



TOWN OF WAYLAND
41 COCHITUATE ROAD
WAYLAND, MASSACHUSETTS 01778

MEMORANDUM

To: School Committee
From: Louise Miller, Town Administrator
Ben Keefe, Public Buildings Director
Cc: Arthur Unobskey, Superintendent of Schools
Susan Bottan, School Department Director of Finance and Operations
Board of Selectmen
Date: October 18, 2020
Re: Update on Assessment and Implementation of Recommendations re Ventilation Systems in School Buildings

This memorandum recaps and summarizes the work completed since July on preparing the ventilation systems in school buildings for student occupancy. As of October 17, 2020, Matt Bean, of Norian/Siani Engineering, Inc., has provided the Town with two letters stating his opinion that the ventilation systems comply with DESE guidelines. The first letter based on discussions with Ben Keefe and the engineer's review of the buildings concludes with Mr. Bean's opinion "that the ventilation systems at these areas are in compliance with Massachusetts Department of Elementary and Secondary Education (DESE) Fall Reopening Facilities and Operation Guidance dated July 22, 2020 with the exception one group of rooms at Happy Hallow and one room at the middle school." At the Town's request, the second letter provides further information about occupancy limits for certain offices and instructional spaces. Both letters are attached to this memorandum.

We began work in early July to ready the schools for occupancy in the fall. On July 15, 2020, we reported to you an initial plan to assess the ventilation systems in school buildings. Our initial plan was to test and balance the ventilation in every classroom in the school buildings and determine the highest MERV filters that different systems could accommodate. Prior to the July 15 memorandum, we had met with American Test and Balance, and with Matt Bean, of Norian/Siani Engineering, Inc., whom we subsequently retained to provide engineering services with respect to assessing and making recommendations on the schools' ventilation systems.

Following the July 15, 2020 memorandum, we received feedback on our proposed plan. In response to the questions and concerns, we retained TBA, an architectural firm with an on-call contract with the Town. Norian/Siani Engineering, Inc. is a mechanical engineering and air quality consultant with TBA. We were able to continue working with Matt Bean, the engineer we had previously selected. TBA and NSE were retained to provide an expert evaluation of the schools' ventilation systems. At that time, two members of the PMBC were consulted and generously agreed to provide advice and support in this review.

On August 15, 2020, we provided you with the Space and Ventilation Study provided by TBA and NSE. Following the recommendations in the study, we outlined the work to be completed as (1) perform complete cleaning and make any necessary immediate repairs to bring all rooftops units, heating ventilators, exhaust fans, and classroom unit ventilators to operating to design standards. To the extent that the HVAC contractors were not able to make immediate repairs, the need for further repairs would be identified; and (2) once the equipment was brought to design standards, a testing and balancing contractor would test selected representative classrooms to determine whether the proper amount of fresh air could

be brought into each room using MERV 13 filters. The testing would determine the highest rated MERV filter that the Town could use, in accordance with DESE guidelines. We had initially planned to prioritize The Children's Way, which was reopening first, the Claypit Hill Elementary School, the Middle School and the High School, where students were expected to start attending mid-September. The week prior to August 15, we were told that there would be children in all the schools beginning mid-September. We then changed our plan to prioritize the rooms where instruction would take place. We were also asked whether teachers could be in their classrooms while the cleaning and repair work took place. We indicated that there were no health reasons why they could not work in their classrooms, if the Town's COVID-19 health and safety protocols were followed, but that the work would proceed more rapidly if the teachers were not in the classrooms.

On August 25, 2020, we were asked to clarify certain items in the Space and Ventilation Study, including the relationship of CO2 levels to number of occupants in a room and the scope of work for the cleaning and repairs of the ventilation systems. We provided answers to the questions asked.

In September, we were informed that the School Committee had negotiated with the Wayland Teachers' Association that the Town would complete all minimum standards and all recommended further upgrades set forth on page 24 of the Space and Ventilation Study. On September 23, 2020, we reported to the School Committee the status of the work on the minimum standards and the recommended further upgrades.

School is scheduled to reopen Monday, October 19, 2020. Below is the updated status on the minimum standards and the recommended further upgrades.

MINIMUM STANDARDS

1. Confirm all equipment is fully operational, operating on proper occupancy schedules, cleaned and maintained.
2. Operate equipment in occupied mode for a minimum of one week prior to start of school.
3. Operate equipment in occupied mode for a minimum of 2 hours before the start of each school/work day and until all occupants leave the building.
4. Where and when possible open windows in all occupied areas.

RECOMMENDED FURTHER UPGRADES

1. Implement a preventive maintenance plan to ensure equipment remains operational and filters are changed regularly.
2. Increase ventilation rates to the maximum extent possible.
3. Increase filtration efficiencies (MERV ratings) to the maximum extent possible.
4. Implement a control monitoring program including setting up specific trend logs and alarms.

Minimum Standard 1: Confirm all equipment is fully operational, cleaned and maintained

High School - complete

Middle School – complete – room 134 is not to be occupied until further notice

Claypit Hill – complete

Loker – complete

Happy Hollow - complete – 3 reading rooms are not to be occupied until further notice

The Children's Way - complete

Minimum Standard 2: Operate equipment in occupied mode for a minimum of one week prior to start of school

Complete

Minimum Standard 3: Operate equipment in occupied mode for a minimum of 2 hours before the start of each school/work day and until all occupants leave the building

Schedule for operation complete

Minimum Standard 4: Where and when possible open windows in all occupied areas

This is the responsibility of the occupants.

Recommended Upgrade 1: Implement a preventive maintenance plan to ensure equipment remains operational and filters are changed regularly

A preventive maintenance plan has been developed. Orders for replacement filters have been placed. Since the Town has not had MERV 13 filters in its ventilation systems prior to this year, the rate at which the filters need to be changed will be established. The filters will be checked when the next phase of testing and balancing takes place in late October to early November. Two HVAC contractors, Daikin and Cooling and Heating Specialists, are on-call for repairs that may be needed during the course of the year. Enhanced preventive maintenance to take place every 60 days, as set forth by Matt Bean, will be implemented. The Town will issue a bid for this enhanced maintenance under the State contract.

Recommended Upgrade 2: Increase ventilation rates to the maximum extent possible and Recommended Upgrade 3: Increase filtration efficiencies to the maximum extent possible

MERV 13 filters were installed throughout all the school buildings. The ventilation systems are currently operating with outside air dampers 100% open and classroom dampers 100% closed. As stated in prior memoranda, increased ventilation will result in uncomfortable room temperatures that reflect the outside air. As the weather gets colder, we will need to adjust both the outside and classroom dampers so that we can heat the classrooms and other instructional spaces appropriately. During the next phase of testing and balancing, we will learn what the highest filter rating is for each ventilation system and replace the filters accordingly to maintain minimum required outside air circulation.

Recommended Upgrade 4: Implement a control monitoring program including setting up specific trend logs and alarms

The Public Buildings Director has a control monitoring program in place for all areas of the ventilation system that are on the control system. We have noted which areas are not on the control system. Those areas will be adjusted manually as needed.

Additional Recommendations

Where code requirement is being met by opening windows, the engineer recommends that space heaters be purchased. The engineer advised that there may be days that are so cold that the rooms cannot be used, even with space heaters.

For rooms with only exhaust units, the engineer recommends portable filtration units be purchased.

Attachments

July 15, 2020 memorandum to School Committee

July 28, 2020 memorandum to School Committee

August 15, 2020 memorandum to School Committee

August 25, 2020 memorandum to School Committee

September 23, 2020 memorandum to School Committee

Letter to Ben Keefe from Matt Bean re Wayland Public Schools – Classroom Ventilation

Letter to Ben Keefe from Matt Bean re Wayland Public Schools – Offices Ventilation