intake is in good condition.	Outdoor air filters are not present. Return air filters are not present. Mixed air filters are clean and not in need of replacement (scoring 2 out of 5) and fit well. Mixed air filters are installed correctly. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coils are clean. Heat wheels are not present. Exterior ducting is not visible. Exterior ducting insulation is not present. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is open, and its condition is good. Return damper is open, and its condition is good.
	See attached maps None Outdoor Air Outdoor air intake is accessible Outdoor air intake is located on the roof. No nearby pollution sources were found. Outdoor air intake is in good condition.

Unit Designation:	MUA 01	
Location of Unit:	Mechanical room Kitchen ceiling	
Areas Served:	eas Served: Kitchen	
	See attached maps	
System	None	
Enhancements:		
Supply System	Outdoor Air	Cleanliness and Observations
Cooling - None	inaccessible Outdoor air intake is	Outdoor air filters are not present. Return air pre-filters are not present. Return air main filters are somewhat dirty and on the border of needing replacement (scoring 4 out of 5) and fit poorly. Return air main filters are installed correctly.
` '	It is not known if there are nearby pollution sources.	Drain pans are not applicable or not present. Drain pan condition is not known.
Pre-filter: None	Outdoor air intake is in good condition.	Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is not present. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is not present. Return damper is open, and its condition is good. The general condition of the unit is good.

Unit De	esignation:	UV-30	
Locatio	on of Unit:	1310	
Areas Served: 1310			
System	n Enhancements:	: None	
Su	ipply System	Outdoor Air	Cleanliness and Observations
Type •	Supply System -		Outdoor air filters are not present.
	VAV		Return air filters are not present.
•	-	Outdoor air intake is	
•	Cooling - None		Mixed air pre-filters are not present. Mixed air main filters
•	0,	exterior wall.	are clean and not in need of replacement (scoring 2 out of
	Recovery Unit		5) and fit well. Mixed air main filters are installed correctly.
	(ERU) - None	No nearby pollution	
		sources were found.	Drain pans are not applicable or not present. Drain pan
	ype - Mixed		condition is not known.
•		Outdoor air intake is	
•	Main filter: Pleated, MERV	in good condition.	Heating coils are dirty.
	11		Heat wheels are not present.
			Exterior ducting is not visible. Exterior ducting insulation is in an unknown condition.
			Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness.
			Air handling room is free of trash/chemicals.
			Outside damper is inaccessible, and its condition is good.
			Return damper is open, and its condition is good.
			The general condition of the unit is good.

Unit D	esignation:	UV-31	
Locatio	on of Unit:	1314	
Areas Served: 1314			
System	า	Ultraviolet Light (U\	VC)
Enhand	cements:		
Su	pply System	Outdoor Air	Cleanliness and Observations
Type • •	Supply System - VAV Heating - Steam Cooling - None Energy Recovery Unit (ERU) - None	Outdoor air intake is accessible Outdoor air intake is located on an exterior wall. No nearby pollution sources were found. Outdoor air intake is in good	Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are somewhat dirty and on the border of needing replacement (scoring 4 out of 5) and fit well. Mixed air main filters are installed correctly. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coils are dirty. Heat wheels are not present. Exterior ducting is not visible. Exterior ducting insulation is in an unknown condition. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is inaccessible, and its condition is good.
			Return damper is open, and its condition is good. The general condition of the unit is good.

Unit Designation:	UV-2	
Location of Unit: 1215		
Areas Served: 1215		
	None	
Enhancements:		
Supply System	Outdoor Air	Cleanliness and Observations
Type Supply System - VAV Heating - Steam Cooling - None Energy Recovery Unit (ERU) - None Filter Type - Mixed Pre-filter: None	is accessible Outdoor air intake is located on an exterior wall. No nearby pollution sources were found. Outdoor air intake is in good	Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are somewhat dirty and on the border of needing replacement (scoring 3 out of 5) and fit well. Mixed air main filters are installed correctly. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coils are dirty. Heat wheels are not present. Exterior ducting is not visible. Exterior ducting insulation is in an unknown condition. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is inaccessible, and its condition is good. Return damper is inaccessible, and its condition is good.
		Return damper is inaccessible, and its condition is good. The general condition of the unit is good.

Unit Designation:		UV 6		
Location of Unit:		1214		
Areas Served:		1214		
		None		
Enhanceme	nts:	None		
		Outdoor Air	Cleanliness and Observations	
- VA • Hear Stea • Cool • Ener Recc (ERL Filter Type - • Pre- • Mair	ply System V ting - Im ling - None rgy overy Unit J) - None	Outdoor air intake is accessible Outdoor air intake is located on an exterior wall. No nearby pollution sources were found. Outdoor air intake is in good	Cleanliness and Observations Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are somewhat dirty and on the border of needing replacement (scoring 4 out of 5) and fit well. Mixed air main filters are installed correctly. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coils are dirty. Heat wheels are not present. Exterior ducting is not visible. Exterior ducting insulation is in an unknown condition. Interior ducting is of unknown	
			cleanliness. Air handling room is free of trash/chemicals. Outside damper is inaccessible, and its condition is good. Return damper is open, and its condition is good. The general condition of the unit is good.	

Unit Designation:	UV-3	UV-3		
Location of Unit:	1219	1219		
Areas Served:	1219	1219		
System	None			
Enhancements:				
Supply System	Outdoor Air	Cleanliness and Observations		
Туре	Outdoor air	Outdoor air filters are not present.		
 Supply 	intake is			
System - V	AV accessible	Return air filters are not present.		
 Heating - 				
Steam	Outdoor air	Mixed air pre-filters are dirty and in need of replacement (scoring		
 Cooling - 	intake is located	5 out of 5) and fit well. Mixed air pre-filters are installed correctly.		
None	on an exterior	Mixed air main filters are somewhat dirty and on the border of		
 Energy 	wall.	needing replacement (scoring 4 out of 5) and fit well. Mixed air		
Recovery		main filters are installed correctly.		
Unit (ERU)	- No nearby			
None	pollution	Drain pans are not applicable or not present. Drain pan condition		
	sources were	is not known.		
Filter Type - Mixed	found.			
Pre-filter:		Heating coils are dirty.		
Pleated,	Outdoor air			
MERV 11	_	Heat wheels are not present.		
Main filter:	condition.			
Pleated,		Exterior ducting is not visible. Exterior ducting insulation is in an		
MERV 11		unknown condition.		
		Interior ducting is not visible. Interior ducting insulation is in an		
		unknown condition. Interior ducting is of unknown cleanliness.		
		Air handling room is free of trash/chemicals.		
		Outside damper is inaccessible, and its condition is good.		
		Return damper is open, and its condition is good.		
		The general condition of the unit is good.		

UV10			
1220			
1220	1220		
None			
Outdoor Air	Cleanliness and Observations		
Outdoor air intake is accessible Outdoor air intake is located on an exterior wall. No nearby pollution sources were found. Outdoor air intake is	Outdoor air filters are not present. Return air filters are not present. 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. Drain pans are not applicable or not present. Drain pan condition is not known.		
_	1220 1220 : None Outdoor Air Outdoor air intake is accessible Outdoor air intake is located on an exterior wall. No nearby pollution sources were found. Outdoor air intake is in good condition.		

Unit Designation:	UV 21		
Location of Unit:	2218		
Areas Served:	2218		
System	None		
Enhancements:			
Supply System	Outdoor Air	Cleanliness and Observations	
• Supply System - VAV • Heating - Steam • Cooling - None • Energy Recovery Unit (ERU) - None Filter Type - Mixed • Pre-filter: None • Main filter: Pleated, MERV 11	inaccessible Outdoor air intake is located on an exterior wall. No nearby pollution sources were found.	Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are somewhat dirty and on the border of needing replacement (scoring 3 out of 5) and fit well. Mixed air main filters are installed correctly. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coils are dirty. Heat wheels are not present. Exterior ducting is not visible. Exterior ducting insulation is in an unknown condition. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is inaccessible, and its condition is good. Return damper is open, and its condition is good.	
 Heating - Steam Cooling - None Energy Recovery Unit (ERU) - None Filter Type - Mixed Pre-filter:	Outdoor air intake is located on an exterior wall. No nearby pollution sources were found. Outdoor air intake is	Mixed air pre-filters are not present. Mixed air main filter are somewhat dirty and on the border of needing replacement (scoring 3 out of 5) and fit well. Mixed air m filters are installed correctly. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coils are dirty. Heat wheels are not present. Exterior ducting is not visible. Exterior ducting insulation in an unknown condition. Interior ducting is not visible. Interior ducting insulation is an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is inaccessible, and its condition is good.	

Unit Designation:	UV 16		
Location of Unit:	2221		
Areas Served:	2221		
System	None		
Enhancements:			
Supply System	Outdoor Air	Cleanliness and Observations	
Type Supply System - VAV Heating - Steam Cooling - None Energy	Outdoor air intake is inaccessible Outdoor air intake is located on an exterior wall. No nearby pollution sources were found. Outdoor air intake is in good condition.	Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are somewhat dirty and on the border of needing replacement (scoring 4 out of 5) and fit well. Mixed air main filters are installed correctly. Drain pans are not applicable or not present. Drain pan	

Unit Designation:		UV14		
Location of Unit:		2217		
Areas Served:		2217		
Syster	m Enhancements:	None		
S	upply System	Outdoor Air	Cleanliness and Observations	
Type		Outdoor air intake is	Outdoor air filters are not present.	
•	Supply System -	inaccessible		
	VAV		Return air filters are not present.	
•	Heating - Steam	Outdoor air intake is		
•	Cooling - None	located on an	Mixed air pre-filters are not present. Mixed air main filters	
•	Energy	exterior wall.	are dirty and in need of replacement (scoring 5 out of 5)	
	Recovery Unit		and fit well. Mixed air main filters are installed correctly.	
	(ERU) - None	No nearby pollution		
		sources were found.	Drain pans are not applicable or not present. Drain pan	
Filter '	Type - Mixed		condition is not known.	
•		Outdoor air intake is		
•	Main filter:	in good condition.	Heating coils are clean.	
	Pleated, MERV			
	11		Heat wheels are not present.	
			Exterior ducting is not visible. Exterior ducting insulation is in an unknown condition.	
			Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness.	
			Air handling room is free of trash/chemicals.	
			Outside damper is inaccessible, and its condition is good.	
			Return damper is open, and its condition is good.	
			The general condition of the unit is good.	

Unit Designation:		UV25		
Location of Unit:		2222		
Areas Served:		2222		
Syster	m Enhancements:	None		
Sı	upply System	Outdoor Air	Cleanliness and Observations	
Type		Outdoor air intake is	Outdoor air filters are not present.	
•	Supply System -	inaccessible		
	VAV		Return air filters are not present.	
•	Heating - Steam	Outdoor air intake is		
•	Cooling - None	located on an	Mixed air pre-filters are not present. Mixed air main filters	
•	Energy	exterior wall.	are dirty and in need of replacement (scoring 5 out of 5)	
	Recovery Unit		and fit well. Mixed air main filters are installed correctly.	
	(ERU) - None	No nearby pollution		
		sources were found.	Drain pans are not applicable or not present. Drain pan	
Filter '	<u> Type - Mixed</u>		condition is not known.	
•	Pre-filter: None	Outdoor air intake is		
•	Main filter:	in good condition.	Heating coils are dirty.	
	Pleated, MERV			
	11		Heat wheels are not present.	
			Exterior ducting is not visible. Exterior ducting insulation is in an unknown condition.	
			Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness.	
			Air handling room is free of trash/chemicals.	
			Outside damper is inaccessible, and its condition is good.	
			Return damper is open, and its condition is good.	
			The general condition of the unit is good.	

Unit Designation:	UV 19	UV 19		
Location of Unit:	2214	2214		
Areas Served:	2214	2214		
System	None	None		
Enhancements:				
Supply System	Outdoor Air	Cleanliness and Observations		
Type Supply Syste - VAV Heating - Steam Cooling - Note Energy	Outdoor air intake is inaccessible Outdoor air intake is located on an exterior wall. It No nearby pollution sources were found. Outdoor air intake is in good condition.	Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are somewhat dirty and on the border of needing replacement (scoring 4 out of 5) and fit well. Mixed air main filters are installed correctly.		

Unit Designation:	UV 12			
Location of Unit:	2213			
Areas Served:	2213			
System	None			
Enhancements:				
Supply System	Outdoor Air	Cleanliness and Observations		
Type Supply System - VAV Heating - Steam Cooling - None Energy Recovery Unit (ERU) - None Filter Type - Mixed Pre-filter:	Outdoor air intake is inaccessible Outdoor air intake is located on an exterior wall. Outdoor air intake has a nearby pollution	Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are somewhat dirty and on the border of needing replacement (scoring 4 out of 5) and fit well. Mixed air main filters are installed incorrectly. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coils are clean. Heat wheels are not present. Exterior ducting is not visible. Exterior ducting insulation is in an unknown condition. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is inaccessible, and its condition is good.		
		Return damper is open, and its condition is good. The general condition of the unit is good.		

Recommendations

Dirty Coils were observed on units AHU 01, AHU 02, UV 16, UV 21, UV 6, UV10, UV-2, UV25, UV-3, UV-30 and UV-31 during the ventilation inspection.

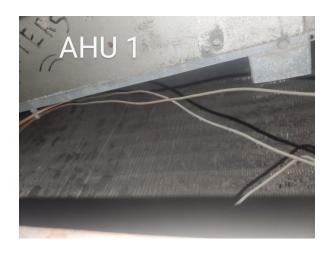
Recommendation: Impacted/dirty coils can result in poor ventilation air supply as well as be a source for mold and bacterial growth on the coils. Coils should be cleaned annually, or as needed, as identified in the operations and maintenance program.

Dirty or poorly fitting filters were observed in units MUA 01, UV 12, UV14, UV25 and UV-3 during the ventilation inspection.

Recommendation: The operations and maintenance program for filter changes should be reviewed and revised to ensure proper filter changes to optimize filtration capacity.

Appendix A

Photo Documentation



AHU 2

AHU 01 Heating Coils



MUA 01
Return Main Filter Cleanliness

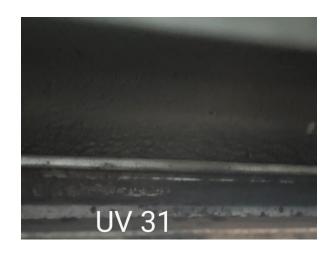
AHU 02 Heating Coils



MUA 01
Return Main Filter Fit



UV-30 Heating Coils



UV-31 Heating Coils



UV-31
Mixed Main Filter Cleanliness



UV-2 Mixed Main Filter Cleanliness



UV-2 Heating Coils



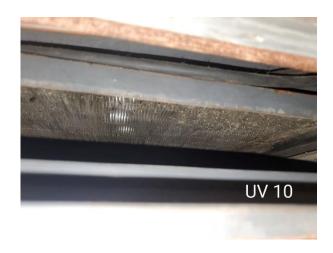
UV-3
Mixed Pre-Filter Cleanliness

UV 6
Mixed Main Filter Cleanliness



UV-3 Mixed Main Filter Cleanliness





UV-3 Heating Coils



UV 21
Mixed Main Filter Cleanliness

UV10 Heating Coils



UV 21 Heating Coils



UV16

UV 16
Mixed Main Filter Cleanliness



UV14
Mixed Main Filter Cleanliness

UV 16 Heating Coils



UV25
Mixed Main Filter Cleanliness





UV25 Heating Coils



UV 12
Mixed Main Filter Cleanliness

UV 19
Mixed Main Filter Cleanliness



UV 12
Mixed Main Filter Installation