

January 23, 2019

Boothbay Region Schools  
Heating, Ventilation and Building Envelope Improvement Project

The Combined School District Board of Trustees met on Wednesday, January 16, 2019, to vote to solicit a \$5 million bond to upgrade the heating system, ventilation systems, and building envelope issues at the Boothbay Region schools.

The heating and ventilation systems at the elementary school have been a long-standing concern of the Trustees. The heating system includes the original boilers which have been heating the school for the past 42 years. The average service life of a boiler of this design is typically 30 years.

The ventilation systems throughout the elementary school have significant issues that create air quality and comfort concerns. These issues include:

- Individual classroom heating and ventilating units, which are 42 years old and are in poor condition with failing ventilation dampers. In some cases the ventilation dampers may be providing inadequate quantities of outdoor ventilation air, which causes air quality issues, and in other cases the ventilation dampers may be providing excessive quantities of outdoor ventilation air, which caused comfort issues (i.e. cold rooms).
- Given the age and condition of classroom ventilation units, there is a significant amount of cold outdoor air that leaks into the cabinets of the units, and this causes comfort issues in the classrooms.
- The central air handling units, which serve areas such as the main offices, Gymnasium, Kitchen, Music, Locker Rooms, are 42 years old and are in poor condition. The ventilation air dampers in the units are in poor condition and, like the individual classroom heating and ventilation units, they can provide inadequate or excessive amounts of outdoor ventilation air to the spaces, which can create comfort issues as well as operating inefficiently. In addition, these units have internal fiberglass acoustical lining which is deteriorating and is exposed to the airstream, allowing microscopic fiberglass particles to be distributed out to the occupied spaces, and that creates air quality concerns.

The windows and doors in the elementary school are also 42 years old.

The roof insulation at the elementary school is insufficient, ineffective, and poorly installed. Many areas have poorly installed fiberglass batt insulation above ceilings, with no air barriers. Warm air escapes up into the attic spaces above the suspended ceilings. This results in excessive energy usage from excessive heat loss, as well as compromises in space comfort.

Below is a list of some of the questions that were asked at the Trustees meeting on Wednesday, January 16, 2019.

1. *What is the amortization schedule for a loan of this amount?*

Answer: We do not have a firm interest rate at this time so this amortization table is provided to provide an idea of what could be anticipated at 3.6% interest rate. The following amortization table template is available on the Maine Municipal Bond Bank (MMBB) website. Note that the MMBB per State Law requires that loans are paid using Level Principle payments. Level principle payments have overall lower interest accrual but have higher initial bond payments.

## BOND DEBT SERVICE

MAINE MUNICIPAL BOND BANK  
Boothbay Schools; \$5mm; 20yrs; Level Principal; 6/30 FYE

Period Ending	Principal	Coupon	Interest	Debt Service
11/01/2019	-	-	66,960.18	66,960.18
05/01/2020	-	-	76,283.75	76,283.75
11/01/2020	250,000	2.050%	76,283.75	326,283.75
05/01/2021	-	-	73,721.25	73,721.25
11/01/2021	250,000	2.110%	73,721.25	323,721.25
05/01/2022	-	-	71,083.75	71,083.75
11/01/2022	250,000	2.180%	71,083.75	321,083.75
05/01/2023	-	-	68,358.75	68,358.75
11/01/2023	250,000	2.250%	68,358.75	318,358.75
05/01/2024	-	-	65,546.25	65,546.25
11/01/2024	250,000	2.330%	65,546.25	315,546.25
05/01/2025	-	-	62,633.75	62,633.75
11/01/2025	250,000	2.410%	62,633.75	312,633.75
05/01/2026	-	-	59,621.25	59,621.25
11/01/2026	250,000	2.500%	59,621.25	309,621.25
05/01/2027	-	-	56,496.25	56,496.25
11/01/2027	250,000	2.590%	56,496.25	306,496.25
05/01/2028	-	-	53,258.75	53,258.75
11/01/2028	250,000	2.700%	53,258.75	303,258.75
05/01/2029	-	-	49,883.75	49,883.75
11/01/2029	250,000	2.810%	49,883.75	299,883.75
05/01/2030	-	-	46,371.25	46,371.25
11/01/2030	250,000	3.066%	46,371.25	296,371.25
05/01/2031	-	-	42,538.75	42,538.75
11/01/2031	250,000	3.283%	42,538.75	292,538.75
05/01/2032	-	-	38,435.00	38,435.00
11/01/2032	250,000	3.446%	38,435.00	288,435.00
05/01/2033	-	-	34,127.50	34,127.50
11/01/2033	250,000	3.580%	34,127.50	284,127.50
05/01/2034	-	-	29,652.50	29,652.50
11/01/2034	250,000	3.705%	29,652.50	279,652.50
05/01/2035	-	-	25,021.25	25,021.25
11/01/2035	250,000	3.823%	25,021.25	275,021.25
05/01/2036	-	-	20,242.50	20,242.50
11/01/2036	250,000	3.923%	20,242.50	270,242.50
05/01/2037	-	-	15,338.75	15,338.75
11/01/2037	250,000	4.013%	15,338.75	265,338.75
05/01/2038	-	-	10,322.50	10,322.50
11/01/2038	250,000	4.095%	10,322.50	260,322.50
05/01/2039	-	-	5,203.75	5,203.75
11/01/2039	250,000	4.163%	5,203.75	255,203.75
	5,000,000		1,875,242.68	6,875,242.68

2. Why hurry to get an application in to the MMBB?

ANSWER: To address the heating, ventilation and building envelop needs starting this summer, the Trustees need to secure project financing. The MMBB spring bond

issuance application deadline is mid-February. In addition to the MMBB, the school administration will also evaluate other local banks to ensure that we secure the lowest possible interest rate.

Per the MMBB, their interest rates are typically better or comparable to other banks. Additionally, the MMBB covers all loan issuance fees which other banks may not offer. MMBB noted that their indicative rates for the spring issuance for a 20-year bond are in the high 3% range to 4%. The MMBB fall 2018 issuance, 20-year bond rate was 3.6%.

The Trustees are looking to address the project improvements in the most cost effective manner for the taxpayers. Based on the needs of the improvements, concern with rising interest rates, and annual project cost increases for the improvements, we are seeking to lock in the lowest possible interest and project costs to allow for the project improvements to start this summer.

For each .1% increase in the interest rate, on a \$5 million loan the amount of interest increases by approximately \$65,000. The average annual commercial construction cost increases average between 4-5%. When considering the immediate needs of the project improvements, and the potential for rising interest and project costs if the project delays one year, the trustees feel as though proceeding with the bond request now is in the best interest of the students and taxpayers.

The issuance for the MMBB spring loans is May 23<sup>rd</sup> and the district would receive 100% of the bond proceeds to allow construction to commence in summer of 2019. If needed, the MMBB loan application could also be withdrawn by April 23<sup>rd</sup> without a penalty.

3. How will this impact the taxpayers of the two communities?

Answer: Under the provisions of the "Charter," the school budget is a combination of the Trustees budget and the CSD budget. Annual CSD total budget increases are normally 2% or 3%. The Trustees budget is mostly for infrastructure and some personnel costs. The CSD budget is for teachers, staff and instructional costs. The Trustees budget in FY 2019, is roughly 14% of the total school budget.

Debt service is contained in the Trustee's budget. Currently, the district has two outstanding loans. One loan should be retired in FY 2020. The CSD board has not yet approved a budget for FY 2020.

Boothbay residents are responsible for roughly two thirds of the school's budget and Boothbay Harbor residents the remaining percentage.

4. *Why are the Trustees required to ask for a loan to complete this work? Seems like it would be prudent to have money in a "Capital Reserve Account" like most school districts in Maine.*

Answer: The "[Charter](#)" permits the district to only set \$12,500 aside yearly in a building reserve account for repairs to our two school buildings. While this might have been prudent in the mid-1950's, it is woefully inadequate in 2019. Every construction or maintenance project of any significance, requires the Trustees to apply for a loan. Therefore, until the Charter is amended by the two municipalities, Boothbay and Boothbay Harbor, who have that responsibility, it is unlikely that the CSD will ever operate without debt.

5. *Seems like the Trustees are rushing a vote on this loan.*

Answer: This work has been in process for some time. Below is the timeline:

- A bid to perform the work was issued in early December 2017 under Maine Law Title 20-A, 15915 [Maine Law](#)
- The Request for Qualifications was advertised in the Kennebec Journal and Boothbay Register on December 7, 2017
- The bids were due on December 22, 2017. Two companies responded (Energy Efficient Investment Inc ([EEI](#)) and Honeywell).
- The bid interviews occurred in January 2018.
- Honeywell was awarded the bid and commenced a comprehensive audit in February 2018. The results were presented to the Trustees in July 2018 and to joint meeting with the Trustees and the School Board on August 15, 2018. The work to meet the specifications of the project were researched and documented by Honeywell.

A reason cited for applying for the bond now by the Trustees is that there is concern that interest rates will continue to climb. Even a small interest rate increase would have a significant impact on a \$5,000,000 loan as stated earlier. Additionally, construction costs traditionally increase approximately 4-5% a year. A 5% annual increase on a \$5 million construction project is \$250,000!

6. *Is there a long term plan to address the requisite necessary repairs needed at the two CSD schools.?*

Answer: The Trustees were recently presented a Five-year plan that can be seen at the following link: [Updated Buildings Grounds Plan Looking ahead](#)

7. *Were other contractors allowed to bid on this project in keeping with state law? Why did we select Honeywell?*

Answer: Other contractors were allowed to bid. Answer 3 above lists the steps taken in the process and the sequence.

The bid was awarded under a design build performance based contracting basis as allowed by Maine law. This means that you contract with one company to provide planning, design, financial support (financing and 3<sup>rd</sup> party funding assistance), construction, and operation and maintenance of installed equipment over the term of the financing. The selected company is also required by Maine law to guarantee the results of the improvements for the 20-year bond term. The guarantee includes annual energy savings and operational performance of the equipment in accordance with the basis of design standards as required by Maine law i.e. operating to code and manufacturer's standards. This provides the school district with a single source of accountability for all project work. Under a separate bid, using the same law in 2006, the school district completed a similar project that upgraded the heating and ventilation systems at the High School.

8. *Why are we not asking the citizens of Boothbay and Boothbay Harbor, first, in a referendum vote, whether they want these repairs?*

Answer: The process to obtain a loan or to bond, is mandated by the "[Charter](#)" that has been in existence since the mid 1950's. Skipping or changing the order of any of the steps of the process, per the district's legal counsel, would jeopardize the loan application. Citizens of both towns, would have the opportunity to challenge the Trustee's decision to seek a loan through a referendum, but only if the proper sequence of steps in the "Charter" are followed.

9. *Would it be prudent to have an engineering group review the bid by Honeywell?*

Answer: The Trustees have requested that an independent engineering firm review the scope of work and provide feedback on the Honeywell project.

10. *What is Honeywell proposing?*

Answer: Attached below is the complete Honeywell report to the Trustees on the heating and ventilation project at the two CSD schools.

[Honeywell Energy Audit \(Part 1\)](#)

[Honeywell Energy Audit \(Part 2\)](#)