TOWN OF BERLIN
REGULAR BOARD OF FINANCE MEETING
AUGUST 3, 2021
John "Doc" McIntosh Conference Room
Remote Option
7:00 P.M.

https://town-berlin-ct-us.zoom.us/j/91380458180?pwd=bXFnYkZDWXIwTkIwWTc3QlZOdW13Zz09

Call-in Option:	1 929 205 6099 United States Toll
Meeting ID:	913 8045 8180
Passcode:	753914

A. CALL TO ORDER

B. PLEDGE OF ALLEGIANCE

C. ROLL CALL

D. PUBLIC COMMENTS

E. APPROVAL OF PRIOR MINUTES July 13, 2021, Regular Meeting

F. NEW BUSINESS

1. Discuss Berlin Schools Air Quality study and potential future actions.
2. Move to appropriate an $86,330 Brownfields Grant to the Connecticut Sand & Stone Brownfields grant account.
3. Move to appropriate $3,100,000 of FY22 General Fund Unassigned Fund Balance to the Pension/Actuarial Funding account within the General Fund.
4. Finance Director update.

G. ADJOURNMENT

TOWN OF BERLIN
REGULAR BOARD OF FINANCE MEETING
JULY 13, 2021
John "Doc" McIntosh Conference Room / ZOOM
Remote Option
7:00 P.M.

A. CALL TO ORDER

Vice Chairman Paradis called the meeting to order at 7:00 p.m.

B. PLEDGE OF ALLEGIANCE

C. ROLL CALL

ATTENDANCE:
Members Present: Sal Bordonaro, Raul Fernandes, Tim Grady, Mark Holmes, Gerald Paradis

Members absent: Sam Lomaglio

Staff Present:
Kevin Delaney – Finance Director

D. PUBLIC COMMENTS

None.

E. APPROVAL OF PRIOR MINUTES

June 8, 2021 Regular Meeting

Mr. Bordonaro moved to approve the June 8, 2021 Regular Meeting minutes.

Seconded by Mr. Grady.

Those voting in favor: Mr. Bordonaro, Mr. Fernandes, Mr. Grady, Mr. Paradis

Vote being: 4-0-1. (MOTION CARRIED) Mr. Holmes abstained, as he was not at the June 8, 2021 meeting.

F. NEW BUSINESS

1. **Move to transfer $206,000, as detailed on the accompanying spreadsheet, to cover higher than budgeted expenditures in identified accounts.**

   Mr. Bordonaro moved to transfer $206,000, as detailed on the accompanying spreadsheet, to cover higher than budgeted expenditures in identified accounts.

   Seconded by Mr. Holmes.

   Finance Director Delaney reported that some of the overtime was driven by the community's request for additional Police coverage to combat increased break-ins.

   Those voting in favor: Mr. Bordonaro, Mr. Fernandes, Mr. Grady, Mr. Holmes, Mr. Paradis

   Vote being: 5-0. (MOTION CARRIED)

2. **Move to approve the transfer of $70,000 from the Building Renovations account to the Shop Equipment account in the Capital Non-Recurring Fund.**

   Mr. Bordonaro moved to approve the transfer of $70,000 from the Building Renovations account to the Shop Equipment account in the Capital Non-Recurring Fund.

   Seconded by Mr. Holmes.

   Those voting in favor: Mr. Bordonaro, Mr. Fernandes, Mr. Grady, Mr. Holmes, Mr. Paradis

   Vote being: 5-0. (MOTION CARRIED)

3. **Move to approve the transfer of $27,500 from the Contingency account to the Transfer to Other Funds account, both in the General Fund.**

   Mr. Bordonaro moved to approve the transfer of $27,500 from the Contingency account to the Transfer to Other Funds account, both in the General Fund.

   Seconded by Mr. Holmes.

   Those voting in favor: Mr. Bordonaro, Mr. Fernandes, Mr. Grady, Mr. Holmes, Mr. Paradis

   Vote being: 5-0. (MOTION CARRIED)

4. **Move to appropriate $2,210,640 of FY22 General Fund Unassigned Fund Balance to the Pension/Actuarial Funding account within the General Fund.**

Mr. Bordonaro moved to appropriate $2,210,640 of FY22 General Fund Unassigned Fund Balance to the Pension/Actuarial Funding account within the General Fund.

Seconded by Mr. Holmes.

Those voting in favor: Mr. Bordonaro, Mr. Fernandes, Mr. Grady, Mr. Holmes, Mr. Paradis

Vote being: 5-0. (MOTION CARRIED)

5. **Move to appropriate $189 of the State of Connecticut Youth Services Grant to the Youth Grant expenditure account within the General Fund.**

Mr. Bordonaro moved to appropriate $189 of the State of Connecticut Youth Services Grant to the Youth Grant expenditure account within the General Fund.

Seconded by Mr. Holmes.

Those voting in favor: Mr. Bordonaro, Mr. Fernandes, Mr. Grady, Mr. Holmes, Mr. Paradis

Vote being: 5-0. (MOTION CARRIED)

6. **Review pro-forma financials for BHS lighting upgrade project.**

Finance Director Delaney informed the Board members that the consultant is proposing an upgrade plan to Eversource. The Town has not yet committed to the project. Payback of the upgrade cost is conservatively estimated at 2years. Berlin's schools use approximately $800,000 - $900,000 of electricity annually. Berlin High School is the biggest electricity user in the Town and is the most logical place to begin upgrading systems for usage savings. If the project moves forward, McGee Middle School and Town Hall complex are other target locations for upgrades.

7. **Selection of Board of Finance member to participate on Community/Senior Center committee.**

Mr. Holmes moved to nominate Mr. Grady to represent Board of Finance on the Town Council Community/Senior Center Committee.

Seconded by Mr. Bordonaro.

Those voting in favor: Mr. Bordonaro, Mr. Fernandes, Mr. Grady, Mr. Holmes, Mr. Paradis

Vote being: 5-0. (MOTION CARRIED)

8. Finance Director update.

- Two more retirements bring the group of active Pension participants down to five and Berlin has money in savings to make the non-budgeted payouts ($2,210,640). It is highly likely that one to three of the remaining 5 active participants will retire this calendar year, necessitating more appropriations / payouts at the August meeting.

- Facilities is actively working on the identified projects with the 2% rollover money. ($250,000 was previously approved to purchase the two units for McGee Middle School.) The Town will continue to examine projects / expenditures for possible consideration as COVID-related and will apply grant funding as appropriate.

- Budget Surplus – Finance Director Delaney and Town Manager Jayawickrema are working with the departments to identify critical needs and potential capital uses for budget surplus funding. Finance Director Delaney will present details to Board of Finance, including which proposed expenditures were on the original proposed budget and which have been identified more recently. Mr. Fernandes suggested that the group consider moving up the timeline to replace the three oldest fire trucks. (Replacement parts are no longer made and the units are very difficult to fix.)

- The Town's debt level and pension liability continue to trend downward (assuming no new debt s incurred) and in a few years Berlin will be in a position to redirect debt service money toward capital needs and to defray operating costs for the taxpayers.

G. ADJOURNMENT

Mr. Bordonaro moved to adjourn at 7:36 p.m.

Seconded by Mr. Grady.

Those voting in favor: Mr. Bordonaro, Mr. Fernandes, Mr. Grady, Mr. Holmes, Mr. Paradis

Vote being: 5-0. (MOTION CARRIED)

Submitted by,

Dana Borges

E1

TOWN OF BERLIN
SCHOOL REOPENING
FINAL REPORT

SES PROJ. NO 20-251

February 1, 2021

Sustainable Engineering Solutions, LLC
120 Willow Brook Dr.
Berlin, CT 06037
(860) 270-0413
www.Sustainable-Eng.com

Table of Contents

Executive Summary

Sustainable Engineering Solutions, LLC (SES) was retained by the Town of Berlin to provide facility reopening services due to the COVID-19 pandemic. Through a focused retro-commissioning process, SES helped the Town assess and adjust the various HVAC systems throughout the school district based on the requirements defined in *Guidance for School Systems for the Operation of Central and non-Central Ventilation Systems during the COVID-19 Pandemic*, issued by the State of Connecticut, herein referred to as *Guidance for School Systems*.

Project Approach

In total, SES reviewed and assessed the HVAC systems in all five public school buildings: Berlin High School, McGee Middle School, Griswold Elementary School, Hubbard Elementary School & Willard Elementary School. During the review of each school, SES conducted the following:

- Reviewed available O&M documentation and as-built drawings for the air handling systems to identify the heating and cool coil performance capacities, design conditions and sequence of operations.
- Physically verified existing air handling system filtration for condition, effectiveness, leakage or bypassing. SES also recorded existing filter MERV rating and assessed the option of installing higher MERV rated filtration and the effects on supply fan performance and heating and cooling.
- Verified proper operation and calibration of control devices including but not limited to:
    - outside air dampers
    - exhaust air dampers
    - return air dampers
    - low limit temperature controllers (freezestats)
    - controlling discharge air temperature sensor for heating and cooling
    - heating valve or stages of heating
    - cooling valves or stages of cooling
- Visually examined the condition of heating and cooling coils for maximum heat transfer needed for increased ventilation airflow conditioning.
- Verified proper operation of safety shutdown sequences associated with low limit devices (freezestats) and alarming, which are critical in systems with higher ventilation airflow rates.
- Verified chilled water supply temperature and heating hot water supply temperature and setpoints, where applicable, for proper performance of cooling and heating coils needed for elevated ventilation rates.
- Verified each systems ventilation airflow rate (minimum outside air) and adjusted to the maximum rate permissible per the performance of the heating and cooling coils capabilities. This effort was performed with the services of a Test, Adjust and Balancing contractor (TAB) hired by the Town of Berlin.
- Evaluated each air handling systems capability to bring in more ventilation air during shoulder seasons for greater space dilution, relief air control and control strategies needed to accomplish this.
- Verified demand control ventilation functions have been disabled per the reopening guidelines.
- Evaluated building pressure effects of increased ventilation for adverse effects and mitigation strategies.
- Examined energy recovery ventilation systems for possible contamination of supply air streams by exhaust air streams and provide recommendations to remedy.

- Confirmed that required system operating schedules have been set per the reopening guidelines prior to schools opening, during the week and after occupancy.
- Verified toilet exhaust fan schedules have been adjusted per the reopening guidelines.

Throughout the testing process, SES maintained and continuously updated a deficiency log that was shared with the Town of Berlin on a weekly basis. During this time, the Town of Berlin actively addressed the issues discovered and made repairs with a hired automated temperature controls contractor as needed to ensure the HVAC systems were fully operational. A complete list of issues found by both SES and the testing, adjusting and balancing contractor can be found in Appendix A of this report.

Ventilation Rate Analysis

As recommended by the *Guidance for School Systems* , issued by the State of Connecticut, a testing, adjusting and balancing (TAB) contractor hired by the Town of Berlin measured the airflow rates and space volume in the classrooms spaces and calculated the number of air changes per hour in the spaces. For a complete record of the air changes in each space, see the TAB reports located in Appendix B.. While the majority of spaces were observed to achieve four or more air changes per hour, there are some spaces in the report that appear to be lower. The lower air changes are a function of the size of the space and local codes at the time of construction. Often times, air change rates may be lowered to satisfy energy standards, or may not have been a requirement due to the nature of the space. If low air change rates in a space is a concern, mobile filtration or other retrofits may be good candidates for improving indoor air quality if increasing ventilation is not possible.

Schedule Changes

In accordance with the *Guidance for School Systems*, issued by the State of Connecticut, the building automation system building schedule was modified for all schools to operate 2 hours prior to building occupancy and 1 hour post occupancy. Additionally, bathroom exhaust fans were modified to operate all day long (24/7) in accordance with the guidelines. These modifications were completed by an automated temperature controls contractor hired by the Town of Berlin.

Filter Analysis

As recommended by the *Guidance for School Systems*, SES reviewed the current level of filtration installed on each air handling system and analyzed the feasibility of increasing the filter ratings to MERV 13. Since the school facility staff already installs MERV 11 filters throughout the district, an increase to MERV 13 filters will have a minimal impact on the performance of a system. Though minimal, the increased efficiency of higher rated filters may negatively impact fan performance by increasing the static pressure induced on a fan resulting in slightly lower airflow. At the time of completing the retro-commissioning investigation, the Town of Berlin was nearly complete with installing MERV 13 filters in the units.

MERV efficiency clarification: MERV-A vs. MERV rating
Some filters have a static electrical charge applied to the media to increase particle removal. Since the efficiency of these filters often drops off over months of initial use, a MERV-A value, if available, will reflect the actual minimum

efficiency better than a standard MERV value. As such any reference made in this report is with regards to a MERV-A rating vs. standard MERV rating alone (e.g., MERV-A 13, vs. MERV 13).

Building Analysis

Through the retro-commissioning process Berlin High School, McGee Middle School, Griswold Elementary School, Hubbard Elementary School & Willard Elementary School were all evaluated and assessed against the CT reopening guidelines. Overall, the school's varied widely in age in condition. As a result, specific evaluations and recommendations have been outlined below for each school.

Berlin High School

Berlin High School is the newest of the Berlin Schools and was recently renovated in 2012. Ventilation air is provided into the building through highly efficient dedicated outside air units and air handling units. In the spaces, temperature control is achieved with chilled beams and variable-air-volume boxes. Overall, the equipment has been well maintained and remains in excellent condition. The high school is unique in that all classrooms are served by 100% outside air, which results in a much higher air quality than spaces relying on recirculating air.

McGee Middle School

Recently renovated in 2010, McGee Middle School is served by a variety of roof top units and energy recovery units. In the classroom spaces, ceiling and closet mounted fan coil units provide all space heating and cooling. Ventilation air is introduced into the return ductwork of the fan coil units by the energy recovery units. Overall, the fan coil units and energy recovery units appear in excellent condition. In addition to the fan coil units and energy recovery units, there are various rooftop units controlled via packaged controls. These rooftop units varied in age and condition; and any operational deficiencies were captured in the deficiency list in Appendix A.

Griswold, Hubbard and Willard Elementary Schools

All three elementary schools are similar in size and condition. Packaged rooftop units serve the larger common areas such as the gymnasium, auditorium and libraries. The classrooms are all equipped with older unit ventilators (over 20 years old), many which are inoperable and in need of replacement. Due to the age of the equipment, many of the replacement parts have been discontinued, and maintaining the units have proven to be expensive and difficult. Additionally, the unit ventilators are often noisy, and provide a poor level of temperature control. As a result, teachers often turn off the unit ventilators when teaching, which also disables the source of ventilation in the room.

Recommendations

1. As intended, the retro-commissioning process and testing, adjusting and balancing work identified numerous operational deficiencies related to the HVAC equipment serving the various schools. It is recommended that the Town of Berlin review and address all deficiencies included in the list. Understanding that future renovations may be planned, the cost effectiveness of repairing and replacing parts should be considered.
2. Following the CT guidelines, the Town of Berlin has increased the level of filtration from MERV 11 to MERV 13 filters. Due to the increased level of filtration, filter changes will be required at a higher frequency than previously as particulate build up will occur at a faster rate. The Town of Berlin should be prepared to assess filter conditions more frequently and replace filters once excessive build up is observed.
3. During the investigation, it was noticed that many of the elementary school unit ventilators were found to switched to the "off" position. It was also noted that many of the unit ventilators were disable due to operational issues or noise complaints. Where possible, it is recommended that the unit ventilators be left "on" during occupied hours to provide ventilation to the spaces. These classrooms may also be good candidates for mobile filtration units, in lieu of making the expensive and required repairs to the unit ventilators. Overall, it is recommended that the elementary school's HVAC systems be renovated soon to bring the facility up to date with standard industry and needs of the facilities.
4. To accommodate the CT guidelines, modifications have been made to the building automation system to increase ventilation rates. After the pandemic, SES recommends the following modifications are removed to decrease energy consumption of the systems:
    a. Currently, the building schedules have been set to operate two (2) hours prior to occupancy and run one (1) hour after occupancy. Recommend that the schedules be reverted to reflect actual occupied hours, and an optimal start programming is implemented.
    b. Currently the bathroom exhaust fans have been set to operate 24/7. Recommend that the exhaust fans be reverted to normal method of control to reduce the fan run hours.
    c. In Berlin High School, the DOAS and AHU supply fan speed commands have been locked to the maximum fan speed setpoints to increase ventilation rates in the school. Recommend that the fan speed setpoint override be released to allow for fan modulation and single zone variable air volume control.
    d. At McGee Middle School, the demand control ventilation of the fan coil units has been disabled to force the outside air dampers to maximum damper position, allowing for an increased level of ventilation in the spaces. Recommend that the demand control ventilation override be released to allow the outside air dampers to revert back down to minimum position.

Conclusion & Other Recommendations

As the intent of this reopening effort was to provide immediate mitigating impacts to the operation of the HVAC systems serving these facilities, it is important to consider the temporary nature of the current pandemic and the long-term impact these adjustments will have. The most immediate negative impact these adjustments will have is on the energy consumption for these buildings as a result of the increased filtration and run-hours, with the former having the greatest affect. This increase in energy consumption was not evaluated in this undertaking and was beyond the scope of the effort.

Hopefully in the near future these adjustments can be reversed when the pandemic is over and thereby returning the buildings to pre-pandemic energy consumption levels. However, there is significant activity in the HVAC industry regarding future of design standards and much discussion about preparing for the next pandemic as a matter of when (and not if) it occurs. To that end, there has been a flurry of new and old technologies in the marketplace that could be employed to address the needs of the future. These technologies include:

- Electronic air filters
- UV-C inactivation
- Bipolar Ionization/Corona Discharge / Needlepoint Ionization and Other Ion or Reactive Oxygen Air Cleaners
- Portable room filters (in all of the above technologies)

In the older elementary schools, some of the above technologies could be considered for future preparedness. However, such applications should be weighed along with any future renovation or new construction projects for the greatest overall benefit.

Agenda Item No. F-2
Request for Board of Finance Action

TO: **The Board of Finance**

FROM: **Arosha Jayawickrema, Town Manager**

DATE: **July 13, 2021**

SUBJECT: **Appropriate Brownfields Grant for CT Sand & Stone Property**

Summary of Agenda Item:

The Town received notification from Connecticut Department of Economic and Community Development (DECD) of award of a $86,330 brownfields Assessment Grant for the continued environmental assessment of the Connecticut Sand & Stone properties at the rear of and connecting to New Britain Road, east of the Pan Am rail freight line. The properties are under contract for sale to Real Property Acquisition LLC, an affiliated entity of Clean Earth/HARSCO. Clean Earth plans to beneficially reuse treated soils to fill portions of the property to create an industrial park and to dedicate remaining property for open space. Pilot legislation concerning the beneficial reuse of treated soils was passed by the 2021 session of the Connecticut General Assembly and Clean Earth will apply to have these sites included in the pilot. The Berlin Inland Wetlands and Watercourses Commission has approved Clean Earth's plan, subject to conditions including that the property be registered in a Connecticut Department of Energy and Environmental Protection cleanup program. Clean Earth will be supplementing the Town's additional environmental assessment work and has agreed to make its studies and analyses part of the public record.

Action needed is to appropriate the $86,330 Brownfields Grant to the Connecticut Sand & Stone Brownfields grant account 504.10.1017.0.54000.01416.

Actions Needed:

Move to appropriate an $86,330 Brownfields Grant to the Connecticut Sand & Stone Brownfields grant account.

Attachments:
None

Prepared By:
Jim Mahoney, Economic Development Coordinator
Chris Edge, Economic Development Director
Michael Ahern, Director of Public Works

Agenda Item No. F-3
Request for Board of Finance Action

TO: **The Board of Finance**

FROM: **Arosha Jayawickrema, Town Manager**

DATE: **July 12, 2021**

SUBJECT: **Appropriate $3,100,000 of FY22 General Fund Unassigned Fund Balance to Fund Anticipated DB Pension Payouts**

Summary of Agenda Item:
The FY22 adopted General Fund budget included DB pension funding to cover only monthly annuity payments and service fees. At the end of July 2021, two active participants will retire. These two retirements will deplete the existing DB balance on deposit at Prudential.

There is typically 4-6 weeks between the time a participant files retirement paperwork and the time the Town must fund the retirement payout. Since the Town Charter requires a four-step process for non-budgeted appropriations over $25,000, and the Town Council and Board of Finance do not meet in August, this transfer is requested now to ensure the Town will have sufficient funds on deposit at Prudential to meet payout requirements.

Action Needed:
Move to appropriate $3,100,000 of FY22 General Fund Unassigned Fund Balance to the Pension/Actuarial Funding account within the General Fund to fund anticipated DB pension payout, pending approval of the Board of Finance.

Attachments:
None

Prepared By:
Kevin Delaney, Finance Director

Town of Berlin
Bridge from June Opportunities to Preliminary Expenditures
August 3, 2021 Board of Finance Meeting

	Expend. Opportunities - June 2021 BOF Meeting	**$1,800,000**
	Board of Education	$408,311
	Town wages & fringes (vacancies)	$221,645
2036	Refuse Disposal	$126,260
3561	Contractual Services	$80,212
0507	Contingency	$72,500
2035	Vehicle Fuel	$71,642
0507	Professional Services	$48,035
2036	Stormwater Drainage Analysis	$35,015
2036	Flood Control Projects	$27,530
3053	Medical Services	$25,562
2038	Contractual Services	$24,863
0507	Advertising	$23,607
3561	Operating Materials	$21,141
2037	Catch Basin Cleaning	$18,593
3053	Professional Services	$16,913
0504	Tax Refunds	$15,845
0507	Copiers	$15,489
2544	Data Services	$12,584
0507	Postage & Electronic Transmission	$11,091
0510	Non Taxable Election Workers	$10,822
0510	Supplies	$10,806
2038	Computer Support	$10,516
2035	Contractual Services	$10,303
2542	Rent	$10,139
1029	Maintenance & Repair	$10,010
3054	Emergency Housing Assistance	$10,000
	Other	$350,565
	Preliminary Expenditure vs. Budget	**$3,500,000**