

03/04/2021

Bayview Elementary School
Attn: Trevor Miller
1231 Bay St
Santa Cruz, CA 95060

ACCO Project Number: 60510047

Project Name: Santa Cruz City Schools Ventilation Survey – Bayview Elementary

FINAL REPORT

Dear Mr. Miller,

ACCO has performed a field survey of the existing HVAC units across the Bayview Elementary campus. With this information and provided as-built drawings, an engineering analysis has been conducted to determine methods for improving indoor air flowrate and filtration given each building's HVAC system type. The following table identifies each building that was surveyed and its HVAC system configuration. Subsequent sections of this report include recommendations for improving indoor air quality for each HVAC system type. Please note that the listed filter recommendations are based on the product specifications included in the report's appendices.

For each room summarized in this report, a color-coded designation has been applied to describe the current status of its HVAC system:

- Green – Continuous 100% outside air during occupied hours and MERV-13 filtration are achievable with existing HVAC infrastructure
- Blue – Increased outside airflow and/or MERV-10 or higher filtration are achievable with existing HVAC infrastructure
- Orange – Existing HVAC equipment does not have means for providing outside air or filtered air; therefore, improvements to outside airflow or MERV rating are not possible. Consider providing portable filtration devices.
- White – Existing HVAC equipment is an exhaust fan that is only intended to draw air out of the space; thus, adjustments to outside airflow and filtration are not applicable.

Rooms Excluded from Remodel					
Room Information			HVAC Information		
Number	Purpose	Type	Configuration	Filter Recommendation	Outside Air / Total Air %
Staff	Admin	Portable	A	MERV-10	10%
Kindergarten 1	Classroom	Portable	A	MERV-10	45%
Kindergarten 1 Kitchen	Classroom	Portable	A	MERV-10	48%
Kindergarten 1 Restroom	Toilet	Portable	B	N/A	N/A
Kindergarten 2	Classroom	Portable	A	MERV-10	52%
Kindergarten 2 Kitchen	Classroom	Portable	A	MERV-10	50%
14	Classroom	Portable	A	MERV-10	52%
15	Classroom	Portable	A	MERV-10	50%
16	Classroom	Portable	A	MERV-10	38%
17	Classroom	Portable	A	MERV-10	53%
18	Classroom	Portable	A	MERV-10	37%
20	Classroom	Portable	A	MERV-10	9%
21	Classroom	Portable	A	MERV-10	36%
22	Classroom	Portable	A	MERV-10	43%
24	Classroom	Portable	A	MERV-10	39%
25	Classroom	Portable	A	MERV-10	37%
26	Classroom	Portable	A	MERV-10	48%
27	Classroom	Portable	A	MERV-10	47%
28	Classroom	Portable	A	MERV-10	49%
29	Classroom	Portable	A	MERV-10	42%
30	Classroom	Portable	A	MERV-10	51%
33	Classroom	Portable	A	MERV-10	35%
34	Classroom	Portable	A	MERV-10	55%
35	Classroom	Portable	A	MERV-10	58%
36	Classroom	Portable	A	MERV-10	56%
40	Classroom	Portable	A	MERV-10	34%
41	Classroom	Portable	A	MERV-10	33%
42	Classroom	Portable	A	MERV-10	55%
43	Classroom	Portable	A	MERV-10	48%
44	Classroom	Portable	A	MERV-10	50%
45	Classroom	Portable	A	MERV-10	51%
Men's (Monarch)	Toilet	Portable	B	N/A	N/A
Women's (Monarch)	Toilet	Portable	B	N/A	N/A
Men's (Yard)	Toilet	Portable	B	N/A	N/A
Women's (Yard)	Toilet	Portable	B	N/A	N/A
Men's (K)	Toilet	Portable	B	N/A	N/A
Women's (K)	Toilet	Portable	B	N/A	N/A
Unisex (Kinder #1)	Toilet	Portable	B	N/A	N/A
Unisex (Kinder #2)	Toilet	Portable	B	N/A	N/A
Men's (Staff)	Toilet	Portable	B	N/A	N/A
Women's (Staff)	Toilet	Portable	B	N/A	N/A

Configuration A

Room is served by a standalone air conditioning unit. The unit has a fan to draw air into the room, but no means of controlling airflow out.

- Maintain outside air damper position at 100% open to improve indoor air quality

- If the room temperature is colder (in winter) or hotter (in summer) than desired, outside air damper may be closed incrementally until acceptable room temperature is achieved. This incremental approach is recommended to ensure that maximum airflow is being provided.
- If room has operable windows and/or doors to the building exterior, consider opening them to encourage airflow out of the room
- Replace existing air filter with MERV-10 filter
 - Airflow into room may be reduced, but is not expected to affect AC unit operation
 - If AC unit cannot operate with increased filter rating, revert to MERV-8 filter

Configuration B

Room has a fan to draw air out of the room, but no means of supplying air into it.

- Operate exhaust fans at full speed
 - If there are dampers within the exhaust duct system, set them at 100% open
- If room has operable windows and/or doors to the building exterior, consider opening them to encourage airflow out of the room

The recommendations in this report are based on observed site conditions and proposed filter product data. If further modifications are desired, ACCO would be happy to continue working with Bayview Elementary on its HVAC systems.

Sincerely,

Wendy Wang, PE
ACCO Engineered Systems
Design Engineer