Town of West Newbury
Board of Selectmen
Tuesday, January 22, 2019 @ 6pm

381 Main Street, Town Office Building
www.wnewbury.org

AGENDA

Executive Session: *6pm in the Town Manager's Office*

- MGL Chapter 30A §21(a) 7: To comply with, or act under the authority of, any general or special law or federal grant-in-aid requirements;
- MGL Chapter 30A §21(a) 2: To conduct strategy sessions in preparation for negotiations with nonunion personnel or to conduct collective bargaining sessions or contract negotiations with nonunion personnel;
- MGL Chapter 30A §21(a) 3: To discuss strategy with respect to collective bargaining or litigation if an open meeting may have a detrimental effect on the bargaining or litigating position of the public body and the chair so declares.

Open Session: *7pm in the First Floor Hearing Room*

Announcements: This meeting is being broadcast on local cable TV and recorded for rebroadcast on the local cable channels and on the internet.

- Moment of silence for Kenneth "Kip" Berkenbush, 1942-2019
- Mill Pond Winter Carnival, Sunday February 10, 2019 from 11am to 3pm. All are welcome!
- 2019 Volunteer Opportunities are still available, check out the list of committees with openings on the town's website at www.wnewbury.org.
- Proclamation Commemorating Town of West Newbury School Choice Week
- Town Clerk applied for and received $2,375.88 as an early voting expenses reimbursement plus a $400 grant from the State for conducting early voting hours on the weekend.
- Bicentennial Committee:
  a. Black-Tie Gala Celebration, Saturday, February 23rd 6pm to 11pm @ Groveland Fairways
  b. Bicentennial Committee is buying a block of tickets for Red Sox Day at Fenway Park for August 9, 2019. If interested, please contact the committee via email at wnbirthday@wnewbury.org.
  c. West Newbury Birthday Party and Birthday cake contest, February 24th 2pm to 6pm at the Pentucket Middle School

Regular Business

A. Presentation of West Newbury Municipal Campus Microgrid feasibility and planning study – *Energy Advisory Committee with Advisian / WorleyParsons*
B. Energy Advisory Committee request to consider Municipal Vulnerability Preparedness (MVP) Grant
C. Discussion of PRSD Regional Agreement and School Committee work on draft Contingency Plan
D. Request for Appointment: Wayne Amaral for Emergency Management and Deputy ADA Coordinator responsibilities
E. Review of proposed revisions to Policy on Rental of Town Facilities
F. Review of future meetings: potential joint Board of Selectmen/Planning Board meeting Feb. 5th, 2019

Town Manager Updates

G. Clarification of warrant closing date and format/status complete of proposed articles
H. Discussion and request for policy direction regarding potential Mailbox Policy
I. Cont. review of Georgetown Road/Crane Neck Street Intersection Re: Zig-Zag Striping
J. Update on Selectman and Town Manager attendance at MMA Annual Meeting, Jan. 18-19 in Boston
K. Follow up meeting assignments
L. Placing items for future agendas

Posted Agenda on 1/17/2019 at the Town Offices and the Town's Official Website www.wnewbury.org

Deputy Fire Chief Kenneth "Kip" Berkenbush (Retired)

It is with a heavy heart that the Town of West Newbury and its Fire Department announces the passing of retired Deputy Fire Chief Kenneth "Kip" Berkenbush.

Kenneth "Kip" Berkenbush passed away peacefully on January 15 at the Portsmouth Regional Hospital surrounded by his family after a valiant struggle against cancer.

A lifelong resident of West Newbury, he was born on Jan. 15, 1942, the youngest of Kenneth and Jean Berkenbush's three children. He grew up on his family's working farm and lived on the property his whole life.

After attending the West Newbury School system, he enlisted in the U.S. Army and was stationed in Germany during the construction of the Berlin Wall. He received an honorable discharge in 1963 and returned to West Newbury where he was employed with Pentucket Oil Service for many years. He worked with ENPRO Services for almost 30 years, where he was a Project Manager.

Kip continued his family's long tradition of serving the town with the West Newbury Fire Department, where he was a 51-year member. He joined the department as a private and retired as Deputy Chief in June of 2009.

Kip was devoted to his family, his community and the fire department. He was also a Mason with the Saggahew Lodge in Haverhill.

In his "retirement" he enjoyed working part-time at the Newbury Transfer Station where he was known for keeping an eye out for still useful items.

Kip loved taking part in a host of outdoor activities in the great north woods of Maine where he and his wife had a camp. The couple cherished their time with their camp friends and extended family in that area.

Survivors include his wife of 54 years Barbara; his son Kenneth E. Berkenbush, his wife Lara and grandson Will; son Bradley Blake, his wife Osvalda and their son Allen; grandsons G. Matthew Fuller and Tim Fuller and their wives; six great-grandchildren; his sister, Hazel Margaret Koli, along with many nieces, nephews and cousins. He was predeceased by a daughter Patricia M. Fuller and his brother Richard Berkenbush.

Visiting hours will be Friday, January 18, 2019 from 5 to 8 P.M.at Paul C. Rogers Family Funeral Home, 36 West Main Street, Merrimac. Funeral services will be Saturday, January 19th at 11 A.M.at the Newbury Congregational Church at 308 Main Street, West Newbury, MA 01985. Private Springtime burial will be at the Merrimack Cemetery in West Newbury.

In lieu of flowers, donations can be made in Kip's memory to the West Newbury Fire Company or the Beyond the Rainbow Fund at Exeter Hospital, which provides assistance to families struggling with cancer by handling the little things in life, such as transportation, child care, and even paying bills.

Our thoughts and prayers to Kip's family and friends during this difficult time.
Board of Selectmen

WEST NEWBURY WINTER CARNIVAL

SUNDAY
FEBRUARY 10, 2019

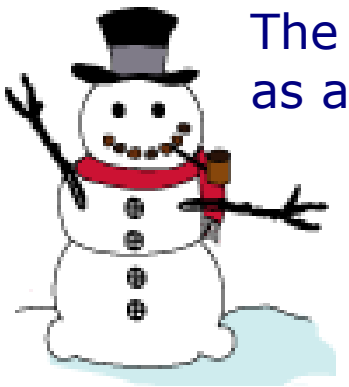
11 AM TO 3 PM

MILL POND RECREATION AREA
MAIN STREET

It's Mill Pond Winter Carnival, a tradition that's nice

Bring on the whole family—so long as there's ICE!

Fun, Food, Games, Prizes and more



The Building will be open for use as a warming hut.

Activities are free.
Food & Drinks may be purchased.

From: [redacted]
Sent: Thursday, January 03, 2019 2:14 PM
To: Selectmen <selectmen@wnewbury.org>
Subject: Proclamation Request

Dear The Honorable Glenn Kemper,

We are respectfully requesting that you consider joining dozens of city and county leaders across the country in officially recognizing January 20-26, 2019 as School Choice Week in West Newbury.

National School Choice Week (NSCW) will feature an unprecedented 40,000+ events nationwide.

National School Choice Week is entirely nonpolitical and nonpartisan, and we do not advocate for or against any legislation. Our goal is simply to raise awareness, among parents, of the public and nonpublic K-12 education options available to their children. Last year, more than 720 mayors and county leaders, along with 32 governors, the unanimous United States Senate, and the President issued proclamations recognizing NSCW.

Please let me know if you will be able to issue this proclamation and help us raise awareness of the importance of opportunity in education. I greatly appreciate your consideration. We have provided both a Word and .PDF proclamation template on our website at:
https://schoolchoiceweek.com/proclamations/
Also, for your convenience, we have provided the suggested proclamation language below.

If you have already sent us a proclamation please disregard this email.

If you have any questions, please just write back and let me know. Thank you in advance.

Best,
Andrew

Andrew Campanella
President
National School Choice Week
www.schoolchoiceweek.com

School Choice Week, 23052 - H Alicia Parkway, Suite 612 - Mission Viejo, CA 92692

A Proclamation Commemorating Town of West Newbury School Choice Week

WHEREAS all children in the Town of West Newbury should have access to the highest-quality education possible; and,

WHEREAS the Board of Selectmen recognizes the important role that an effective education plays in preparing all students in West Newbury to be successful adults; and,

WHEREAS quality education is critically important to the economic vitality of West Newbury; and,

WHEREAS West Newbury is home to a multitude of excellent education options from which parents can choose for their children; and,

WHEREAS, educational variety not only helps to diversify our economy, but also enhances the vibrancy of our community; and,

WHEREAS our area has many high-quality teaching professionals who are committed to educating our children; and,

WHEREAS, School Choice Week is celebrated across the country by millions of students, parents, educators, schools and organizations to raise awareness of the need for effective educational options;

NOW, THEREFORE, We, the Board of Selectmen do hereby recognize January 20-26, 2019 as West Newbury **SCHOOL CHOICE WEEK**, and I call this observance to the attention of all of our citizens.

_____ _____

Glenn A. Kemper, Chairman Date

_____

David W. Archibald

_____

Joseph H. Anderson, Jr.
BOARD OF SELECTMEN
TOWN OF WEST NEWBURY

TOWN CLERK MEMO

TO: Finance Committee and Board of Selectmen

FROM: Michael P. McCarron

SUBJECT: Early Voting Expenses Reimbursement

DATE: January 15, 2019

CC: Town Manager and Town Accountant

This is a follow-up on previous Town Meeting Articles.

Pursuant to Article 4 of the Special Town Meeting of April 30, 2018, the Town voted $2,000 from Free Cash to fund expenses pertaining early voting for the November 6, 2018 State Election.

Those funds plus an amount from the Board of Registrars expense budget were spend to provide an early voting ballot area at the Town Office Building.

Since the costs associated with early voting constitute a state mandate, the Town applied for reimbursement of costs and expenses for conducting early voting.

On January 9, 2019, the State Auditor approved West Newbury request for reimbursement in the amount of $2375.88. This sum will be deposited in the General Fund. Additionally, the Town received a $400 grant from the State for conducting early voting hours on the weekend.

Municipal Campus Microgrid Discussion

The Energy Advisory Committee has recently been involved in completing two projects; the Municipal Campus Microgrid (MCM) Feasibility Study, accomplished by Advisian, and submission of West Newbury's Green Communities Annual Report (GCAR). Advisian's report provides food for discussion as to whether and how to proceed with developing an MCM, how sustainable an MCM should be, and how it could be paid for. Having completed the GCAR may make the town eligible to apply for a Green Communities Competitive Grant, and it is possible that could be specified for application to some aspect of an MCM project. It is also possible that partial MCM funding sources will become available through other programs offered by the Commonwealth of Massachusetts, such as the Municipal Vulnerability Preparedness (MVP) Program. In any event, some contribution to an MCM project would be necessary from the town, including allocation of staff resources/time.

The purpose of developing an MCM would be:
1) Ensure municipal business continuity and continue to provide critical public safety and resident services during extended electric utility grid outages.
2) Provide a place of refuge for any vulnerable residents during extended outages. This could include providing electricity to the Housing Authority senior residences contiguous with the 1910 Building and Annex. Residents' needs for a place of refuge could be explored through a survey of residents and stakeholders (e.g. Public Safety, Council on Aging, Housing Authority, Community Center Committee) to assess concern about emergency shelter, to understand what options residents have if they are without power for varied time durations, and to consider any complementary efforts or services contemplated or currently offered by the stakeholders. The Council on Aging Director could be helpful in gathering information from elders, to understand what their options would be if without power for several days or longer.
3) Provide an ongoing revenue stream to the municipality during times of normal grid operation by net metering excess electric power renewably-generated and/or stored by microgrid components.

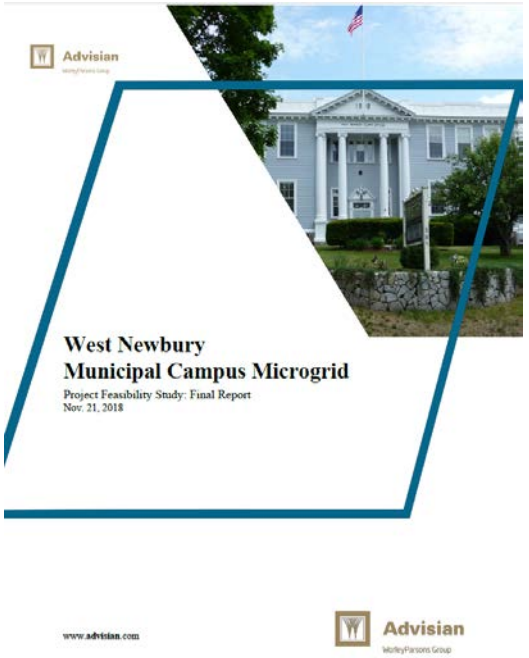
Climate change is upon us, with warnings more dire in each new report. Last October, the IPCC released an alarming climate report describing much more rapid global changes than previously projected, and more recently it was reported that ocean temperature rise is happening much faster than expected. Early manifestations of climate change are most evident locally through increasing frequency of intense weather events, rising sea level, and warming average temperatures, and will almost certainly become more significant with each year. Local effects have included increasing frequency and duration of electrical power outages. To mitigate long-term damage and minimize our personal and collective contributions to the problem, all of us need to act by ramping up our response. The Energy Advisory Committee's efforts to date have focused on reducing causal factors, such as municipal use of fossil fuel derived energy. Development of an MCM focused on sustainable energy supply would be a local direct action to mitigate risk to the town's population.

West Newbury Municipal Campus Microgrid feasibility and planning study

Public presentation of the results of the **West Newbury Municipal Campus Microgrid feasibility and planning study**, prepared on behalf of the West Newbury Energy Advisory Committee, and with support from a Municipal Energy Technical Assistance Grant from the Massachusetts Dept. of Energy Resources.

The study, carried out over three months by the global engineering and technical advisory firm WorleyParsons, included analysis of all building load data, site temperature and weather data, state and federal incentives, utility costs, financing options and the full range of applicable technologies.

Approximate study area: Municipal Building, Public Safety Building, Housing Authority



Please Join Us!

Tues. Jan. 22nd at 7pm

Board of Selectmen Hearing Room
381 Main Street
West Newbury, MA 01913

Questions? Contact Mike McCarron, Town Clerk, townclerk@wnewbury.org or (978) 363-1100 x110

Project data was analyzed using the XENDEE platform, the world's most advanced software tool for the design and optimization of microgrids and other distributed energy systems. As well as the optimal technology configuration, project phasing was considered as a means of ensuring a least-cost, best-fit solution that would meet the Town of West Newbury's performance goals for the Municipal Campus Microgrid, to serve as an emergency shelter and to support the operations of critical facilities (police and fire stations, town office, and communications). We are excited to share the results of the study with our constituents and neighbors so that all may benefit from the shared learning.

Study results will be presented by Tristan Jackson, WorleyParson's Director of Smart & Distributed Energy

Advisian
WorleyParsons Group

West Newbury Municipal Campus Microgrid

Project Feasibility Study: Final Report
Nov. 21, 2018

www.**advisian**.com

Advisian
WorleyParsons Group

West Newbury Municipal Campus Microgrid Project Feasibility Study: Report

Rev	Description	Author	Review	Advisian Approval	Date
0	Municipal Campus Microgrid Feasibility Study: Final Report	 A. Ruotolo	 T. Jackson	 G. Evans	21-Nov-18

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Appendix List

1 Executive Summary

TOWN OF WEST NEWBURY MUNICIPAL CAMPUS MICROGRID FEASIBILITY STUDY: REPORT

In this study, the technical and economic feasibility of building a Municipal Campus Microgrid (MCM) has been assessed. The planned MCM would serve the Town of West Newbury safety complex, Town Office, housing authority and annex buildings, located at 381-401 Main St., West Newbury, MA, with reliable, resilient power.

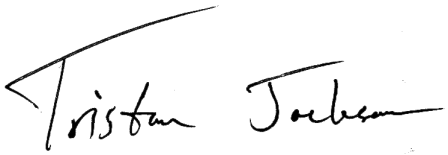
This report details the approach and process used, data gathered, and key considerations for modelling and planning the MCM. In addition to site-specific data, the study draws on validated databases from NREL, Lawrence Berkeley National Lab, EPRI, and WorleyParsons Group, for data such as weather patterns, technology costs, and costs of loss of power.

The modeling exercise shows that meeting all site requirements using only renewable power is very challenging for this site. Space constraints on where panels can be installed limit the ability of solar generation to provide enough electricity to power through outages lasting more than one week, especially in winter. However, solar can show an attractive return on investment and does add to MCM resilience, in particular as a hedge against fuel price volatility, and 2019 is a key year for maximizing the value of both the federal tax credit and the Massachusetts SMART program. To capture incentives, which can be used by investors if not by the Town of West Newbury, 2019 is a good year to develop solar power projects.

Looking only at economics, and under the current economic reality (i.e. cheap oil, no carbon tax or cap on emissions from small generation, etc.), the most cost-effective solution is to use the existing diesel generator to provide back-up power. Adding a microgrid controller and making changes to the cabling configuration and the generator contract would enable automatic islanding of the full MCM system, powering all buildings with the existing generator. A controller system would also enable future energy resources to be integrated and would manage the balancing of all loads and energy resources in the MCM system.

The study shows that accounting for a value of avoiding power outages (the value of resilience), a range of projects are feasible with payback periods in as little as three years. The next step is to engage key stakeholders in assessing the merits of the different options and road mapping an approach to the project. We at Advisian (WorleyParsons Group) would be proud to take that next step with you, toward a more sustainable and resilient future.

Sincerely,



Tristan Jackson, Director, Smart & Distributed Energy

2 Overview of Process

2.1 Procedure followed & data used in analysis

2.1.1 From RFP – Project Description

"This project is a feasibility study for a Municipal Campus Microgrid (MCM) to operate as an island during utility power outages and net meter with the utility at other times. The Campus is comprised of the Town Office Building, Annex, Senior Housing units, and Public Safety Complex. The physical components of the MCM may include solar PV canopies and/or rooftop solar PV, battery storage, fuel cell electrical generation (currently natural gas feedstock, but potentially hydrogen in the future), and interface with the existing Public Safety Complex 200kW diesel generator."

2.1.2 Assumptions and Constraints used in the Model

The first step in the analysis is to identify the assumptions defining the system that will be modelled. Some assumptions are general for all sites, such as technology costs, while other assumptions vary by site. Site-specific assumptions used in the model include:

- Available space for placing energy assets such as PV solar panels
- Fuel and grid electricity costs
- Existing infrastructure
- Distances, property lines and right of ways
- Energy loads to be served
- Duration of grid outages to be considered for emergency scenarios

Through information exchange including emails, phone conversations, and an in-person meeting and site visit, the project team confirmed that the property lots under consideration are contiguous and could be interconnected to form a single microgrid from an electricity design perspective. However, the additional effort and cost to interconnect the buildings from a thermal design perspective was ruled out as infeasible in terms of financial viability, given the layout of existing infrastructure and the size of the thermal loads. It was also determined that existing electrical conduits could be repurposed, that the substrate is amenable to ground works such as placing footings for solar PV canopies, and that there are parking lots and portions of the building roof space that could be used for installing solar PV.

Available Space: Geographic Information System (GIS) analysis of the site shows that the preferred parking lot for solar PV canopy installation, the parking lot to the rear of the facilities, offers about 2,000 m^2 available space. Including the preferred roof space on the annex and some of the other possible parking lot space, a conservative estimate of space available for PV is 3,000 m^2. Space was also identified, both indoor and outdoor, for possible siting of Battery Energy Storage System(s) (BESS).

Fuel and grid electricity costs: Costs are based on current energy bills for the facilities to be served, and National Grid tariff data published online (electric rate G-2[1] and gas rate G-41[2]).

Existing infrastructure: Existing infrastructure, including heating equipment, cabling, junction and breaker boxes, transformers and the existing backup diesel generator were noted and assessed during the walkthrough. The diesel generator and the existing cables and conduits could be repurposed to support the MCM, and there is available space to add switchgear and controls in existing breaker rooms.

Distances, property lines and right of ways: The property lots are contiguous and no public streets pass through the properties, enabling easy interconnection of the buildings. The MCM was modelled as one, single microgrid comprised of the four (4) facilities under consideration. The MCM would have one Point of Common Coupling (PCC) with the grid.

Energy loads to be served: For determining the loads to be served, utility bills were collected for the four (4) buildings under consideration, and the key data was extracted into spreadsheet format. The data received in this way was incomplete, with some months' data missing. To run the analysis, the load profile data was synthesized using representative building load data from comparable buildings, applying the software tool and database EnergyPlus.[3]

Duration of grid outages to be considered for emergency scenarios: Emergency scenarios were modelled as outages of 3-day, 1-week, and 2-week durations.

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[1] https://www.nationalgridus.com/MA-Business/Rates/Service-Rates
[2] www2.nationalgridus.com/docs/partners/marketers/Boston_Tariffs.pdf
[3] https://energyplus.net

2.1.3 Steps Taken and Types of Information Utilized in the Study

- Site evaluation
  - Property ownership, right of ways, access
  - Existing infrastructure: electric, gas, water, Balance of System (BOS)
  - Available space
  - Aesthetic preferences
  - Building orientation
  - Roof/building structural integrity
  - Substrate
  - Any known or suspected issues

- Existing load data
  - Utility bills for 12 months from the four (4) facilities under assessment
  - Fuel cost and operations and maintenance cost for existing diesel generator

- Assess data gaps
  - Identify capacity requirements of critical loads, based on utility bills
  - Develop “synthetic” load profiles to fill gaps in data, modelled using EnergyPlus software

- End user preferences/goals
  - Determine MCM preferred architecture of one, single microgrid
  - Identify expectations for emergency operation (days ride-through capability)

- All information collated and uploaded into Advisian’s XENDEE analysis, design, and optimization software system

- Technically and economically optimal solutions derived through XENDEE analysis

- Sensitivity and scenario testing to determine Cost-Benefit of technically feasible options

- Sharing of findings, iterations and feedback

- Legal and interconnection considerations identified

3 Municipal Campus Microgrid (MCM) Technical Considerations

3.1 Existing Site Loads, Energy Infrastructure, and Constraints

3.1.1 Existing Site Loads

The energy load was calculated using a combination of the energy information from the West Newbury utility bills, and the EnergyPlus building energy simulation package. The EnergyPlus model was needed because the data provided did not cover the level of detail (i.e., hourly interval data for one year) required to complete the XENDEE modelling of the energy system.

Step 1: EnergyPlus modelling
To determine an appropriate hourly energy demand profile for the buildings in question, EnergyPlus was used to model representative buildings. Three building types in total were used to represent the campus, based on reference cases of small office, commercial, and low-rise residential apartment buildings in a similar climate. The resulting hourly demand profiles (8760 annual data points) were created as representations of the MCM buildings.

Step 2: Averaging and scaling demand time-series sets to match utility meter demand
Next, XENDEE was used to parse the 8760 data from Step 1 into representative days. Heating data in BTUs was converted to energy data in units of kWh. The total electric and natural gas consumption per month, for each building, was calculated to establish baseline loads, or "reference cases" (in terms of kWh/month/building). These values (total monthly electricity and gas consumption of the reference cases) were used to create a ratio (multiplier) to apply to the energy consumption data from the provided utility bills. The ratio was then used to scale each hour of the reference load profiles to create synthetic load profiles. The result was one complete year of monthly load profiles for each building that match the available information on billed electricity and natural gas consumption. The process is shown below.

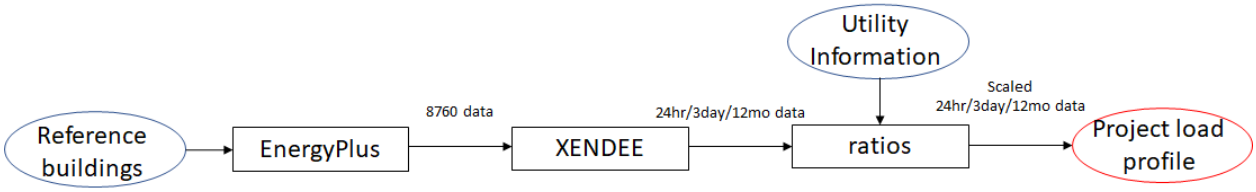
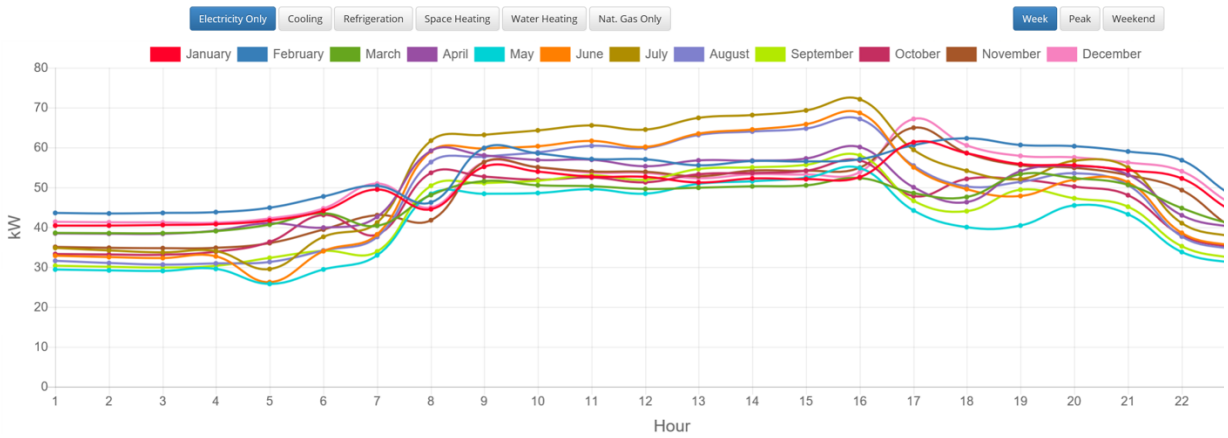


Figure 1. Process using EnergyPlus and XENDEE to create synthetic project load profiles

For months and buildings for which historical peak demand information was available, the scaling process incorporated both demand and monthly consumption, which were extrapolated across the full year. Ratios between end-uses of the reference loads were preserved in the calculated synthetic load profiles for each building.
The following are graphic representations of the resulting demand profiles, showing demand per hour over 24-hour periods for each of the 12 months of the year:



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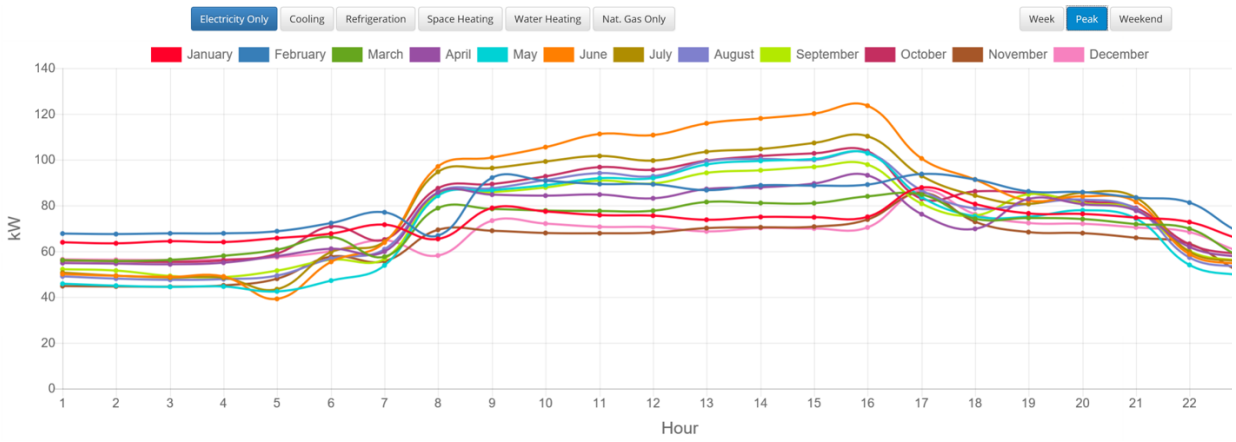

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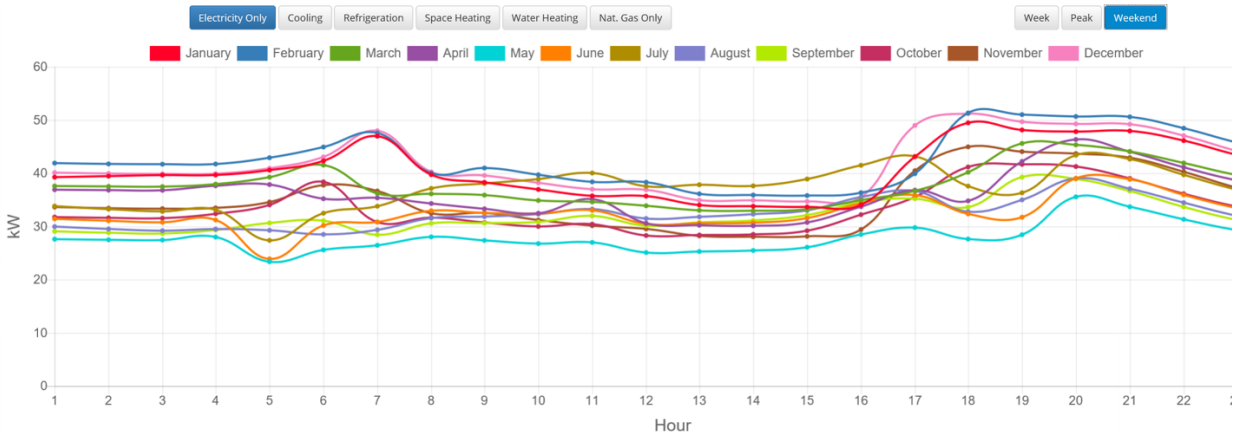


2c

Figures 2a-c: Characteristic load profiles for each month for (a) weekday (b) peak period, and (c) weekend day types.

3.1.1.1 Utility data

Electricity Costs

The utility information given for the West Newbury campus is summarized in Table 1, below.

Table 1. Utility bill data sets provided for reference case load profiles of the MCM facilities

Building Name	Town Office Building (1910 Building)	Annex	Public Safety Complex	West Newbury Housing Authority
Address	381 Main Street	381 Main Street	401 Main Street	379 Main Street
National Grid Electric Account #	53271-88004	90661-02000	15932-97003	15932-97003
Electric Bills provided for use on months	July 2017 to March 2018	July 2017 to July 2018	December 2017 to April 2018	September 2017 to July 2018
National Grid Gas Account #	40214-11810	40214-11880	40214-10790	40214-11820
Electric Bills provided for use on months	July 2017 to July 2018	July 2017 to July 2018	July 2017 to July 2018	September 2017 to July 2018

Electricity Tariff Structure

Although the different buildings are currently served under different utility tariff structures, if combined into one microgrid they would come under a single tariff. The National Grid G-2

tariff is the expected tariff category the combined buildings would fall under. The G-2 tariff rate structure is summarized below.

General Service: Demand (G-2)

This service is designed for commercial and industrial customers with average use exceeding 10,000 kWh per month and demand not exceeding 200 kW.

Rates for Delivery Service

Customer Charge	$25.00/month
Distribution Demand Charge	$8.50/kW
Distribution Energy Charge*	1.607¢/kWh
Transmission Charge	2.333¢/kWh
Transition Energy Charge	(0.061)¢/kWh
Energy Efficiency Charge	0.640¢/kWh
Renewables Charge	0.050¢/kWh

* Includes: Basic Service Adjustment Factor (0.041)¢, Residential Assistance Adjustment Factor 0.256¢, Storm Fund Replenishment Adjustment Factor 0.168¢, Pension/PBOP Adjustment Factor 0.138¢, Revenue Decoupling Mechanism Factor 0.130¢, Net CapEx Factor 0.232¢, Attorney General Consultant Expenses Factor 0.001¢, Solar Cost Adjustment Factor 0.016¢, Smart Grid Distribution Adjustment Factor 0.016¢, Net Metering Recovery Surcharge 0.315¢ and Renewable Energy Recovery Factor 0.080¢.

Figure 3: The National Grid G-2 rate schedule used for utility electricity costs in the analysis[4]

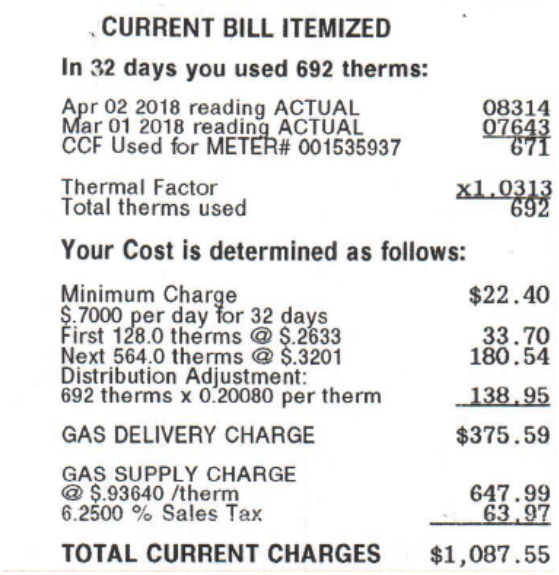
Natural Gas Costs

For gas services, the G-41 commercial heating tariff applies for the buildings to be included in the MCM. The National Grid G-41 tariff has a daily charge for service of $0.70/day. Therefore, over a 12-month year, a monthly service charge of $21.30 was applied in the

[4] https://www.nationalgridus.com/MA-Business/Rates/Service-Rates

modelling. Based on the utility bills for the existing facilities, three costs were applied (i) The supply charge (ii) average charge per therm (iii) distribution adjustment charge.

To convert thermal energy to electricity, a standard conversion factor of 29.3 kWh/therm was used.



CURRENT BILL ITEMIZED

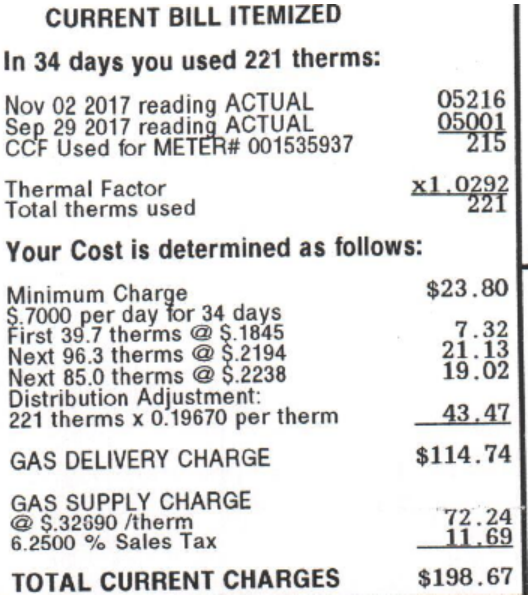
In 32 days you used 692 therms:

Apr 02 2018 reading ACTUAL	08314
Mar 01 2018 reading ACTUAL	07643
CCF Used for METER# 001535937	671
Thermal Factor	x1.0313
Total therms used	692

Your Cost is determined as follows:

Minimum Charge	$22.40
$.7000 per day for 32 days	
First 128.0 therms @ $.2633	33.70
Next 564.0 therms @ $.3201	180.54
Distribution Adjustment:	
692 therms x 0.20080 per therm	138.95
GAS DELIVERY CHARGE	$375.59
GAS SUPPLY CHARGE	
@ $.93640 /therm	647.99
6.2500 % Sales Tax	63.97
TOTAL CURRENT CHARGES	$1,087.55

4a



CURRENT BILL ITEMIZED

In 34 days you used 221 therms:

Nov 02 2017 reading ACTUAL	05216
Sep 29 2017 reading ACTUAL	05001
CCF Used for METER# 001535937	215
Thermal Factor	x1.0292
Total therms used	221

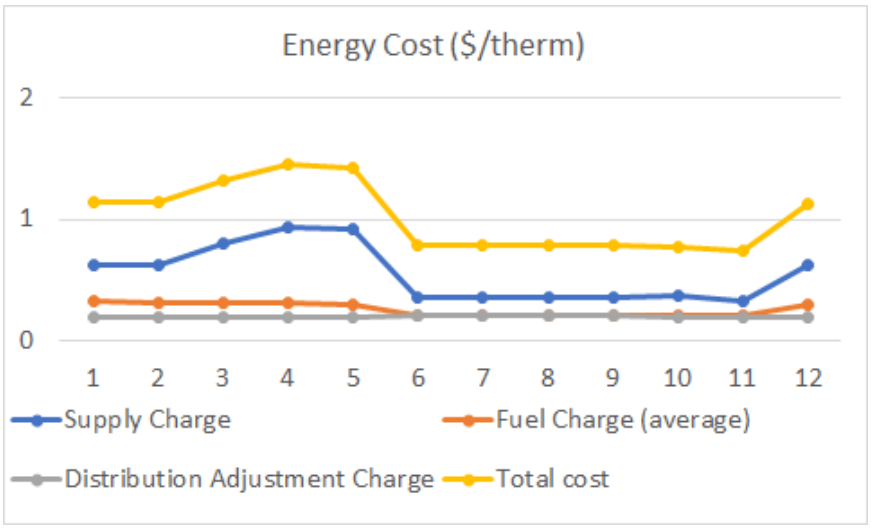
Your Cost is determined as follows:

Minimum Charge	$23.80
$.7000 per day for 34 days	
First 39.7 therms @ $.1845	7.32
Next 96.3 therms @ $.2194	21.13
Next 85.0 therms @ $.2238	19.02
Distribution Adjustment:	
221 therms x 0.19670 per therm	43.47
GAS DELIVERY CHARGE	$114.74
GAS SUPPLY CHARGE	
@ $.32690 /therm	72.24
6.2500 % Sales Tax	11.69
TOTAL CURRENT CHARGES	$198.67

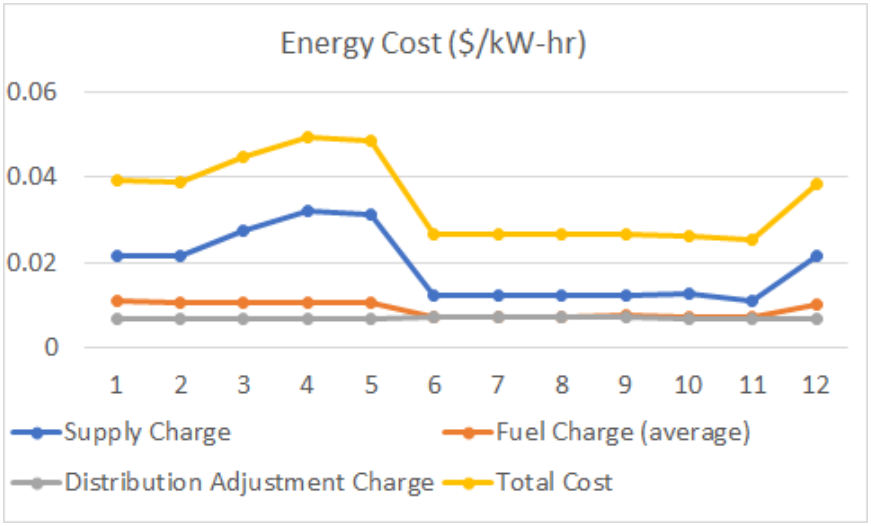
4b

Figures 4a-b. National Grid gas bills for one of the facilities in the MCM campus

The “supply charge” varies from month to month and XENDEE can model costs by the month, so actual rates from 12 months of historical data were used to model the gas supply charge. This cost reflects the wholesale rate of gas and is significant as it can represent the majority of the cost of gas delivered to the point of end use, as shown in the figures below.



5a



5b

Figures 5a-b. National Grid costs of delivered gas broken down by cost component and showing costs in terms of therms of gas (5a) and in terms of kWh of energy (5b)

3.1.1.2 Costs of outages (load curtailment)

The cost of power outages was estimated using the Ernest Orland Lawrence Berkeley National Laboratory outage function report.[5] The report outlines the costs associated with outages given a number of different facility and outage parameters. Based on the report, we estimate cost per unserved kWh for 16 hours for medium and large commercial and industrial users to be $12.70 per kWh. This is a conservative estimate based on the value of lost economic activity relating to loss of electric power, used in this study as it is an accepted industry standard. Placing a higher value on reliability, for instance due to emergency services being valued higher than commercial activity, would result in a shorter payback period for an energy system that enables islanded operation.

Table 2. Costs of outages, per event, average kW, and unserved kWh
Reproduced from Table 3-8 of the Ernest Orland LBNL outage function report

Interruption Cost	Interruption Duration					
	Momentary	30 Minutes	1 Hour	4 Hours	8 Hours	16 Hours
Cost per Event	$12,952	$15,241	$17,804	$39,458	$84,083	$165,482
Cost per Average kW	$15.9	$18.7	$21.8	$48.4	$103.2	$203.0
Cost per Unserved kWh	$190.7	$37.4	$21.8	$12.1	$12.9	$12.7

3.1.2 Existing Energy Infrastructure

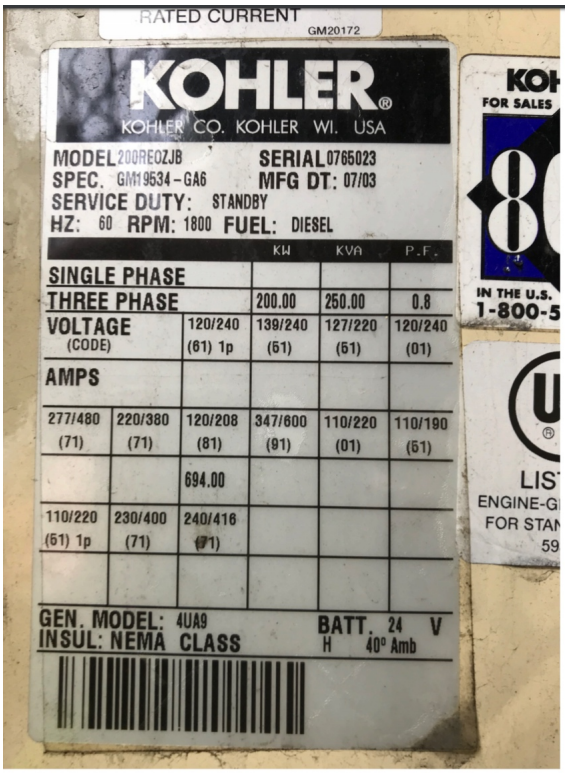
3.1.2.1 Diesel Generator

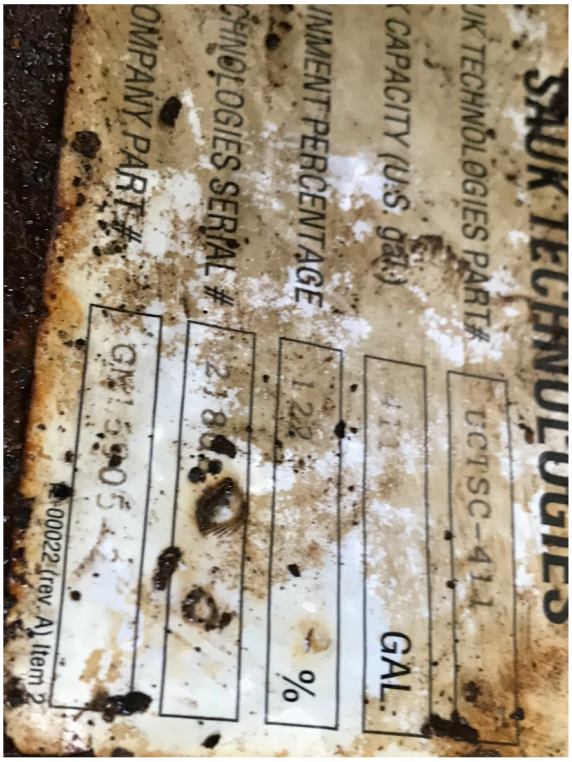
The diesel generator at the facility was modelled according to the nameplate values from the pictures taken from the site visit. The diesel generator was noted to be in good condition and well maintained on a regular schedule, expected to have a long useful life of 20+ years going forward (35+ years total useful life, currently about 15 years old).

Maintenance costs for the generator are assumed to be $510/year, based on data from the past year provided by email during the study.

The tank size of the diesel generator was determined to be 411 gallons. Given the specifications of the generator, one full tank of diesel provides about one week of runtime.

[5] eta-publications.lbl.gov/sites/default/files/lbnl-6941e.pdf





Figures 6a-b Diesel generator nameplate information from site visit photos

Note: Although the existing backup diesel generator is contracted to serve only the Public Safety Complex, if converting the campus to a single microgrid, it would make the most financial sense to enable the generator to serve all the buildings of the campus. Thus, we have modelled the campus as a single aggregate load and modelled the generator as being available to support that full load.

3.1.2.2 Diesel Costs

The diesel price was calculated using 10-year historic averages of each month from the well-cited EIA dataset. The monthly averages are given in the figures below. The data was converted into the required XENDEE input of $/kWh using the conversion of 129,488 BTU/gallon of diesel and 3,412 BTU/kWh.

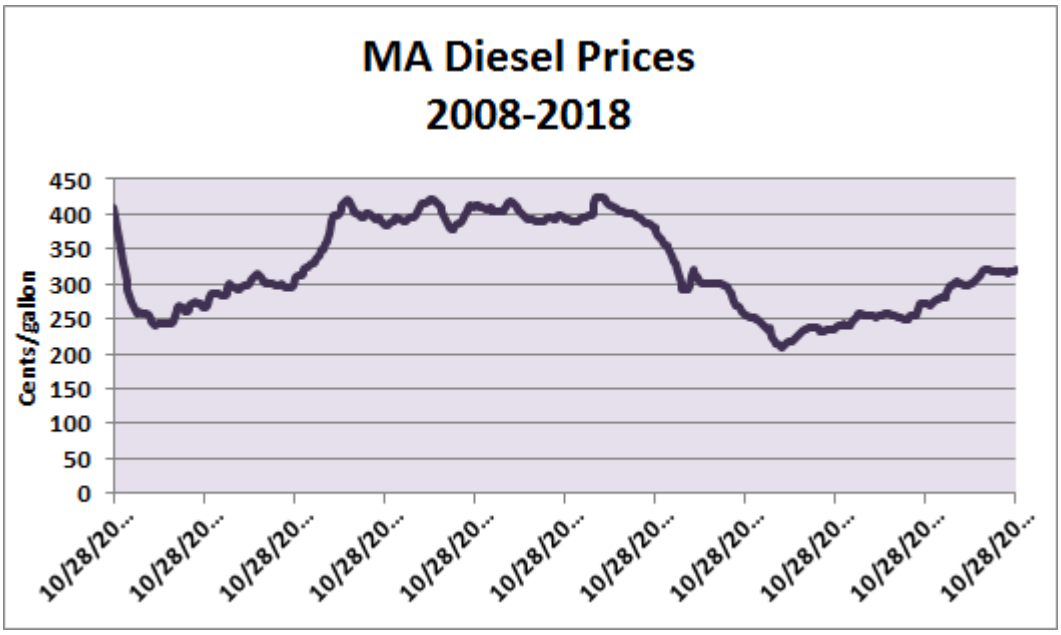
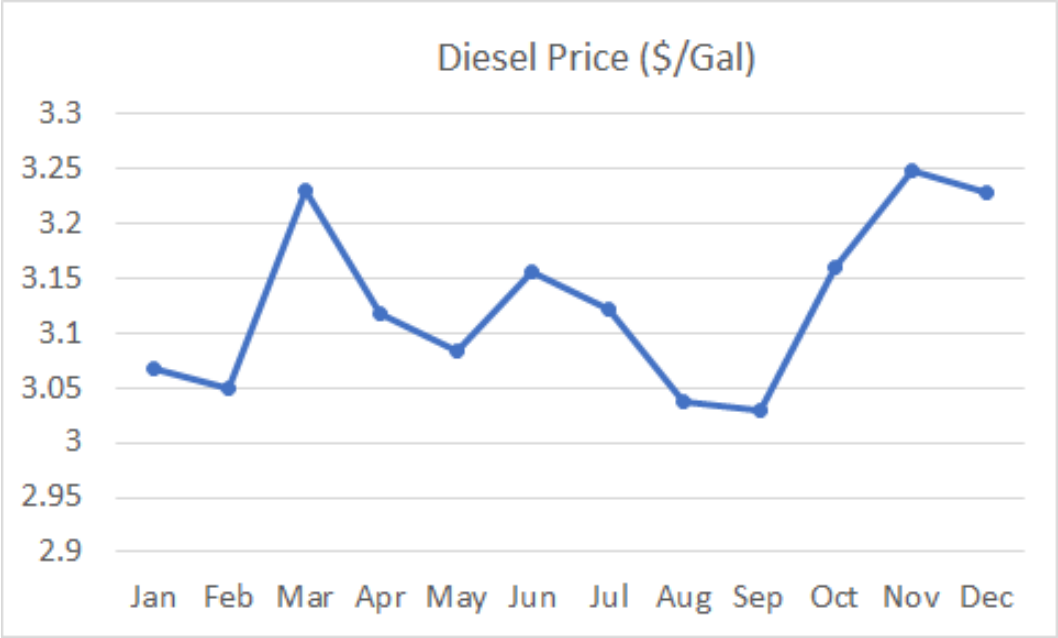
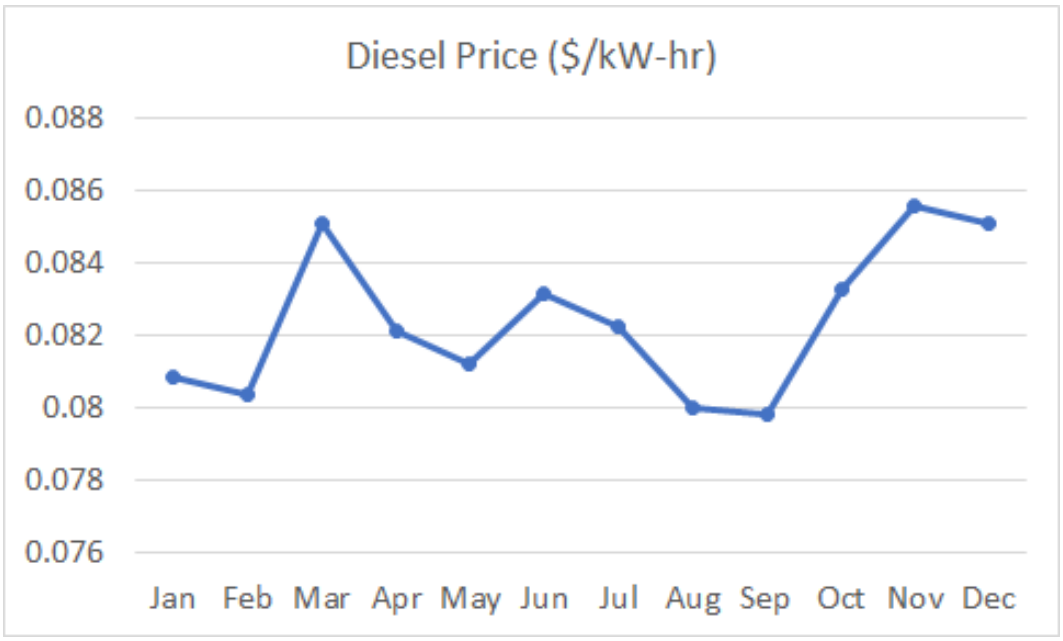


Figure 7. Massachusetts diesel prices over the 10 years preceding this study

Drawing on the 10-year data set above, average diesel price per month was calculated, shown below.



8a



8b

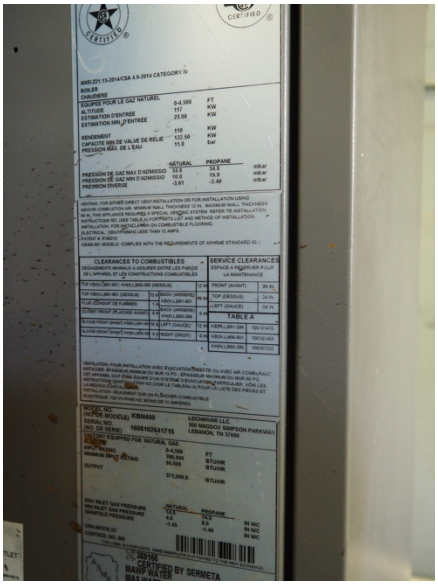
Figures 8a-b. Average monthly costs of diesel in terms of $/gal (8a) and $/kWh (8b) based on data from the past 10 years (shown in Figure 7)

3.1.2.3 Heating Systems

The heating systems of the facilities under consideration are relatively new and of high efficiency, for example, the natural gas fired Lochinvar kb-400[6] units shown in Figures 9a-b, below. These boilers are rated to be 94% efficient and therefore offer very cost-effective conversion of gas to useful heat. The newness and efficiency of the boilers make it difficult for Combined Heat and Power (CHP) to compete on a cost or carbon emissions basis.

When the boilers are due for replacement in the future, it may be of interest at that time to re-assess the value of installing CHP systems rather than heat-only boilers as are in use now.

[6] www.lochinvar.com



Figures 9a-b. Existing boilers assessed in site visit are relatively new, high efficiency units

3.1.2.4 Balance of System

Cables, conduit, breaker boxes and switch gear were noted to be in good condition and with available space for adding new controls systems in existing breaker rooms. There are currently two (2) grid connections to the campus, each served by a large pad mounted utility-owned transformer. Depending on the final configuration chosen for the MCM, one (1) utility transformer could be eliminated and the microgrid would then be grid tied from a single Point of Common Coupling (PCC). Alternately, both existing transformers and grid connections could be kept and the microgrid would then go into island mode by opening two switches at two PCCs. The final decision on this aspect of the MCM layout requires engaging the utility to discuss options taking into consideration grid conditions and asset ownership.

3.1.3 Constraints

3.1.3.1 Space available for Photovoltaic (PV) panels

Solar PV was considered for one (1) rooftop area and three (3) parking lot canopy areas, shown in blue in Figure 10., below.

The large parking lot area toward the bottom of the image is the preferred PV space, providing about 2,000 square meters (22,150ft^2, or 0.5 acre). All spaces combined total about 3,000 square meters.

Other rooftop and parking lot spaces are technically feasible for use but due to issues such as shading, obstacles or other installation challenges, and client preferences, these were left out of this analysis.

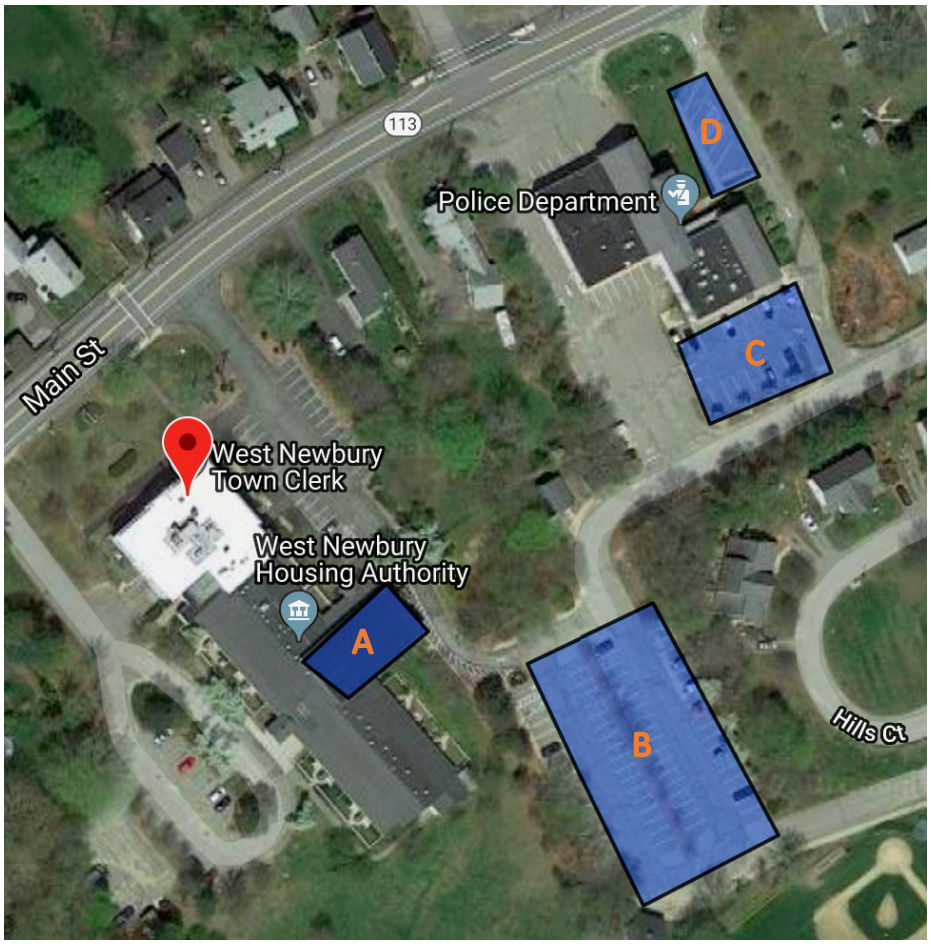


Figure 10. Available space considered for installation of PV solar panels

Due to the coverage ratio, not all of the available space translates into area of PV panels. In particular, rooftop installations require space between the racks to allow walking space for firefighters and for maintenance. The expected coverage ratio and resulting PV array size are shown in Table 3, below.

Table 3. Space available for PV installations and associated nameplate capacity of each array

Name	Area (m^2)	Coverage ratio	PV (m^2)	PV capacity (kW)
A	350	60%[7]	210	26
B	2,000	90%[8]	1800	223
C	450	90%	405	50
D	200	100%	200	25
Total	3,000	87%	2,615	324

3.1.3.2 Solar irradiance

The solar irradiance was calculated based on Typical Meteorological Year (TMY) data from NREL PV Watts calculator. The inputs to the calculator are summarized in Figure 10, below.

[7] Fire code requires walking space be left between racks for rooftop mounted systems
[8] Large parking lot canopies require some spacing to allow for panel tilt angle without causing shading

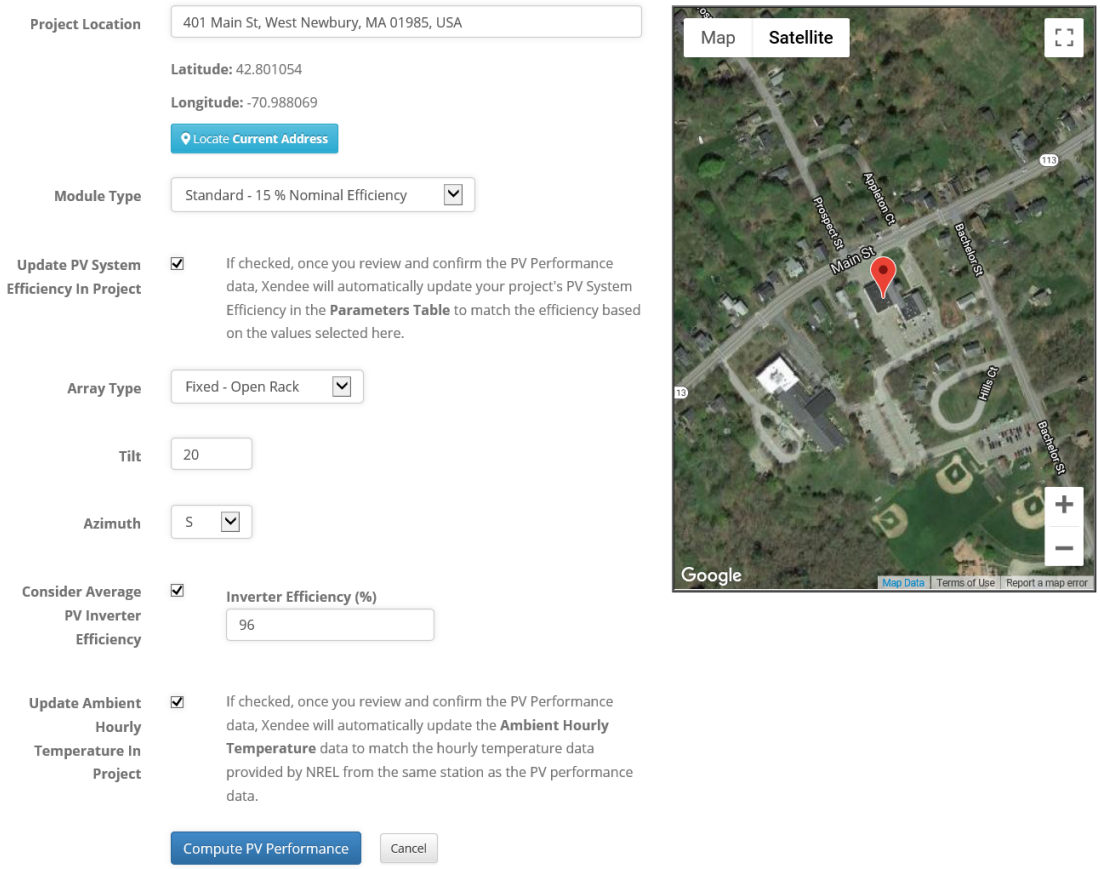


Figure 11. The inputs to the PV Watts calculator for the West Newbury project

Given the typical solar irradiance and temperature profile for the location, and the expected characteristics of the PV panels, racking systems, and inverters, the model produces an expected energy output from the potential PV arrays that could be sited at the location. Expected PV output is generated for each hour of a Typical Meteorological Year (TMY). Graphic representation of the PV energy output on an average day of each month of the year is shown in Figure 11, below.

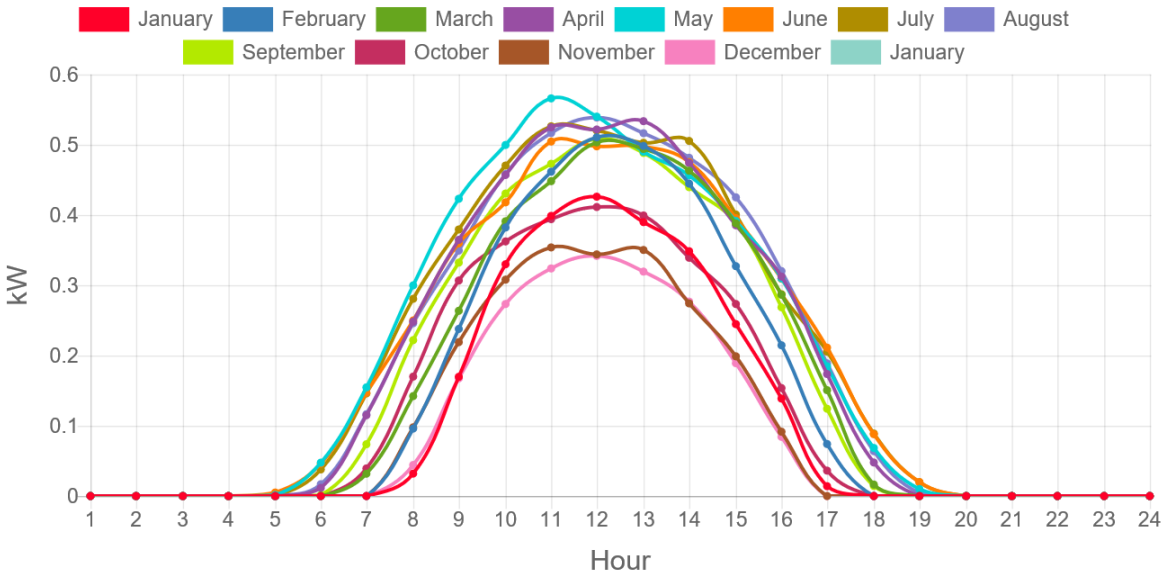


Figure 12. Modelled PV performance based on solar irradiance and temperature at the site; graph shows electrical output of 1 square meter of PV panel for 1 average day of each month

3.1.3.3 Solar PV costs

PV module and Total Installed Cost (TIC) pricing data from WorleyParsons project experience aligns with the NREL U.S. Solar Photovoltaic System Cost Benchmark: Q1 2018 report.[9] From the report, we use the values of $2,130/kW AC for installed PV and $15/kW-yr ($1.25/kW-mo) for the Fixed Operations and Maintenance (FOM) costs.

3.1.4 Incentives

3.1.4.1 Massachusetts Solar Incentives

The solar incentives for the state of Massachusetts are delivered under the new Solar Massachusetts Renewable Target (SMART) program. The SMART program replaces the old SREC II payment method, where solar is exported at a fixed contract price (as opposed to the variable SREC price). "The SMART Program is a 1,600MW declining block incentive program. Eligible projects must be interconnected by one of three investor owned utility companies in Massachusetts: Eversource, National Grid, and Unitil. Each utility has established blocks that decline in incentive rates between each block. The SMART Program will begin accepting applications at 12:00 PM ET on November 26, 2018." [10]

[9] https://www.nrel.gov/docs/fy17osti/68925.pdf
[10] https://www.mass.gov/info-details/solar-massachusetts-renewable-target-smart-program

The rate for incentives is calculated using the SMART Solar Incentive Calculator available on the SMART program website. The inputs to the calculator are shown in Figure 13, below.

Based on the characteristics of this project (i.e. rate class, project size, location, etc.), the calculated SMART incentive value of $0.12565/kWh of PV-generated electricity applies.

Solar Massachusetts Renewable Target (SMART) Solar Incentive Calculator

for Behind-the-Meter Solar Tariff Generation Units

Criteria	Click on cells below, choose from dropdown options	Results
Electric Distribution Company	NationalGrid	NationalGrid
Service Area	MassElectric	MassElectric
Rate Class	G-2 NEMA	G-2NEMA
Capacity Block	2	2
Project Size (kW AC)	>250-500	>250-500
Location Based Adder	Building	$0.02000
Off-taker Based Adder	PublicEntity	$0.02000
Solar Tracking Adder	N/A	$0.00000
Energy Storage Adder*	Enter value in cell E12	0.0365

Notes:
*Follow the link below to access DOER's Energy Storage Guideline, which has a separate calculator to calculate the Energy Storag
https://www.mass.gov/service-details/development-of-the-solar-massachusetts-renewable-target-smart-program

Calculated Rates	
Base Compensation Rate ($/kWh)	$0.18676
Compensation Rate Adders ($/kWh)	$0.07650
Total Compensation Rate ($/kWh)	$0.26326
Value of Energy ($/kWh)	$0.13761

SMART Incentive	
Solar Incentive Payment ($/kWh)	$0.12565
Length of Compensation Rate Term (Years)	20

Figure 13. Massachusetts SMART Program incentive calculation for the W. Newbury project

3.1.4.2 Federal Investment Tax Credit (ITC)

The ITC can be applied to the full cost of a qualifying project, or to the cost of qualifying components of a project. In general, all parts of solar PV systems qualify (panels, racks, inverters, balance of system). Battery Energy Storage Systems (BESS) that charge only from PV also qualify.[11] The ITC will ramp down between 2019 and 2021, shown in Table 4, below.

Table 4. Federal Investment Tax Credit (ITC) ramp-down schedule

Began construction in	Residential %ITC	Commercial & Utility %ITC
2019	30	30
2020	26	26
2021	22	22
2022	0	10

[11] https://www.energy.gov/eere/solar/downloads/residential-and-commercial-itc-factsheets

3.2 Technology Options

3.2.1 Distributed Energy Resources (DER)

3.2.1.1 Solar PV

The majority of the space available for PV installations at the site are parking lots. As a general rule the cost of parking lot canopies is approximately 15% greater than that of rooftop mounted systems of the same nameplate capacity. While canopy racking systems cost more than roof mounted racking systems, the difference in cost is partly made up for in higher efficiency because the canopy panels are cooled by more natural air movement around the panels, and because the coverage ratio of parking lot canopies can be higher than rooftop systems. Ground mount options were not considered due to space constraints and client preferences identified in the site walkthrough.

Consistent with the efficiency ratings of standard PV panels, the panel efficiency used in the modelling was 15% and the racks were assumed to be fixed mount (non-tracking).

3.2.1.2 Battery Energy Storage System(s) (BESS)

The energy storage operating characteristics modelled in this study are based on the technical specifications of building scale Li-ion batteries. The reason for this choice is that Li-ion chemistry is the most cost-effective solution, a proven technology, and also provides the most energy dense storage capabilities to occupy the least possible space. Cost figures are based on recent quotes from battery vendors and from WorleyParsons's recent project experience of installing campus-scale Li-ion batteries. Total Installed Cost (TIC) of similar Li-ion battery systems, including mounting pad, enclosures, and underground conduit from the past month (Oct. 2018) indicate a TIC of $555/kWh of energy storage. To this, the currently available Investment Tax Credit (ITC) of 30% was applied resulting in TIC of $388/kWh.

Round trip efficiency of the Battery Energy Storage System (BESS) is estimated to be 88% and the C-rating (charge and discharge speed) 24%. Minimum state of charge was set to 5%.

3.2.1.3 Fuel cells (natural gas with capability to use hydrogen in the future)

The cost of fuel cells ruled them out of this study. The maturity of the technology is also a factor, as the market is relatively mature for fuel cell systems of one megawatt or larger (>1,000kW), but very immature for systems as small as the MCM (max load 132kW). Finally,

the economics of fuel cells are best when they serve as combined heat and power, because the best developed fuel cells are of a type that produces a significant amount of heat.

For reference on cost, WorleyParsons found in a recent study of fuel cell projects that the cost of the most-used technology, Molten Carbonate Fuel Cells (MCFCs), was in the range of $4.25/W to $5.87/W for electricity-only systems in the range of 1MW-10MW, as compared to solar PV at $2.13/W or reciprocating natural gas generators at $0.97/W. However, these systems are much too large for the West Newbury MCM. In a study of fuel cell systems as small as 200kW, more in-line with the size of the MCM, installed costs were estimated at $11.60/W to $12.04/W. Degradation of the cells for these smaller systems was 20% over five (5) years, that is, much faster than solar PV, a traditional CHP unit, or natural gas generator.

The conclusion was that fuel cell technologies for the size of this project are not commercially ready at this time and should be revisited as an option in several years, or when the existing boilers are due for replacement; as such, fuel cells were not modelled.

3.2.1.4 CHP Generator

Combined Heat and Power (CHP) generation using natural gas fuel was considered in units ranging from 50kW to 200kW and based on representative models created by the Department of Energy. Data as shown in the following Table 5 was used.

Table 5. Example CHP Costs and Specifications, shown for 65kW unit

Unit	Max power (kW)	Lifetime (yrs)	Capital cost ($/kW)	O&M fixed cost ($/kW/yr)	O&M variable cost ($/kWh/mo)	Fuel type	Electrical Efficiency	Heat-to-power coefficient
65 kW CHP	61	20	$3,220	$10	$0.0105	Nat. Gas	0.2717	1.887

As thermal energy in BTUs and electrical energy in kWh can be converted into each other, in modelling only one unit is used: kWh. Energy (both heat and electricity) from heat-only boilers, electricity-only generators, or CHP systems is all expressed in kWh. Heat-to-power coefficient refers to the ratio of electricity to heat output from the CHP unit. Given the electrical efficiency and heat-to-power ratio, the total fuel efficiency can be calculated (in the example of the 65kW unit shown above in Table 5, about 72%). CHP fuel efficiency for units in this size range is typically 65% to 75%.

3.2.1.5 Diesel generator

Because the peak aggregate load of the facilities is 132kW and the existing diesel generator is 200kW, adding additional diesel generation was not considered. Indeed, most diesel

generators operate best at about 80% load and can be damaged if run too lightly loaded. Given that the existing 200kW Kohler diesel is more than big enough to support the full campus load, it would be most efficient to serve the full campus from the single generator.

An additional generator could be added to provide redundancy if a higher level of surety in supply is desired, however this would appear in the model purely as a cost unless the primary generator is assumed to have significant probability of failure.

3.2.2 Microgrid Controllers

According to the DOE, "A microgrid controller refers to an advanced control system, potentially consisting of multiple components and subsystems, capable of sensing grid conditions, and monitoring and controlling the operation of a microgrid to maintain electricity delivery to critical loads during all microgrid operating modes (grid-connected, islanded, and transition between the two)."[12]

Microgrid controllers may operate a centralized set of switch gear or may have distributed switches, and may have cloud-based computing, centralized onsite computing, or distributed onsite sensors and controls capable of central control or independent operations.

3.2.2.1 Microgrid Controls Vendor Options and Considerations

- List of vetted providers offering viable solutions (in alphabetical order)
  - ABB
  - OATI
  - S&C (IPERC)
  - Schneider
  - SEL
  - Siemens
  - Spirae
  - Trimark

The vendors listed above are leading in the field of microgrid controller development and have offerings appropriate for the (small) size and (low) complexity of the MCM project.

[12] https://ieeexplore.ieee.org/document/7948859

Prices for a controller system appropriate for this site range from about $50,000 to about $200,000. The companies listed above offer different levels of functionality of the controller, and different levels of reliability, strength of warranty, and levels of experience in the market. For an exact quotation, we have vetted these companies for multiple projects and we can issue a Request for Quotation (RFQ) for up to date pricing and specifications when the West Newbury team is ready for detailed design.

To ensure the optimal controller at least cost, our Smart & Distributed Energy team can perform vendor bid evaluations against the MCM microgrid controller specification, then conduct a second round of Q&A with the vendors to create a short list, and finally hold conference calls to negotiate on price and value with the short-listed vendors to determine the selected vendor.

4 Other Key Considerations

4.1 Interconnection

4.1.1 Interconnection technical requirements

- Technical and legal interconnection considerations within the MCM

Within the MCM properties a significant amount of conduit, cable, junction and breaker boxes exist that can be repurposed to interconnect the buildings. New cable and conduit will be required to connect new energy assets such as solar PV and BESS, however, these costs are included in the Total Installed Cost (TIC) estimates of these technologies. The legal challenge with using existing infrastructure is that some of these assets belong to the utility, National Grid, which would need to either sell them to the MCM or grant a concession for their use according to agreements and appropriate use fees. This is an open conversation to have with National Grid and includes both property rights and governance of controls.

The primary challenge from a technical and legal perspective is the requirement for sub-metering and allocating energy access rights, that is, defining the hierarchy of critical to unimportant loads. The microgrid controller system will have control over the different circuits of the campus and in general controllers have a programmed sequence of operations to begin shedding loads as stored energy and/or fuel begins to run low. When multiple buildings with different critical functions are involved this brings up the question of trade-offs between which loads to serve in the event of a forced-choice decision when at least one load must be shed to maintain power to the rest of the circuits. These issues are addressable but must be aired in a transparent and open process so that all key stakeholders have the opportunity to weigh in on the decision-making process.

- Technical and legal interconnection considerations between the MCM and utility grid

The microgrid would be treated primarily as Distributed Generation (DG) because the risk it brings to the utility is that energy can “back feed” from the MCM to the grid and endanger line workers, as well as in some cases requiring grid infrastructure upgrades to carry the new capacity from a DG source. The latter issue, of requiring grid upgrades, will not arise in this case as the MCM is relatively very small and will have negligible impact on the grid. To the first issue, of creating back feed to the grid, the standard approach is to give the microgrid owner control over going into island mode (disconnecting from the grid), but give the utility control over coming out of island mode (reconnecting to the grid). This allows the utility to follow safety protocols before allowing the microgrid to reconnect following a grid outage.

4.1.2 Interconnection fees schedule and timeline

- National Grid's schedule of fees

According to National Grid's schedule of fees for the interconnection process of distributed generation assets, these costs are negligible. As this is a simple project, it should not require extensive review and should not require any grid infrastructure upgrades to interconnect the microgrid. The expected cost of interconnection fees is $1,000 to $1,500. The minimum fee is $300 and the maximum possible for this project is about $2,000, as shown in Table 6, below; reference column labeled "Standard".

Table 6. National Grid interconnection fee schedule for distributed generation assets[13]

	Simplified	Expedited	Standard (Note 1)	Simplified Spot and Area Network
	Listed Small Inverter	Listed DG	Any DG	Listed Inverter
Application Fee (covers Screens)	$28 per application (Note 2)	$4.50/kW, minimum $300, maximum $7,500	$4.50/kW, minimum $300, maximum $7,500	≤3kW $100, >3kW $300
Supplemental Review (if applicable)	N/A	Up to 30 engineering hours at $150/hr ($4,500 maximum) (Note3)	N/A	N/A
Standard Interconnection Initial Review	N/A	N/A	Included in application fee (if applicable)	N/A
Impact and Detailed Study (if required)	N/A	N/A	Actual cost (Note 4)	N/A
System Modifications	N/A (Note 5)	Actual cost	Actual cost	N/A
O&M (Note 6)	N/A	TBD	TBD	N/A
Witness Test	0	Actual cost, up to $300 + travel time (Note 7)	Actual Cost	0 (Note 8)

[13] https://www9.nationalgridus.com/non_html/Interconnect_stds_MA.pdf

- National Grid's timeline for the interconnection process

Because the MCM would by definition contain distributed generation, National Grid's schedule for Distributed Generation (DG) installations applies. Because it would be a microgrid and not simply DG, National Grid may request some extra review time. The process for DG is designed to take no more than 9 months (270 days). However, for this project it is expected to go faster because the potential impacts to the grid are minimal.

Table 7. National Grid interconnection timeline for distributed generation assets[14]

	Standard
Eligible Facilities	Any DG
Acknowledge Receipt of Application (Note 2)	(3 days)
Review Application for Completeness	10 days
Complete Review of All Screens	N/A
Complete Supplemental Review (if needed)	N/A
Complete Standard Process Initial Review	20 days
Send Impact Study Agreement	5 days
Complete Impact Study (if needed) (Note 3)	55 days
Complete Detailed Study (if needed) (Note 3)	30 days
Send Executable Agreement (Note 4)	15 days
Total Maximum Days (Note 5)	135 days (160 days if the application starts in the Expedited process)
Construction Schedule	By Mutual Agreement
Witness Test	See Section 3.4(n)

[14] Ibid

4.2 Public Shelter Services

4.2.1 General considerations for public emergency shelters

- Population and location served

For the Town of West Newbury, having abut 4,250 residents in a small, rural New England town setting, power outages of up to three days are taken largely in stride. Longer outages could occur in any season but are most likely and create highest risk during icy conditions in the winter, and when the demand and stress on the electricity grid peaks at the height of the summer. Under extreme conditions, the most important functions of a public emergency shelter are to provide heated or cooled space, communications, water, waste management, light, accommodations to vulnerable members of the public, and a base of operations and support for emergency personnel.

4.2.2 Water & sanitation

- Water requirements and means of ensuring secure supply

Water supply was determined in the site visit to not be an issue, because the water supply is gravity fed from a large water tower that has its own backup power system and can reliably supply water under emergency conditions. Ways to improve water security at the site include installing a holding tank or drilling an onsite well and being able to pump from such onsite sources using microgrid power in islanded mode. These options were not included in the analysis conducted in this study as they were deemed unnecessary given the security of the existing supply.

- Sanitary disposal and means of ensuring secure provision

Sanity disposal of human waste is also not considered an issue for the MCM facilities, as water will continue to flow through the system provided supply is coming in (see previous point). Because the facilities use on-site septic tanks and leach fields that in general do not have capacity constraint issues, and as no lifter pumps are involved, the sanitary disposal system in its current condition is considered resilient and fit for purpose to support use of the facilities as an emergency shelter.

4.2.3 Heating, cooling, electricity & communications

- Heating requirements and solutions

The facilities of the MCM are served by natural gas pipeline, which is considered by FEMA to be a reliable source of energy for emergency purposes. The existing heating systems are in good condition and are high efficiency. However, the HVAC systems require electricity to function, so by creating a reliable, resilient electricity supply the needs for securing heating supply should also be met.

Options for redundancy in the heat supply include oversizing the electricity system and having electric heaters on hand for back up, and/or having back-up liquid fuel heaters with onsite emergency supply of liquid fuel. These options were not analyzed in detail in this study but can be assessed in detail at a later stage of the process if desired.

- Cooling requirements and solutions

Based on the data provided in the study, the peak electrical load of the year occurs in July, when demand for air conditioning is at its highest. Because there are air conditioning systems and fans that run on electricity and because cooling is critical under extreme conditions, the peak cooling load has been taken into consideration in sizing the electrical generation and storage components of the microgrid to ensure the system can maintain cooling during times of peak demand.

- Electricity requirements and solutions

A primary need of citizens during emergencies is to be able to communicate with others at a distance and receive news. To meet this need, emergency shelters should provide areas with many easily accessible outlets and charging cords for cell phones and should have communications equipment that is maintained both the inform the public and to support emergency personnel. These electrical loads are small in comparison to air conditioning and nighttime lighting. Secure supply for all expected electrical loads relating to communications and lighting are included in the modelling that was carried out of the system, as 100% of electrical demand was met in the microgrid model, and as such additional services as facilitating cell phone charging would put negligible load on the system.

4.3 Legal considerations

Given the properties are contiguous and of public use/benefit, property lines and interconnecting the buildings electrically should not be an issue. The primary legal consideration is with respect to National Grid. The easiest and most cost-effective way to create the MCM would be to pay for use of or buy the existing cables and related utility assets on the properties. National Grid may or may not be open to allowing the MCM to use or to buy grid assets on the premises. National Grid also has franchise rights to be the only distributor of electric power to the area and would need to be closely engaged in conversations and negotiations over ownership, governance, operating procedures, and how sub-metered users of the MCM would be billed and provided with service.

5 Results and Recommendations

5.1 Results

Three (3) cases were modelled:[15]

- The reference case of using only grid electricity and the existing backup generator
- Enabling installation of solar PV and BESS
- Enabling installation of solar PV and BESS, and/or CHP

For all three (3) cases, four (4) scenarios were modelled:

- No grid outage
- 3-day outage
- 7-day outage
- 14-day outage

The cost of capital was assumed to be 5%.

In all scenarios, the generator fuel tank was assumed to be unable to refill during the outage.

There are two (2) extremes of the year, December and July, with least sun and highest heating load in winter, and highest electrical load in the summer. Consequently, to ensure the system would be able to handle the entire year, each of the three cases was modeled under each of the four scenarios focusing on ability to meet all loads during the months of December and July.

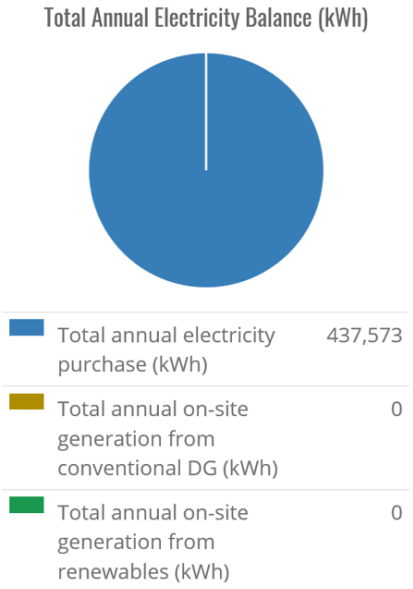
The cost of an outage is assumed to be $12.70 per kWh. Thus, the economic optimization algorithm can consider *not* meeting loads as an alternative to meeting loads with on-site generation, if onsite generation is not cost competitive in comparison to curtailing a portion of loads during grid outages at a cost of $12.70/kWh.

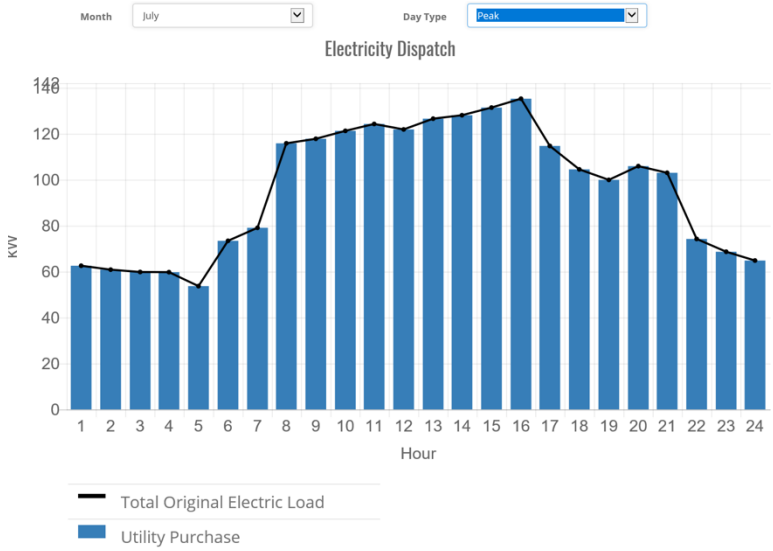
For all cases, it was assumed a microgrid controller costing $75,000 would be installed.

[15] For detailed quantitative results from all cases and all scenarios, please see Appendix 1.

5.1.1 No outage, reference case

Using all grid power for electric loads and natural gas for heating, and assuming no outages, the total energy consumption of the MCM facilities is 437,573 kWh/year, at a cost of $64,860/year and with all-in Levelized Cost of Energy (LCOE) of $0.1482/kWh. All loads are met with utility purchases and the back-up generator does not run.

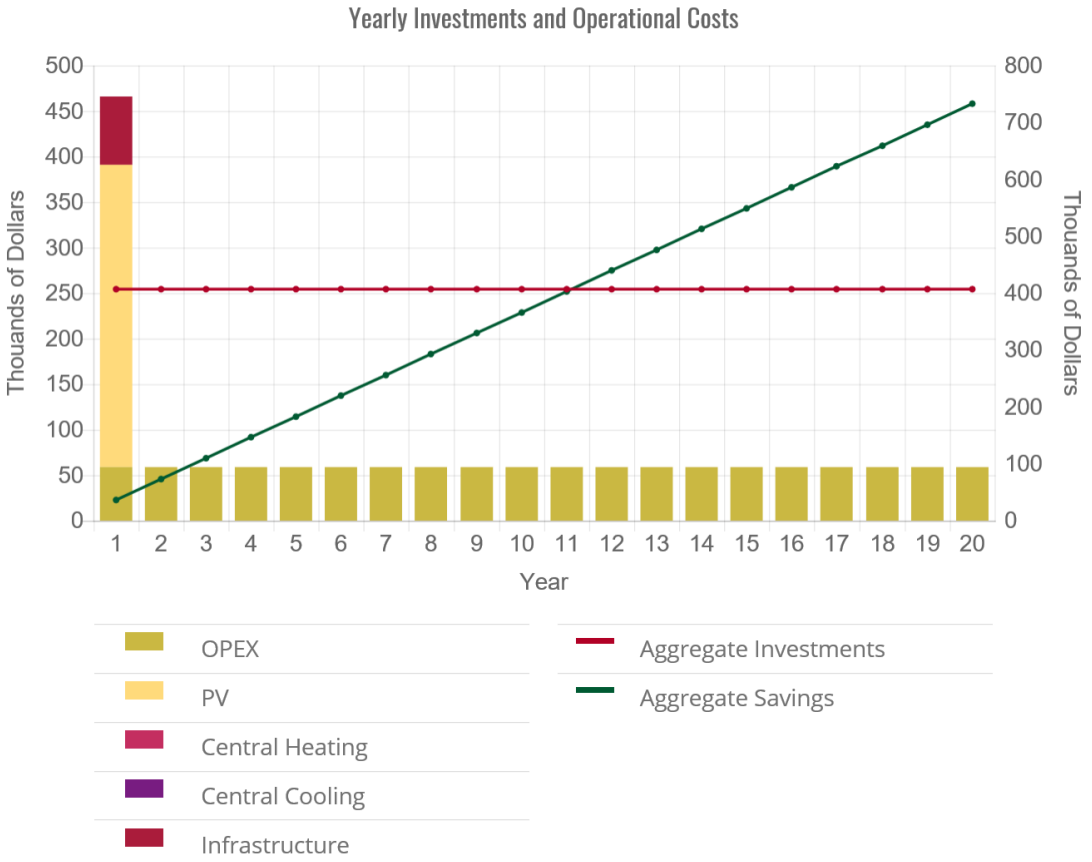


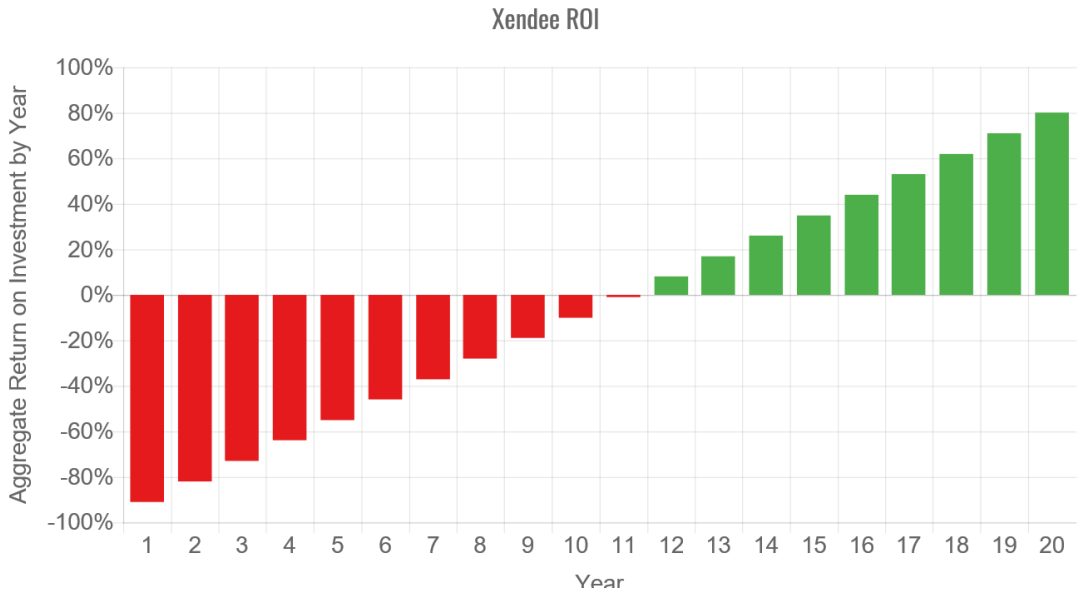


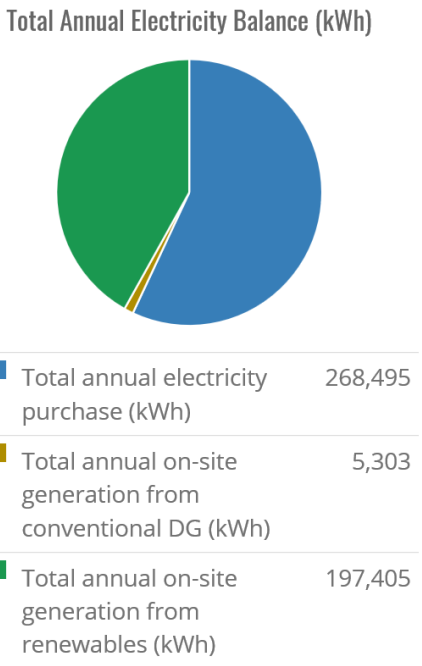
5.1.2 3-day outage

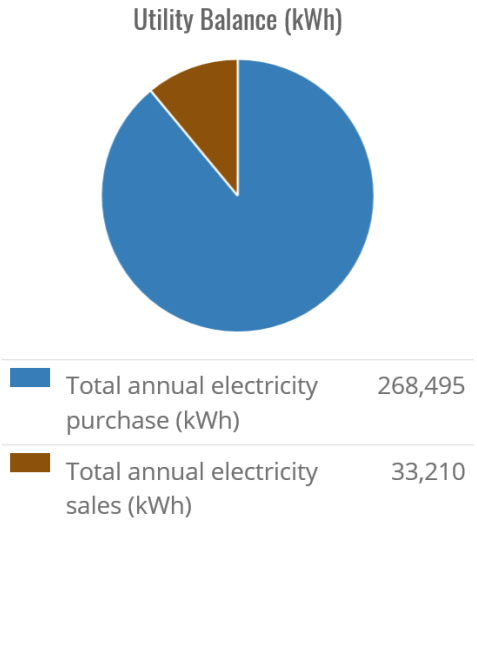
For a 3-day outage in December, the existing generator rides through the outage without running out of fuel. The LCOE goes up to $0.1503 due to the cost of consuming diesel, but no load is curtailed and no new energy assets are shown to be economical.

For a 3-day outage in July, the existing generator runs out of fuel and if no other energy assets are installed, 2042 kWh of load are curtailed. This causes the LCOE to increase to $0.2097 due to the cost of consuming diesel until it runs out, and then the higher cost of curtailed load. In this scenario, given the option to select PV, BESS, and/or CHP, the model's first choice is to buy a 50kW CHP generator with TIC of about $240,000. If also optimizing to reduce carbon and hedge against fuel price volatility, the model selects installing 156kW of solar PV at a cost of about $410,000. The model still buys more electricity from the grid than is produced onsite, and the solar PV system achieves a positive ROI in the 11th year.


Yearly Investments and Operational Costs
Thousands of Dollars
Thousands of Dollars
Year
OPEX
PV
Central Heating
Central Cooling
Infrastructure
Aggregate Investments
Aggregate Savings


Xendee ROI
Aggregate Return on Investment by Year
Year

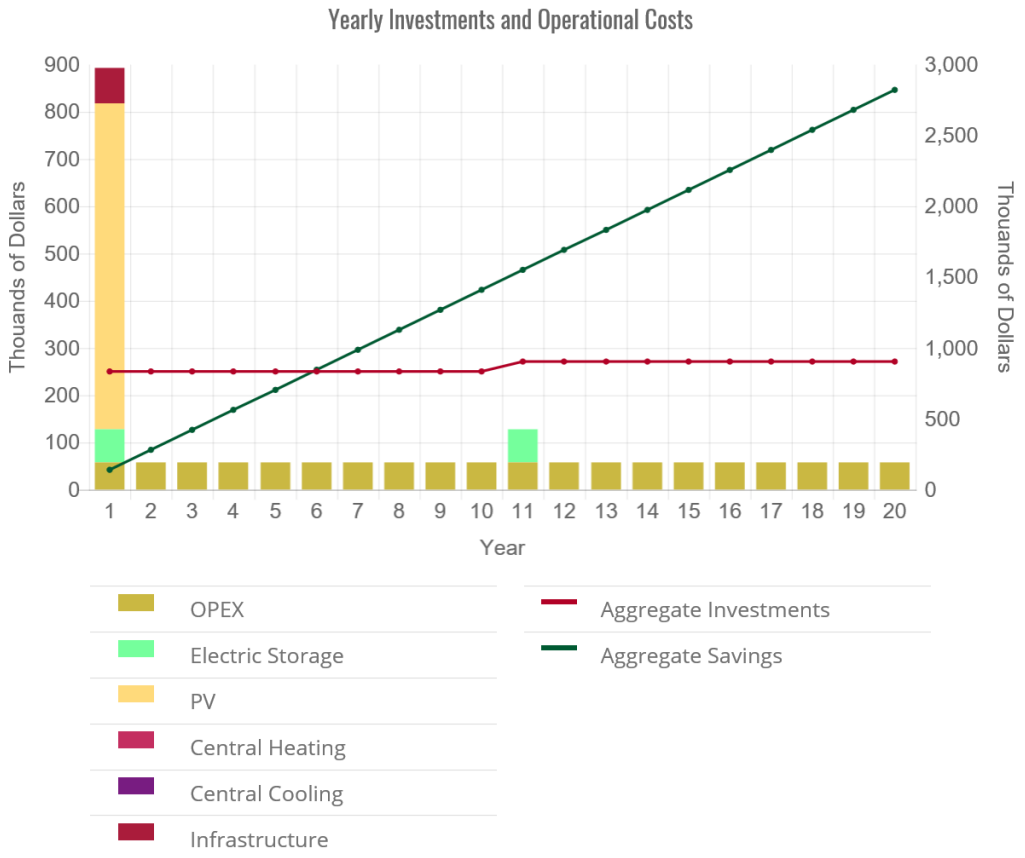


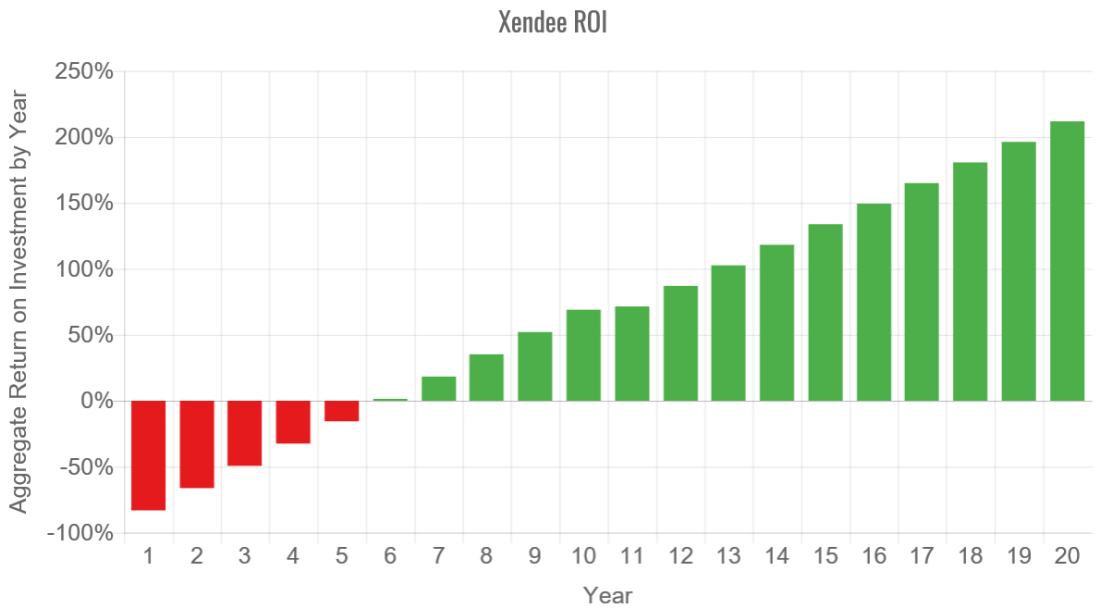


5.1.3 7-day outage

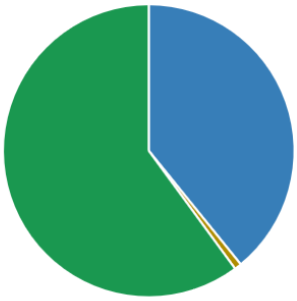
Modeling a 7-day outage, assuming no available fuel to refill the diesel tank, new onsite generation begins to be much more attractive. Due to the cost of curtailed load in the reference case after the generator runs out of fuel, the LCOE assuming an outage in July reaches $0.3937/kWh, and in December, $0.2872/kWh.

The model's first choice to ride through a week-long outage is to buy a 50kW CHP unit with capital expense of about $240,000 and LCOE of between $0.19 and $0.20/kWh. The second choice is to use all available space for solar PV (3,000 m^2 of space, or 324kW capacity), and to match the PV with about 210kWh of BESS. The renewable option has a higher upfront cost of about $900,000, however because more energy is produced by the renewable system with no fuel costs, the LCOE is between $0.19 and $0.20/kWh, comparable to the CHP case.


Yearly Investments and Operational Costs
Thousands of Dollars
Thousands of Dollars
Year
OPEX
Electric Storage
PV
Central Heating
Central Cooling
Infrastructure
Aggregate Investments
Aggregate Savings

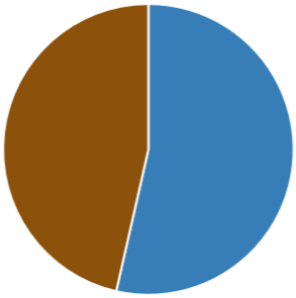

Xendee ROI
Aggregate Return on Investment by Year
Year

Total Annual Electricity Balance (kWh)

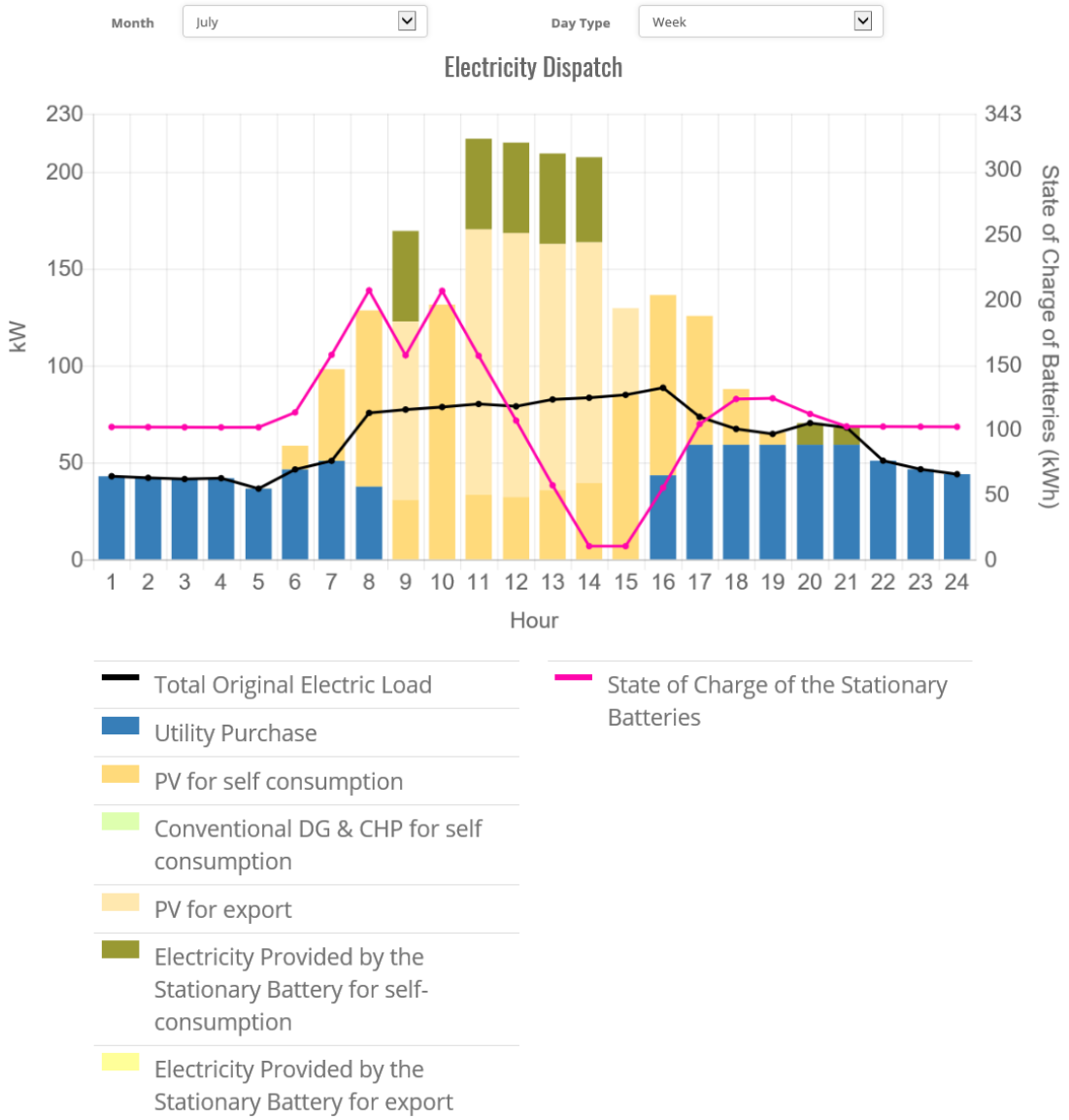


Total annual electricity purchase (kWh)	265,641
Total annual on-site generation from conventional DG (kWh)	5,303
Total annual on-site generation from renewables (kWh)	407,973

Utility Balance (kWh)



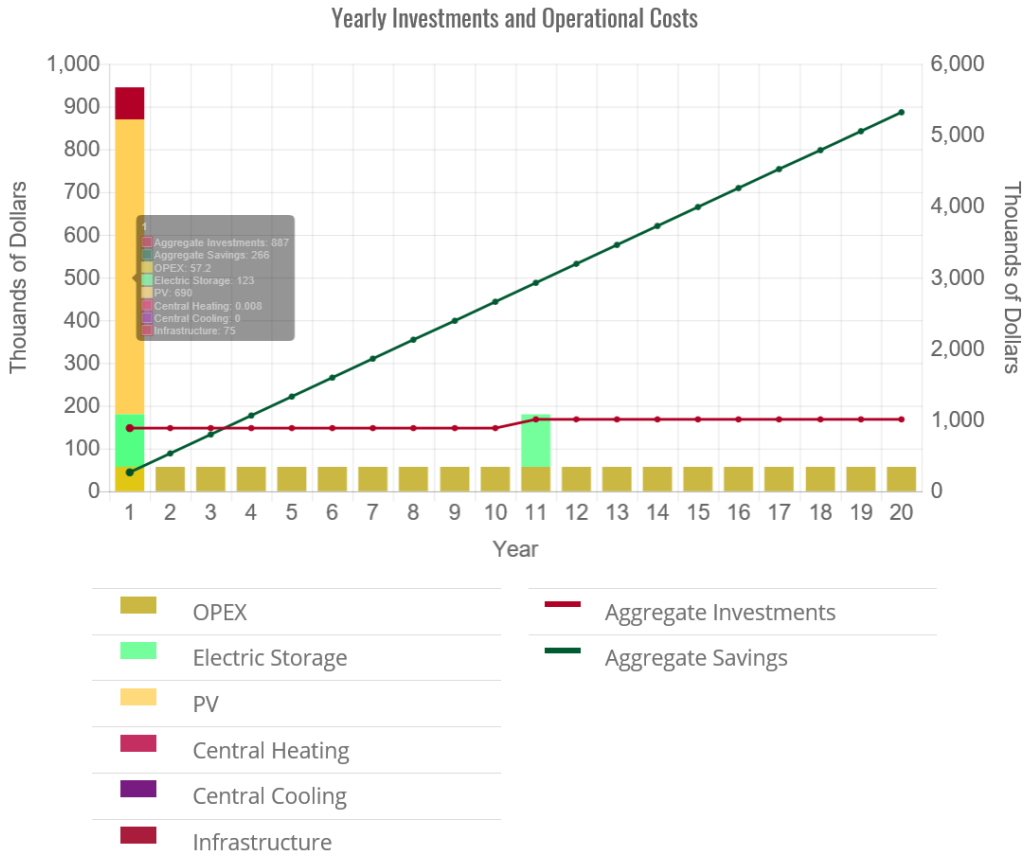
Total annual electricity purchase (kWh)	265,641
Total annual electricity sales (kWh)	230,379

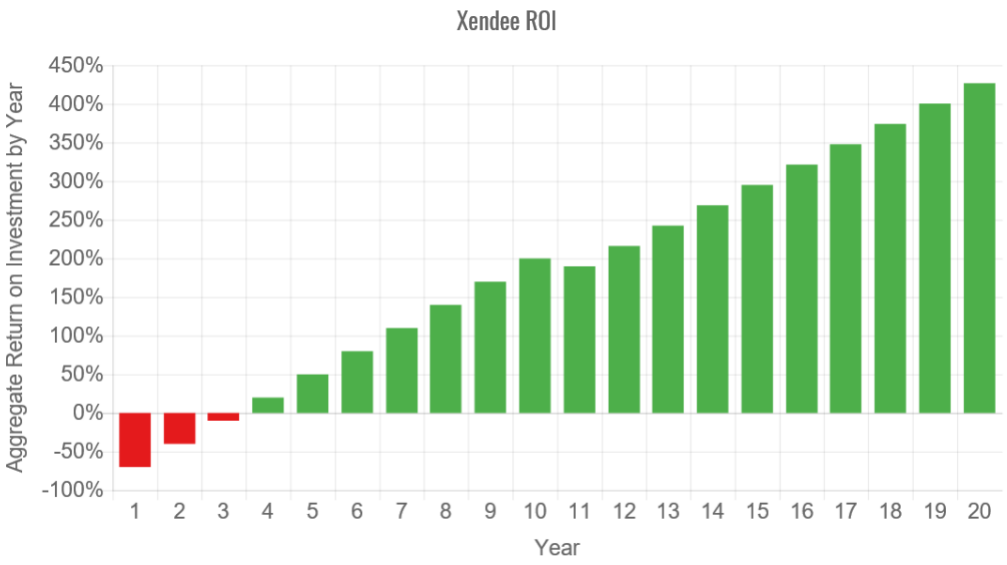


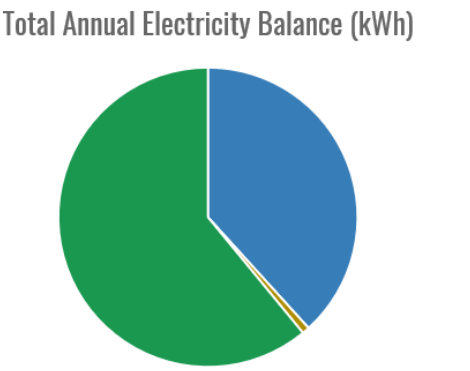
5.1.4 14-day outage

In the 14-day outage scenario, the reference case runs out of diesel and curtails as much as 21,755kWh, causing LCOE to increase to as much as $0.80/kWh. To ride through a 14-day outage, the model's first selection is to buy a 65kW CHP generator at a cost of about $290,000 to achieve an LCOE of between $0.19 and $0.20/kWh, with no load curtailed.

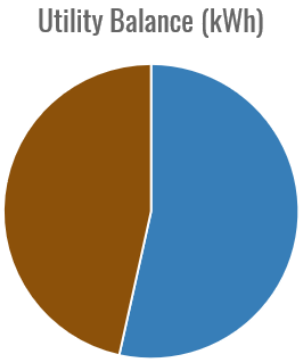
The second choice is to maximize the available solar PV, 324kW, and match with a BESS of up to 360kWh. However, due to the space constraints assumed for installing PV, the renewably powered system does not allow the MCM to ride through a 14-day outage without load curtailment. Adding renewable generation and storage only, under the modeled constraints, as much as 5,750kWh of load are unmet during the 14-day outage. Because of the cost of curtailed load, LCOE in this case and scenario is $0.27 to $0.30/kWh. Even so, in comparison to the reference case with no new onsite generation, the solar PV + BESS case shows a positive ROI in as little as three years.



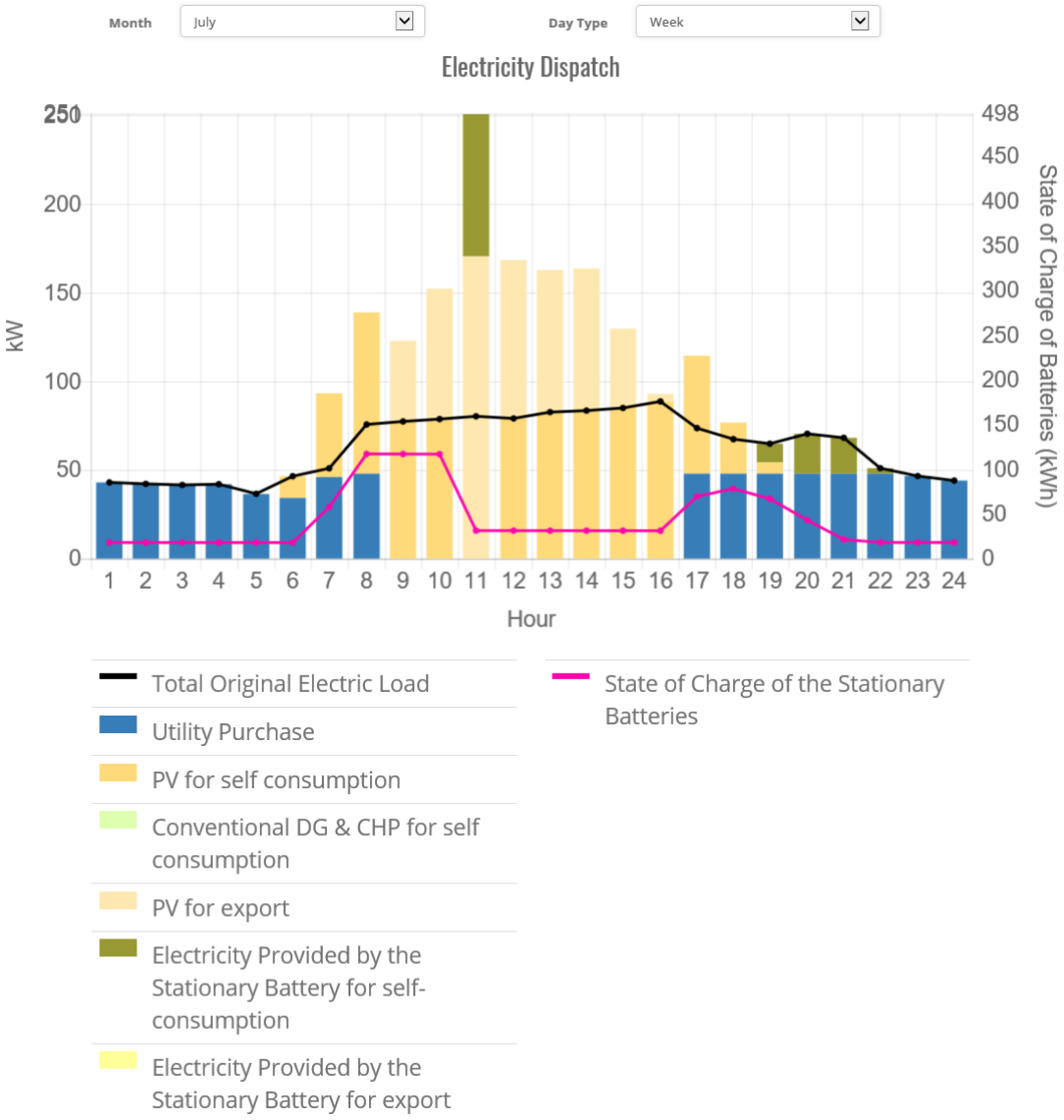




Total annual electricity purchase (kWh)	256,979
Total annual on-site generation from conventional DG (kWh)	5,303
Total annual on-site generation from renewables (kWh)	409,414



Total annual electricity purchase (kWh)	256,979
Total annual electricity sales (kWh)	223,627



5.2 Recommendations

Several factors make the economics of a microgrid challenging in this location. Electricity from the grid is relatively cheap, and natural gas is relatively expensive. Solar irradiance is low (including due to snow and ice cover) especially during winter months, when ice storms are likely to occur, making solar PV a potentially unreliable option. And, the campus already has an existing diesel generator that is more than large enough to serve the entire campus. If the diesel tank were assumed to be refillable during emergencies, then the cheapest option

is to add islanding capabilities to the MCM and serve the microgrid with just the generator. However, there are several options for system enhancements worth pursuing.

5.2.1 Phasing

Rather than implementing the full microgrid in a single project, doing the project in phases has important advantages to consider, as described below.

5.2.1.1 Renegotiate generator contract and consider installing a larger tank

The fastest and most cost-effective means to secure the electricity supply to the MCM is to enable the generator to serve all the building loads. If there is any real concern of not being able to refill the tank during prolonged outages, a larger tank may be installed to maintain more onsite stored fuel supply. Toward the goal of reliability and resilience for the MCM facilities, making more use of the existing generator is the lowest hanging fruit.

5.2.1.2 Interconnect to enable islanding of entire MCM

The next step, which would likely take longer and have higher costs, is to reconfigure the cabling layout from the utility connection to the meters, and install full automatic islanding capability for the entire campus. Our initial recommendation for the configuration is to have a single Point of Common Coupling (PCC) from the utility to the safety complex, where the central microgrid controller would be housed, with the Town Office (1910 Building), Housing Authority, and Annex sub-metered from the safety complex. Whether this configuration would be permissible depends on National Grid's agreement to repurpose and change the layout of their existing assets. The other option is to interconnect the buildings but have two PCCs. This approach would cost more because it would require additional switchgear and running more cable; but may be more acceptable to the utility, because it would require fewer changes to their existing infrastructure.

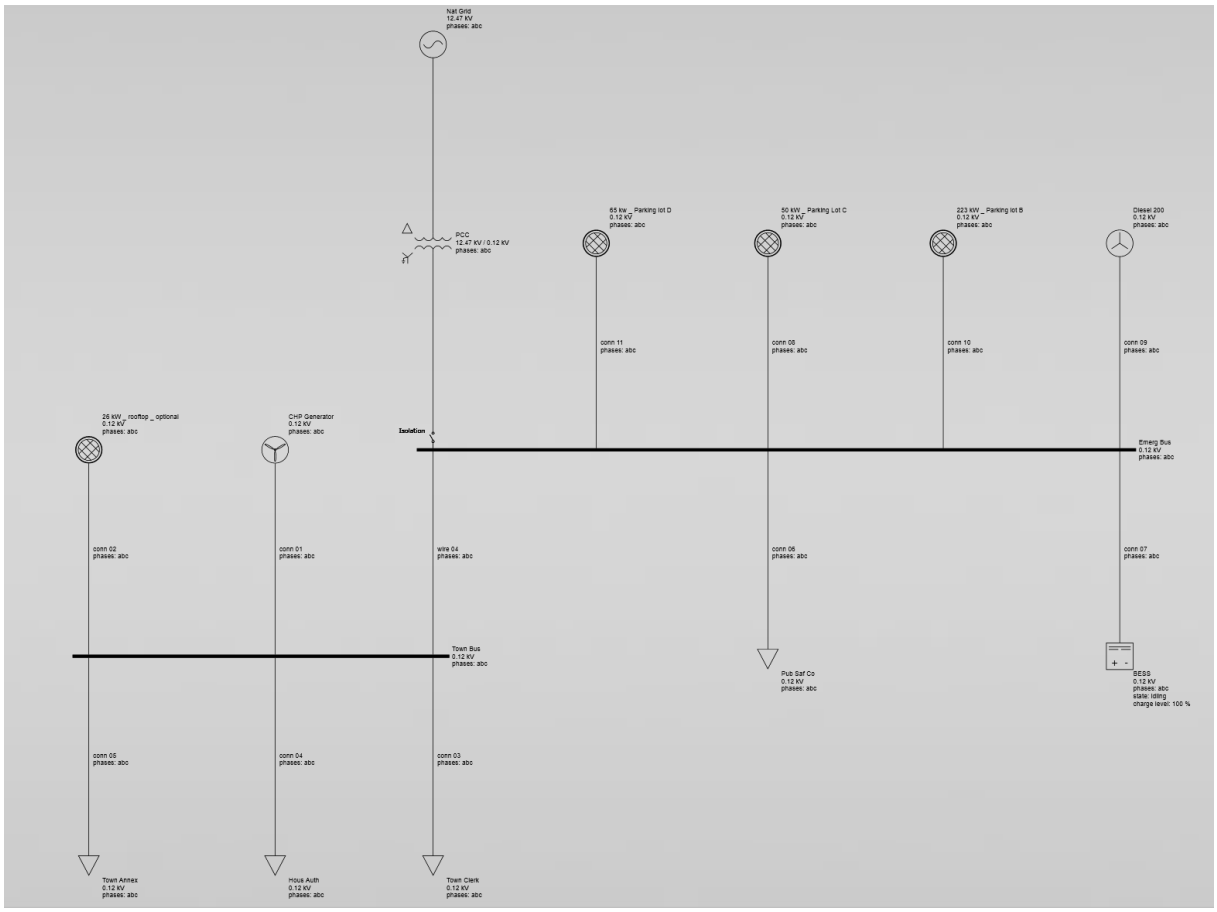


Figure 14. One-line diagram of recommended electrical layout of MCM with a single PCC

5.2.1.3 Solar PV

While enabling full automatic islanding may take 9 months or longer due to establishing the necessary agreements with National Grid, solar PV is a proven technology that is relatively simple to install. Because the ITC is ramping down over the next few years, it is advisable to begin construction on a solar PV project in 2019, before the incentive is reduced. If plans for a full system have been submitted and construction has begun on at least one solar PV array in 2019, the full 30% ITC can also be applied to the other parts of the project that come later. There have even been cases where PV was installed and BESS installed years later was able to qualify as part of the original system and apply the ITC.

Finally, the Massachusetts SMART program has an official start date of Nov. 26, 2018, and is for 1,600MW of PV generation that will receive 20-year contracts for the incentive. The value of blocks of the SMART program will decline over time. To take advantage of these programs it is important to start as soon as possible.

5.2.1.4 BESS

Although Lithium-ion batteries are a mature technology in terms of functionality, they are still coming down the cost curve dramatically with prices falling by over 80% in the past 7 years, while energy density per cubic foot has increased 40% in that same timeframe. For this reason, it is advisable to wait on the purchase of the BESS until later in the project, after changes to the generator use, interconnections on the campus, islanding capabilities, and solar PV have been implemented. The full system can be designed at the outset to incorporate all the components as they come online, but the BESS can be left until the second or third year of the project, allowing costs to fall and performance to improve.

5.2.1.5 CHP

The economics for CHP is challenging for this location due to the cheap electricity, expensive gas, and competing with the new high-efficiency boilers already in place. Also, large scale CHP is very mature but small scale, suited to the campus, is still developing rapidly and improved models are coming out every year. The recommendation is to wait until the existing boilers are due for replacement and at that time assess CHP options available then.

5.2.1.6 Fuel cells

Similar to CHP, the economics for fuel cells in this location are very challenging, and the maturity of the technology for applications in this size range is still lacking. Fuel cells work best when both the electricity and the heat can be harnessed, meaning they are effectively a more efficient type of CHP system. When the boilers in the MCM facilities are due for replacement, fuel cells should be assessed at that time as CHP solutions.

6 Concluding Remarks and Next Steps

6.1 Conclusions

For implementation of solar PV, 2019 is a key year due to the overlap of the opening of the Massachusetts SMART program and the ramping down of the federal Investment Tax Credit (ITC). If more of the parking lot and rooftop space is considered for PV, the system could achieve resilience with renewable power and with the lowest levelized cost of energy, as well as a hedge against rising fuel costs and fuel supply security; however, doing so comes with a high upfront cost and to take advantage of the ITC may require an outside investor with an income tax burden to shield against.

Fuel cell technologies are not commercially viable for systems of this size at this time, and even conventional CHP systems do not offer better economics than the high-efficiency boilers already in place, given the low cost of utility electricity currently available. These systems should be reassessed and considered for replacing the existing boilers at their end of useful life, at which point fuel cells and small-scale CHP will be more cost competitive.

In parallel with pursuing solar PV, a conversation should be opened with National Grid to determine the optimal configuration of the microgrid, accounting for their perspective, as well as defining what of their assets they may sell or make available for use.

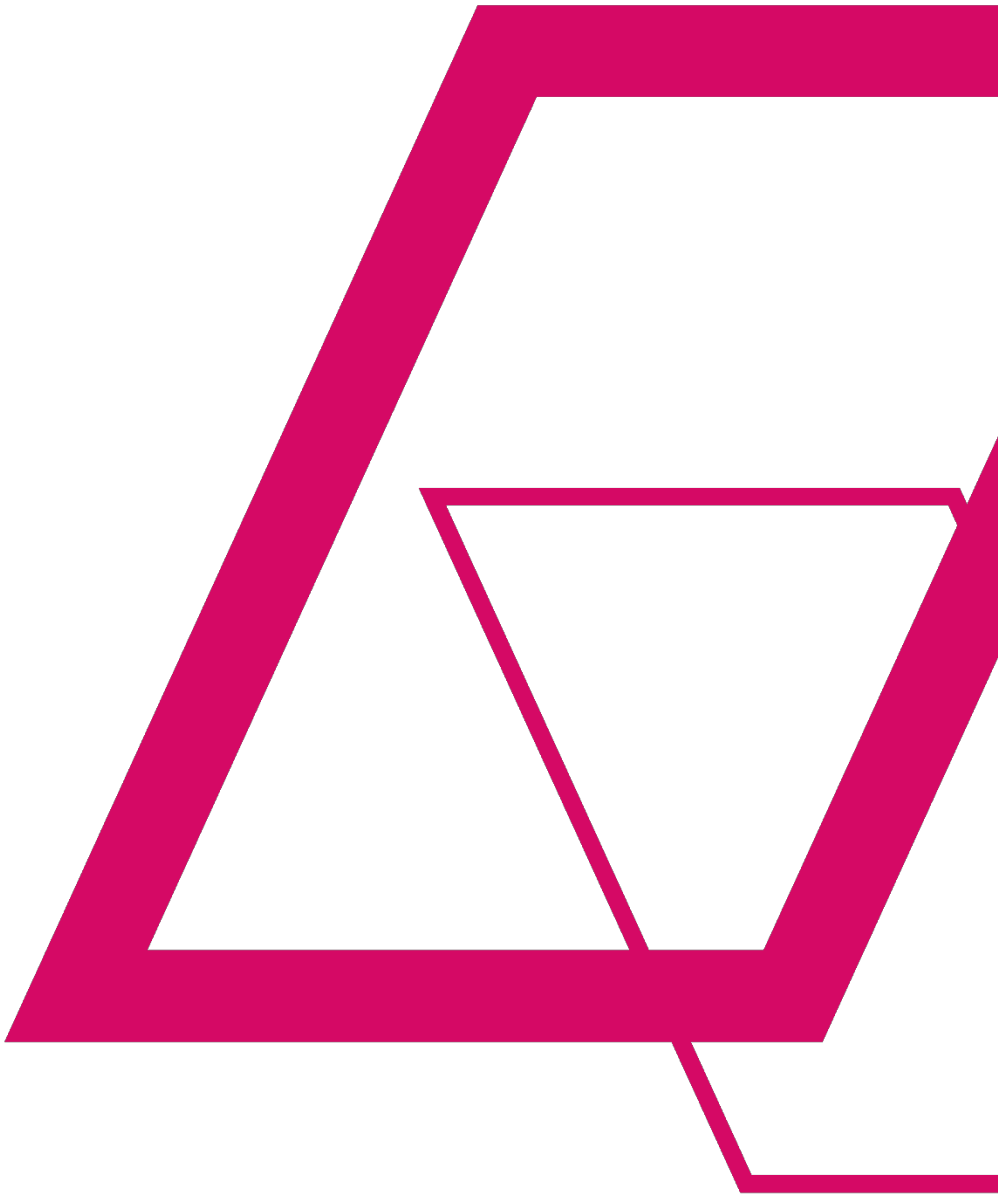
As well as engaging with National Grid, another key conversation to open is with the generator provider to determine if the generator can be used to serve the entire MCM.

Finally, as the options become clearer with the generator provider and National Grid, and as detail is added to any plans for solar PV that move forward, the full project plan should be road mapped with phasing and timelines defined, and RFQs should be sent to technology providers to begin negotiations on the control system that will automate islanding and managing of the loads and energy assets.

6.2 Next steps

- Share report with key stakeholders
- Hold one debrief meeting of Advisian and W. Newbury team to answer any questions
- Determine roughly the road map and timeline for developing the project
- Identify further key questions needing answers before project can be developed
- Develop detailed project plan, timeline, budget, and consortium of partners
- Launch the next phase of the project, moving into detailed design and construction

Appendix 1 Quantitative Results



The following tables provide a collated summary of the key results from modelling the MCM, for 3 cases: Utility+Diesel (the "reference case"); Utility+Diesel+PV+BESS (the renewable-only case); and Utility+Diesel+PV+BESS+CHP. These cases were modeled across 4 scenarios: no outage; 3-day outage; 7-day outage; and 14-day outage. Dollars are in thousands.

Utility+Diesel							
	No outage	3-day outage		7-day outage		14-day outage	
		July	December	July	December	July	December
Annualized Cost (k$)	64.86	91.43	65.78	170.12	124.75	341.53	250.61
Capital Cost (k$)	0	0	0	0	0	0	0
LCOE ($/kWh)	0.1482	0.2097	0.1503	0.3937	0.2872	0.8099	0.5884
Electric Purchases (kWh)	437573	430648	432784	426970	429082	419409	420591
Load curtailed (kWh)	0	2042	0	8226	4637	21755	14577
Natural gas purchase (k$)	33.10	33.10	33.10	33.10	33.10	33.10	33.10
Diesel Purchase Cost (k$)	0	1.28[16]	1.33[1,17]	1.28[1]	1.33[1,2]	1.28[1]	1.33[1,2]
PV Purchase Cost (k$)	0	0	0	0	0	0	0
PV Purchase Size (kW)	0	0	0	0	0	0	0
BESS Purchase Cost (k$)	0	0	0	0	0	0	0
BESS Purchase Size (kWh)	0	0	0	0	0	0	0
CHP Purchase Cost (k$)	0	0	0	0	0	0	0
CHP Purchase Size (units)	0	0	0	0	0	0	0

Utility+Diesel+PV+BESS							
	No outage	3-day outage		7-day outage		14-day outage	
		July	December	July	December	July	December
Annualized Cost (k$)	64.86	88.61	65.78	101.69	105.26	155.59	177.17
Capital Cost (k$)	0	406.67	0	834.89	824.62	887.34	855.93
LCOE ($/kWh)	0.1482	0.1969	0.1503	0.1924	0.1990	0.2735	0.3060
Electric Purchases (kWh)	437573	268495	432784	265641	258854	256979	258537
Load curtailed (kWh)	0	0	0	0	387	3653	5750
Natural gas purchase (k$)	33.10	33.10	33.10	33.10	33.10	33.10	33.10
Diesel Purchase Cost (k$)	0	1.28	1.33[1,2]	1.28	1.33[1,2]	1.28	1.33[1,2]
PV Purchase Cost (k$)	0	331.67	0	689.78	689.78	689.78	689.78
PV Purchase Size (kW)	0	156	0	324	324	324	324
BESS Purchase Cost (k$)	0	0	0	70.11	59.84	122.56	91.15
BESS Purchase Size (kWh)	0	0	0	207	177	362	269
CHP Purchase Cost (k$)	0	0	0	0	0	0	0
CHP Purchase Size (units)	0	0	0	0	0	0	0

[16] Represents one full tank of diesel (411 Gallons)
[17] More expensive due to diesel prices being higher in December

Utility+Diesel+PV+BESS+CHP							
	No outage	3-day outage		7-day outage		14-day outage	
		July	December	July	December	July	December
Annualized Cost (k$)	64.86	85.90	65.78	87.04	85.55	93.04	86.17
Capital Cost (k$)	0	236.00	0	236.00	236.00	290.98	236.00
LCOE ($/kWh)	0.1482	0.1961	0.1503	0.1976	0.1949	0.2049	0.1956
Electric Purchases (kWh)	437573	337214	432784	356272	337174	367220	338207
Load curtailed (kWh)	0	0	0	0	0	0	0
Natural gas purchase (k$)	33.10	39.39	33.10	37.07	39.39	39.12	39.350
Diesel Purchase Cost (k$)	0	0.91	1.33[1,2]	0.66	0.397	1.28	0.80
PV Purchase Cost (k$)	0	0	0	0	0	6.68	0
PV Purchase Size (kW)	0	0	0	0	0	3	0
BESS Purchase Cost (k$)	0	0	0	0	0	0	0
BESS Purchase Size (kWh)	0	0	0	0	0	0	0
CHP Purchase Cost (k$)	0	161.00	0	161.00	161.00	209.3	161.00
CHP Purchase Size (units)	0	1 @50kw	0	1 @50kw	1 @50kw	1 @65kw	1 @50kw

B

Town Manager

From: Town Manager
Sent: Thursday, January 17, 2019 11:37 AM
To: Rick Parker (parkerrg@comcast.net)
Subject: RE: MVP Program

Rick,
Glenn ok'd this for Tuesday's agenda; it will immediately follow the microgrid presentation. My primary question, which I know the Board will share, is what staff support the Committee would expect in pursuing this grant, administering the grant, and closing out the grant. (And, of course, regarding the anticipated/hoped for scope of work for grant support).
I'm presently working with staff, the Personnel Comm, and the BoS to modify job descriptions to better delineate responsibilities for Committee support. As we've discussed, with very few exceptions there is no assigned responsibility to support Committee work. To fill the void, my office is providing a great deal of support to many Committees, but due to the sheer volume of commitments on our time, our available time toward any one Committee is constrained. Maintaining the Green Communities designation is a significant chunk of work – even with the yeoman's work the EAC provides – and my first priority is getting those existing Town obligations into job descriptions. From my perspective, attending nearly a hundred Committee meetings in my tenure to date and seeing the many unmet needs, I'm hesitant to see the Town take on more commitments without a clear delineation of responsibilities. To do so, I'm afraid, would be a disservice to the commitments that the Town has already taken on over the years.
You and I have discussed this at length on several occasions and I know this isn't new info, but I want to make you aware that you can expect questions along these lines in the discussion of potentially pursuing the MVP grant.

Thanks,
Angus

Angus Jennings, Town Manager
Town of West Newbury
Town Office Building
381 Main Street
West Newbury, MA 01985
(978) 363-1100 x111
townmanager@wnewbury.org

From: Joseph Cosgrove <jcosgrove@mvpc.org>
Sent: Wednesday, January 16, 2019 4:43 PM
To: Town Manager <townmanager@wnewbury.org>; Rick Parker (parkerrg@comcast.net) <parkerrg@comcast.net>
Subject: MVP Program

Hi Angus & Rick-
Environmental Affairs late last week issued the RFR for the latest round of Municipal Vulnerability Preparedness Planning Grant applications. Applications for this round are being accepted on a rolling basis through May 3, but better to get in soon if you are interested…and timing is perfect now for West Newbury with new staff and Implementation Grant round expected later this Spring. Application is not a heavy lift but does require outreach, letters of support from community stakeholders. MVPC can help with the application and facilitating the workshops.
Link the RFR and grant application is at
https://www.commbuys.com/bso/external/bidDetail.sdo?bidId=BD-19-1042-ENV-ENV01-34410&parentUrl=activeBids

Joseph Cosgrove
Environmental Program Manager
Merrimack Valley Planning Commission
160 Main Street
Haverhill, MA 01830

EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS

Matthew A. Beaton, Secretary

Grant Announcement

Commbuys Bid # BD-19-1042-ENV-ENV01-34410

Request for Responses (RFR) ENV 19 MVP 01
Dated: January 9, 2019

MUNICIPAL VULNERABILITY PREPAREDNESS GRANT PROGRAM (MVP) FY19 PLANNING GRANT

1. Grant Opportunity Summary

A. PROPOSALS SOUGHT FOR: Municipalities who wish to assess their vulnerability to and prepare for climate change impacts, build community resilience, and receive designation from the Executive Office of Energy and Environmental Affairs (EEA) as a Climate Change Municipal Vulnerability Preparedness (MVP) program municipality. Designation will be given to municipalities who complete a Community Resilience Building workshop process to prepare for the impacts of climate change and fulfill associated initial deliverables and annual progress reports required to maintain designation status. Financial and technical assistance will be provided to allow municipalities to complete climate change vulnerability assessments and planning using the Community Resilience Building workshop guide (CRB), other planning tools, and climate change projections and data. Municipalities who complete this process and develop a final report will be designated as an "MVP Community," which leads to increased standing in other state grant programs, including MVP Action Grants. Communities who have already completed the process of assessing vulnerability and planning for climate change, independent of this grant opportunity, may also receive the designation by applying to the program for EEA's review.

B. OVERVIEW AND GOALS: Executive Order 569, "Establishing an Integrated Climate Change Strategy for the Commonwealth," requires state government to provide assistance to municipalities to complete climate change vulnerability assessments and resiliency planning. The Municipal Vulnerability Preparedness (MVP) Grant Program provides direct funding and support to cities and towns to complete a community-driven process that will bring together climate change information and local knowledge to identify top hazards, current challenges, and community strengths and then to develop priority actions and strategies to improve the municipality's resilience to all natural and climate-related hazards using a flexible, tested approach called the Community Resilience Building (CRB) workshop guide. The program provides access to a pool of state-certified MVP providers, a standardized toolkit for assessing

climate change vulnerability and developing strategies, and access to the best available statewide climate projections and data.

Upon successful completion of the CRB process, municipalities will be designated as a "Municipal Vulnerability Preparedness program community," or an "MVP Community" which enables communities to participate in the MVP Action Grants for program implementation, leads to increased standing in future state funding opportunities and demonstrates the community's commitment to preparing for climate change. Completion of the program will ensure that as municipalities make investments, set policy, and implement infrastructure projects they have a thorough understanding of their risk and vulnerabilities from climate change impacts and how these impacts specially affect their residents, community, local economy and natural resources.

C. ELIGIBLE PROJECTS: Funding is to support municipalities who are completing climate change vulnerability assessments and resiliency planning using the CRB workshop guide, and to allow them to procure an MVP certified provider (chosen from a list provided by the Commonwealth, **Attachment C**), to assess vulnerability to a full range of climate change impacts, including temperature changes, extreme weather, sea level rise, inland flooding, changes in precipitation, and other impacts, across multiple sectors of the municipality (See further detail on eligible projects in **Section 2B**.). EEA encourages municipalities who have already completed vulnerability assessments to apply for this opportunity so that EEA can assess whether they have met the minimum requirements to achieve the MVP designation (described in **Section 2B**). Municipalities who have recently assessed overall municipal vulnerability to climate change by considering multiple sectors and multiple hazards, using a community-driven process with significant stakeholder engagement will receive designation at EEA's discretion. Municipalities who have already completed vulnerability assessment work related to a subset of sectors or climate change hazards (such as a FEMA Approved Hazard Mitigation Plan) are encouraged to apply to expand their planning efforts and complete a more comprehensive climate change adaptation plan, thereby achieving MVP designation.

D. ELIGIBLE APPLICANTS: All cities and towns in the Commonwealth are eligible to apply. Cities and towns must meet the match requirements listed in **1G**. Regional partnerships among municipalities are eligible to apply jointly. See **2D** for more details on eligible applicants.

E. APPLICATION DEADLINE: Rolling basis, no later than 4pm, Friday, May 3, 2019. Funding is available on a first-come, first-served basis; applications will be accepted on a rolling basis until all allocated funds have been awarded. See Section 4. (See further detail on deadlines and the grant program calendar in **Section 4**).

F. FUNDING AVAILABILITY: Funding amounts for each municipality are anticipated to range from $15,000-$100,000, depending on scope and need, but may be expanded at EEA's discretion.

Individual contracts for each municipality are anticipated to range from $15,000-$100,000. Funding must be used to procure and pay for planning services from a certified MVP provider, selected from a state MVP provider list (the current list is included as **Attachment C** and may be updated at EEA's discretion). Funding may be used to cover some of the town's staff time match, as described in **Section 1G** below. Funding will result in the completion of the CRB planning process and workshop series, a risk matrix, a final CRB summary of findings report, at least one public listening session, and clearly identified next steps for implementing adaptation projects. Additionally, municipalities with no current local hazard mitigation plan (HMP), or those with plans expiring in 2019 or 2020 are eligible for additional funding to complete or update a full draft of the HMP for MEMA review (see further detail on incorporation of HMP in Section 2).

Funding distributions for this program will be determined upon execution of the grant contract between EEA and the municipality.

G. MATCH REQUIREMENT: Municipalities must commit sufficient staff time (estimated at 120-200 hours) to assure completion of this planning exercise and community engagement. Reimbursement may be available to assist in increasing the hours of part-time staff for the purpose of completing this exercise, depending on funding levels and demonstrated need. Staff time will include the following activities:

- Complete a contract with the Commonwealth and maintain all necessary reports and paperwork;
- Select and contract with a state-certified MVP provider (**Attachment C**);
- Establish a core team (or steering committee) within the town or region to steer the project;
- Help identify and complete outreach to critical stakeholders, partners and town officials who will be involved in the workshops;
- Help coordinate, schedule, send invitations and attend meetings and workshop(s);
- Conduct broad public outreach in the community to ensure good attendance and participation representative of the municipalities diverse populations, interests and needs at the workshop(s) and public listening session(s);
- Help involve key municipal officials in the process including mayors, city councilors, select boards and town administrators;
- Help coordinate staff interviews with key experts, including, but not limited to emergency response, the department of public works, the conservation commission, and the planning board, to collect information prior to the workshop(s);
- Help the MVP provider find relevant data and other information useful to conducting the planning exercise;
- Provide access to relevant planning documents, budget information, and other information as needed;

- Consider nature-based solutions during the workshop process for achieving greater resiliency and implementing priority actions;
- In concert with the MVP provider complete and send 3 progress reports, with information on spending to date and milestones achieved. The final CRB report will be counted as the final progress report, but must be accompanied by a final invoice showing all spending to date;
- Complete at least one public listening session to engage the broader public in a discussion of the workshop results and completed plan; and,
- Commit to continue municipal outreach and engagement, using the completed summary report to inform existing planning and project activities, and secure additional data and information needed to improve the plan.

H. TOTAL ANTICIPATED DURATION OF CONTRACT(S): The contract period will begin on the date that the parties execute the contract with EEA. Contracts issued pursuant to this RFR must expend 100% of costs associated with the approved project, including awarded grant funds and match contributions, on or before **June 30, 2020** in order to be eligible for the total grant reimbursement amount. Applicants must establish a project time-line that meets the end date. (See further detail on anticipated duration of contract(s) in **Section 2G**.).

I. REGULATIONS, STATUTES, OR AUTHORIZATION GOVERNING THIS GRANT PROGRAM:

This RFR is issued according to bond authorization language in Chapter 286 Section 2A, line item 2000-7070 of the acts of 2014

Executive Order 569

J. CONTACT INFORMATION:

Katie Theoharides, Assistant Secretary of Climate Change
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114
kathleen.theoharides@mass.gov
617-626-1144

2. Performance and Contract Specifications

A. OVERVIEW: The Municipal Vulnerability Preparedness (MVP) Grant Program provides direct funding and support to cities and towns to complete a comprehensive, baseline climate change and natural hazard vulnerability assessment and develop prioritized actions and implementation strategies for dealing with priority climate change-related and other natural hazards using an accessible, tested approach called the Community Resilience Building (CRB) workshop guide

(developed by The Nature Conservancy with modifications from EEA), and begin broader community outreach. The program provides access to a pool of state-certified MVP providers (**Attachment C**), the best available statewide climate projections and data, and a standardized toolkit for assessing vulnerability and developing strategies. Through the program EEA will provide the municipality access to newly developed, downscaled climate change projections, available on the MA Climate Change Clearinghouse website (www.resilientMA.org), which must be incorporated into the planning process. Priorities for action and approaches to improve resiliency must include consideration of "Nature-Based Solutions" which are defined as strategies that conserve, create, restore and employ natural resources to enhance climate adaptation, resilience and mitigation to mimic natural processes or work in tandem with man-made engineering approaches to address natural hazards like flooding, erosion, drought, and heat islands and to maintain healthy natural cycles to sequester and maintain carbon and other greenhouse gases (H. 4835).

Led by a local project lead and a core team, municipalities will engage a state-certified MVP provider to help gather available background information on climate change impacts, hazards, vulnerabilities and strengths, conduct interviews with staff and volunteers, and plan two 4-hour workshops or one 8-hour workshop. During the workshop(s), approximately 20-60 municipal staff, residents, partners, and volunteers will work to:

- Understand connections between ongoing community issues, climate change and natural hazards, and local planning and actions in the municipality;
- Understand how climate change will exacerbate or lead to new community issues, hazards and other challenges the municipality faces;
- Identify infrastructural, societal, and environmental vulnerabilities and evaluate strengths that help make the community more resilient to climate change and natural hazards;
- Explore nature-based solutions to build resiliency in the municipality;
- Develop and prioritize actions and clearly delineate next steps for the municipality, local organizations, businesses, private citizens, neighborhoods, and community groups; and,
- Identify opportunities for the municipality to advance actions that further reduce risks and impacts of climate change and natural hazards and increase local and regional resilience.

After appropriate local procurement, municipalities will conduct the following tasks, working with the contracted MVP provider:

1. Prepare for the workshop:
    a) Establish a core team with goals and objectives for the municipality
    b) Engage stakeholders from the municipality, including but not limited to municipal officials, community organizations and businesses, private non-profits, and community residents and reflect the diverse populations, interests, and needs of the community

c) Develop partnerships with key non-profits, state and local government agencies, local businesses and academic institutions who can help to inform and enrich the planning process and build support for advancing outcomes at the workshops

d) Prepare materials for the workshop, including data specific to the municipality which may help to understand where past hazards have occurred

e) Decide on participant arrangements

2. During the workshop(s):
   a) Characterize hazards:
      - Identify past, current and future impacts using the best available data including newly developed climate change projections from EEA, and other available resources
      - Determine the highest priority hazards within the municipality
   b) Identify Community Vulnerabilities and Strengths
      - Identify infrastructural vulnerabilities and strengths
      - Identify societal vulnerabilities and strengths
      - Identify environmental vulnerabilities and strengths
      - Identify vulnerabilities in other sectors as chosen by the community
   c) Identify and Prioritize Community Actions that include consideration of Nature-Based Solutions
      - Infrastructure actions
      - Societal actions
      - Environmental actions
      - Other actions
      - Please note that MVP Action Grants (implementation grants), available through EEA, prioritize nature-based solutions. Municipalities are encouraged to explore these types of strategies which include low-impact design, green infrastructure, land conservation and other techniques and can address infrastructure, societal, environmental and other challenges (See definition in 2A).
   d) Determine the Overall Priority Actions
      - Identify highest-priority actions
      - Further define urgency and timing
3. Post workshop(s):
   a) Generate final workshop products and draft summary of findings report
   b) Conduct at least one public listening session before **May 31, 2020** and present draft report
   c) Incorporate feedback from listening session(s) and generate final report

4. Move Forward

    a) Continue community outreach and engagement
    b) Secure additional data and information for key gaps and questions identified through the process
    c) Use the process and report to inform existing planning efforts and project activities
    d) Submit yearly progress reports to maintain MVP designation

During the process, all municipalities will be required to submit a series of quarterly progress reports to EEA with information on progress to date and contract spending. The final CRB report will be counted as the final progress report. The progress report template will be included with the executed contract.

Upon successful completion of Steps 1-3 of the CRB process and clearly defined efforts to begin Step 4, municipalities will be designated as a "Municipal Vulnerability Preparedness Program Community," or "MVP Community" which may lead to increased standing in future funding opportunities.

Municipalities with no current local hazard mitigation plan (HMP) or those with plans expiring in 2019 or 2020 are eligible for additional funding to complete or update a full draft of the HMP for MEMA review in concert with the tasks described above. A merged scope of work for incorporating the tasks above with those required to complete a full draft of an HMP will be provided during award contracting.

B. ELIGIBLE PROJECTS: Eligible projects must complete the scope outlined in the CRB Workshop Guide as described above and any additional scope approved by EEA through the application process. Any additions, deletions or other changes to the scope must be approved by EEA prior to commencement of such activities. Projects must be facilitated and completed by a state-certified MVP service provider, from a list provided by EEA (**Attachment C**). A standard scope for the MVP service provider will be provided by EEA, although the municipality and the MVP service provider can modify it subject to EEA's final review and approval.

Projects must use state downscaled climate change projections and data provided by EEA where possible, but other peer-reviewed climate change data can be included as applicable. Projects seeking to include a more in-depth or specific focus in their vulnerability assessments, such as incorporating high resolution data or evaluating risk of coastal inundation for certain types of infrastructure or assets may build on the MVP assessment to include the more detailed vulnerability and risk analysis by outlining proposed analysis in question 7 of the RFR.

C. DESIGNATION FOR PRIOR WORK: Municipalities who have completed vulnerability assessments for climate change or similar planning exercises prior to this opportunity and would like to apply for designation as an "MVP Community," should submit a cover letter describing

the work they have completed and attaching completed assessments, plans and supplemental data to the letter. EEA will review these applications for designation on a rolling basis (applicants may submit designation requests at any time), based on the following criteria:

- sectors covered in the assessment
- hazards and climate change impacts examined – must be comprehensive consideration, not just one hazard
- vulnerabilities and strengths identified
- actions developed
- the level of prioritization in the actions
- data used in the process
- level of community engagement, stakeholder outreach, and partner participation through the process.

Please provide information on all of these components. EEA may seek to speak directly with these municipalities for more information. EEA encourages applicants to review the following information when developing a proposal for this grant program:

- *The Community Resilience Building Workshop Guide*
  https://www.communityresiliencebuilding.com/

D. ELIGIBLE APPLICANTS: This solicitation is open to all municipalities in the state of Massachusetts. Municipalities are encouraged to apply as regional clusters or groups to address the regional nature of climate change impacts while harnessing the collective staff capacity and expertise of multiple communities. Regional groups need not share a boundary, but should be able to work well together based on their geography as well as other commonalities. For regional applicants, municipalities should work to submit one application together and one municipality should be prepared to be the fiscal agent for the award.

E. AVAILABLE FUNDING: Funding amounts for each municipality are anticipated to range from $15,000-$100,000, depending on scope and need, but may expand beyond this range at EEA's discretion.

Funding must be used to pay for planning services from a certified MVP provider, off of a state MVP provider list (**Attachment C**). A portion of funding may be used for reimbursing staff hours, depending on funding levels. Funding will result in the completion of the CRB planning process and workshop series, quarterly progress reports, a final CRB summary of findings report which will satisfy the final progress report requirement, at least one public listening session, and clearly identified next steps for implementing the plan. If a community is currently completing a local hazard mitigation plan (HMP) update (for plans expiring in 2019 or 2020), or lacks a HMP all-together, the applicant is eligible for additional funding to complete or update their HMP as part of the MVP planning grant process. A completed draft of the HMP ready for MEMA

review satisfies the grant requirements. A merged scope of work for incorporating the tasks described in Section 2A with those required to complete a full draft of an HMP will be provided during award contracting.

Individual contract amounts will be determined by EEA based on a number of factors including the population of the municipality, the number of municipalities applying to work together, whether or not municipalities plan to incorporate this process into ongoing planning, the geography of the municipality, the need for additional data or modeling support, the status of the local hazard mitigation plan and commitment to complete a new or updated draft plan, environmental justice status and committed additional outreach efforts to these populations, and other considerations. Funding will cover the costs of the state-certified MVP provider with some small, remaining amounts available to help defray some staff time costs, depending on funding. Funding decisions may be made at the Secretary's discretion. Costs eligible for reimbursement include all approved project costs incurred on or after a selected Applicant's contract execution date and on or before June 30, 2020. See **Section I:** Reporting for details on required documentation.

All contracts are subject to available funding, whether through the appropriation or authorization of sufficient funds. If available funding ceases for any reason, a contract shall be deemed under suspension and contract performance must halt. A contractor will not be entitled to compensation for any performance provided during the period of contract suspension. EEA may lift the suspension if available funding is received. In the absence of foreseeable available funding, EEA may terminate the contract.

F. MATCH REQUIREMENT: Municipalities must commit sufficient staff time (estimated at 120-200 hours) to assure completion of this planning exercise and community engagement. Reimbursement for some of this staff time may be available depending on funding levels. Staff time will include the following activities:

- Complete a contract with the Commonwealth and maintain all necessary reports and paperwork;
- Select and contract with a state certified MVP provider (**Attachment C**)
- Help establish a core team (or steering committee) within the town or region to steer the project;
- Help identify and complete outreach to critical stakeholders, partners and town officials who will be involved in the workshop(s);
- Help coordinate, schedule, send invitations and attend meetings and workshop(s);
- Conduct broad public outreach in the community to ensure good attendance and participation representative of the municipalities diverse populations, interests and needs at the workshop(s) and public listening session(s);
- Help involve key municipal officials in the process including mayors, city councilors, select boards and town administrators;

- Help coordinate staff interviews with key experts, such as emergency response, the department of public works, the Conservation Commission, and the planning department to collect information prior to the workshop(s);
- Help the MVP provider find relevant data and other information useful to conducting the planning exercise;
- Provide access to relevant planning documents, budget information, and other information as needed;
- In concert with the MVP Provider complete and send 3 progress reports, with information on spending to date and a final report and spending report to EEA;
- Complete at least one public listening session to engage the broader public in a discussion of the workshop results and completed plan;
- Commit to working to continue municipal outreach and engagement, using the completed plan to inform existing planning and project activities, and secure additional data and information needed to improve the plan.

Municipalities must make a statement regarding these match requirements in their application.

G. PROJECT TERMS: A final contract is subject to successful negotiation of a final scope of services. Please note that EEA does not guarantee that any contracts may result from this RFR or that any particular funding level will be awarded. It is anticipated that projects could commence immediately upon EEA's decision. The awarded contracts will be reviewed during their course and, upon request by the Contractor, may be extended or otherwise amended at the sole discretion of EEA for a period appropriate to the circumstances. Requests for extension are strongly discouraged and will be considered only under extraordinary circumstances. Any extensions granted will not necessarily change, or increase, the monetary value of the contract.

H. ANTICIPATED DURATION OF CONTRACTS: Contracts will end on **June 30, 2020**. Extension of the contract is at the sole discretion of EEA and funding may not be available for extension.

I. REPORTING: If selected for an award, the Applicant, working with the MVP provider is required to provide EEA with quarterly progress reporting, including information on spending, and the completed CRB report which will result from the process. Quarterly reports are simple summaries (1-3 pages) of work that has been accomplished to date towards MVP certification, including status of scheduling and completion of workshop(s) and listening session(s). Municipalities shall provide a Summary of Findings report (final CRB report) which should include a description of the planning process, a summary of findings, and the risk matrix produced through the workshop process, a description of community vulnerabilities and strengths, prioritized community actions including consideration of Nature-Based Solutions, and clearly articulated next steps for incorporating the report findings into ongoing or new planning efforts. A template report will be provided by EEA with the executed contract. Supplemental materials should also be provided as part of the final report, including a list of workshop participants, contact information for the project lead and core team, data and maps used or

produced during the workshop, a completed Risk Matrix in excel format, documentation of at least one public listening session, and a final invoice.

The applicant must also provide EEA quarterly and final invoices for all expenses including services provided by the Certified MVP provider, and any municipal staff time that was allowed for reimbursement. Any scope changes made during the contract period and approved by EEA should be documented and submitted.

I. DELIVERABLES, OWNERSHIP, AND CREDIT DUE: Municipalities shall provide a final report, described in detail above, a list of workshop participants, contact information for the project lead and core team, and a final invoice. All materials, software, maps, reports, and other products produced through the grant program shall be considered in the public domain and thus available at the cost of production. All materials created through this opportunity and as a result of this award should credit the Executive Office of Energy and Environmental Affairs Municipal Vulnerability Preparedness (MVP) program.

J. PAYMENTS: Funding distributions for this program will determined upon contract execution.

No payments shall be made for Massachusetts sales tax.

3. Instructions for Application Submission

A. EVALUATION CRITERIA: EEA will evaluate all proposals on a rolling basis and select projects across the state provided that successfully completed applications that meet the criteria are submitted. EEA reserves the right to reject any or all proposals that do not meet the goals and terms of this RFR. Each proposal will be reviewed to assure the following minimum criteria are met:

1. A signed letter of support from the chair of the board of selectmen, mayor, a town administrator, or similar city or town official showing commitment to the project and a willingness to lead on this issue. The letter should also state that municipal leadership will participate in the workshop process.

2. A short statement of the municipality's commitment to taking on this grant and planning for the impacts of climate change, including their commitment to assigning a local project manager and developing a core team to support the project, outlined in the Community Resilience Building guide. Please also outline the municipality's commitment to providing sufficient staff time match to complete the project and how that will be accomplished within current resources.

3. The name and qualifications (please include resume and summary of experience) of an employee of the municipality, a committee member, or volunteer who can serve as the local project manager, assemble a core team to work on the project, and serve as the point of contact for the grant.

4. A summary statement of municipal support, including at least 3 letters of support indicating interest in participating in the planning process from all relevant local boards, departments, commissions, businesses, organizations and other partners, including local, regional and statewide agencies or groups focused on climate change adaptation, emergency preparedness, planning, natural resources and land conservation. These partners are critical to the planning process and will ensure the city or town is able to develop a robust final report and build support for future work.

5. A description of how the municipality will use the results of this process to inform ongoing or new planning efforts including local hazard mitigation plans (HMP), open space and recreation plans, master plans, etc., and how results from this process would be used to inform that plan. Municipalities who **clearly** state their intention to incorporate results from the MVP program into a new or ongoing planning process may be eligible to receive additional funding through this opportunity. **Please note the status of your local HMP**, including if you have an active or expect to be soon completing a local HMP process (for plans expiring in 2019-2020). Municipalities with no current HMP or those with plans expiring in 2019 or 2020 are eligible for additional funding to complete or update a full draft of the HMP for MEMA review, in concert with the tasks described in Section 2A. A merged scope of work for incorporating the tasks in Section 2A with those required to complete a full draft of an HMP will be provided during award contracting.

6. Please tell us about your need to address climate change. What are the expected climate change impacts in your community and what do you think are the biggest risks? Has your community done any work to address climate change impacts in the past? Have you experienced significant loss or damage from extreme weather events, flooding, heat waves, drought, sea level rise, storm surge, or other climate change impacts?

7. Please indicate if your municipality contains environmental justice communities or other populations that may be particularly vulnerable to climate change impacts and natural hazards. Please describe how you will work proactively to involve these groups in the planning process.

8. Municipalities may request to expand the scope of the planning grant to include additional tasks such as follow-on workshops or public listening sessions, community outreach and education, targeted vulnerability assessments of critical sectors to gather more data, or additional steps they believe would build on the MVP planning process and further advance their community resiliency building efforts. If your municipality would like to expand the scope of the opportunity please outline, in detail, the work you intend to do to build on the MVP planning process, how it fits in with the overall MVP planning process as you understand it from your review of the Community Resilience Building Guide (https://www.communityresiliencebuilding.com/), the timeline for which you would complete it in, and the outcomes and deliverables you expect to achieve. Note that this

work must be completed by June 30, 2020. Follow-on grants through the MVP Action Grant program also cover such activities once a community has completed the MVP Planning Grant, so please only plan for what you can realistically accomplish during the year-long grant period.

B. APPLICATION SUBMISSION INSTRUCTIONS: Submit **5 hard-copy original proposals** by mail, parcel service, or hand delivery, and one digital copy on DVD or flash drive, resumes, and letters of support to Kathleen Theoharides (see **Contact Information** below). Please minimize the use of non-recyclable binders, dividers, folders, and covers**.**

The response must clearly identify the RFR number on the cover page (see **Attachment A**) of the response. **Print and digital copies must be received by 4:00 p.m. Friday, May 3, 2019**. Responses will be accepted by regular mail and courier in advance of the submission date and time. Postmarks, fax and digital copies submitted electronically are intended for EEA staff use, and are not sufficient to meet submission deadlines.

All responses and information submitted in response to this RFR are subject to the Massachusetts Public Records Law, M.G.L., c. 66, s. 10, and to c. 4, s. 7, ss. 26. Any statements in submitted responses that are inconsistent with these statutes, including marking by bidders of information as confidential during the quote submission process, shall be disregarded. Please do not submit any information that the Applicant may not wish to disclose publicly, such as home addresses or personal telephone numbers, social security numbers, or other similar information.

C. CONTACT INFORMATION:

Kathleen Theoharides, Assistant Secretary of Climate Change
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114
kathleen.theoharides@mass.gov
617-626-1144

D. ADDITIONAL REQUIRED DOCUMENTATION: If selected for an award the Applicant may be required to submit the following signed forms to complete a contract:

- Commonwealth Standard Contract Form
- W-9 Form
- Commonwealth Terms and Conditions filled out and signed by the Applicant
- Authorized Signatory Listing Form
- Electronic Funds Transfer (EFT) set-up form

Applicants are encouraged to review these forms prior to submission of a Response. The forms may be found at this site: http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-

agencies/osd/osd-forms.html

4. Deadlines and Procurement Calendar

A. RELEASE OF RFR: January 9, 2019

B. APPLICATION DEADLINE: Rolling acceptance, not later than 4 p.m., Friday, May 3, 2019.

C. ESTIMATED AWARD DATE: Funding selections are estimated to be announced within two weeks of a municipality's submission of a complete application, with contract negotiations to begin immediately thereafter.

D. ESTIMATED CONTRACT START DATE: Rolling. Notwithstanding any verbal representations by the parties, or an earlier start date listed in the Standard Contract Form, and only after an award is issued and a final scope of services has been negotiated, the effective start date of a contract shall be the latest of the following dates: the date the Standard Contract Form has been executed by an authorized signatory of the contractor and the procuring department; the date of secretariat or other approval(s) required by law or regulation; or a later date specified in the Standard Contract Form.

5. Miscellaneous

A. TYPE OF PROCUREMENT: Grant

B. USE OF THIS PROCUREMENT BY SINGLE OR MULTIPLE DEPARTMENTS: This RFR is a single department procurement. All contracts awarded under this RFR will be utilized solely by EEA.

C. REQUEST FOR SINGLE OR MULTIPLE CONTRACTORS: Multiple contracts may be awarded under this RFR.

D. RFR DISTRIBUTION METHOD: This RFR/bid is being distributed electronically using the COMMBUYS system. It is the responsibility of every Applicant to check COMMBUYS for any addenda or modifications to an RFR/bid to which they intend to respond. EEA accepts no liability and reserves the right to reject any applications that fail to address amended RFR/bid requirements and submit inadequate or incorrect responses. Any amendments or updates will be posted to CommBuys. It is recommended that applicants register with the CommBuys system to be alerted about updates to bids.

E. LIST OF ATTACHMENTS:

A. Cover Sheet

B. Application Form

C. State Certified MVP providers 2017-2018

Attachment A: Cover Sheet Requirements

MUNICIPAL VULNERABILITY PREPAREDNESS PROGRAM FY 19

PLANNING GRANT

RFR ENV 19 MVP 01

Applicant (name of municipality)**:**

Address:

Local Project Manager and Point of Contact:

Name:

Department/Committee/Municipal Role:

Email:

Phone:

Attachment B: Application

MUNICIPAL VULNERABILITY PREPAREDNESS PROGRAM IMMEDIATE NEEDS ROUND FY 19

Planning Grant

RFR ENV 19 MVP 01

1. A signed letter of support from the chair of the board of selectmen, mayor, a town administrator, or similar city or town official showing commitment to the project and a willingness to lead on this issue. The letter should also state that municipal leadership will participate in the workshop process.

2. A short statement of the municipality's commitment to taking on this grant and planning for the impacts of climate change, including their commitment to assigning a local project manager and developing a core team to support the project, outlined in the Community Resilience Building guide. Please also outline the municipality's commitment to providing sufficient staff time match to complete the project and how that will be accomplished within current resources.

3. The name and qualifications (please include resume and summary of experience) of an employee of the municipality, a committee member, or volunteer who can serve as the local project manager, assemble a core team to work on the project, and serve as the point of contact for the grant.

4. A summary statement of municipal support, including at least 3 letters of support indicating interest in participating in the planning process from all relevant local boards, departments, commissions, businesses, organizations and other partners, including local, regional and statewide agencies or groups focused on climate change adaptation, emergency preparedness, planning, natural resources and land conservation. These partners are critical to the planning process and will ensure the city or town is able to develop a robust final report and build support for future work.

5. A description of how the municipality will use the results of this process to inform ongoing or new planning efforts including local hazard mitigation plans (HMP), open space and recreation plans, master plans, etc., and how results from this process would be

used to inform that plan. Municipalities who **clearly** state their intention to incorporate results from the MVP program into a new or ongoing planning process may be eligible to receive additional funding through this opportunity. **Please note the status of your local HMP,** including if you have an active or expect to be soon completing a local HMP process (for plans expiring in 2019-2020). Municipalities with no current HMP or those with plans expiring in 2019 or 2020 are eligible for additional funding to complete or update a full draft of the HMP for MEMA review, in concert with the tasks described in Section 2A of this RFR. A merged scope of work for incorporating the tasks in Section 2A with those required to complete a full draft of an HMP will be provided during award contracting

6. Please tell us about your need to address climate change. What are the expected climate change impacts in your community and what do you think are the biggest risks? Has your community done any work to address climate change impacts in the past? Have you experienced significant loss or damage from extreme weather events, flooding, heat waves, drought, sea level rise, storm surge, or other climate change impacts?

7. Please indicate if your municipality contains environmental justice communities or other populations that may be particularly vulnerable to climate change impacts and natural hazards. Please describe how you will work proactively to involve these groups in the planning process.

8. Municipalities may request to expand the scope of the planning grant to include additional tasks such as follow-on workshops or public listening sessions, community outreach and education, targeted vulnerability assessments of critical sectors to gather more data, or additional steps they believe would build on the MVP planning process and further advance their community resiliency building efforts. If your municipality would like to expand the scope of the opportunity please outline, in detail, the work you intend to do to build on the MVP planning process, how it fits in with the overall MVP planning process as you understand it from your review of the Community Resilience Building Guide (https://www.communityresiliencebuilding.com/), the timeline for which you would complete it in, and the outcomes and deliverables you expect to achieve. Note that this work must be completed by June 30, 2020. Follow-on grants through the MVP Action Grant program also cover such activities once a community has completed the MVP Planning Grant, so please only plan for what you can realistically accomplish during the year-long grant period.

C

Published on *Town of West Newbury MA* (https://www.wnewbury.org)

Regional Meeting regarding Pentucket Contingency Plan and Middle/High School Project

Representatives from West Newbury, Groveland and Merrimac to Join Discussion
Event Date:
Thursday, January 24, 2019 - 6:00pm

Address

Merrimac Town Hall
4 School Street
Sargent's Hall, 2nd floor
Merrimac, MA 01860
United States
See map: Google Maps

Officials from Groveland, Merrimac and West Newbury — the three towns that make up Pentucket — will meet to share information on the proposed school building for grades seven through 12.

Both the middle and high school buildings, which were designed and constructed in the 1950s, have outlived their useful lives and are in need of significant physical improvements to extend their purpose for another 50 years.

The proposed building project is expected to receive an estimated 40 percent reimbursement from the Massachusetts School Building Authority (MSBA) and will:

- Create a middle school and high school building that will be used for the next half century.
- Address the infrastructure of the high school, which cannot be replaced without repairing the entire building — a venture that would cost more than $70 million without any MSBA reimbursement.
- Provide an optimal learning environment for students, including updated science labs and modern learning spaces where collaboration and technology are focal points
- Replace corroding pipes in the middle and high school

- Remove all hazardous materials that are currently found throughout the buildings

Next month, the district will have a more exact estimate of project costs, which are currently estimated at $155.2 million. With the MSBA's support, Pentucket taxpayers would be responsible for $95.2 million of the project's cost. Residents will first vote on the project at their spring town meetings, and if the measure passes, it will also require voter approval on the ballot in May.

"With representatives from all three towns present at this meeting, this is a great opportunity for residents to come find out more about the project and ask questions," Superintendent Bartholomew said. "Our goal is to ensure that every voter is fully informed on the scope of this work and what it means for our students, communities and taxpayers."

Source URL: https://www.wnewbury.org/board-selectmen/events/32114

PENTUCKET REGIONAL SCHOOL DISTRICT
REGIONAL AGREEMENT

PreK-12 REGIONAL AGREEMENT OF APRIL 30, 1993
AS AMENDED JULY 1, 1997, JULY 1, 1998, JULY 1, 1999, JULY 1, 2005, JULY 1, 2006, JULY 1, 2012, ~~AND~~ JULY 1, 2014, AND MAY 2019

For a Regional School District for the Towns of Groveland, Merrimac, and West Newbury, towns in the Commonwealth of Massachusetts hereinafter referred to as member towns.

Section I. MEMBERSHIP OF THE REGIONAL DISTRICT SCHOOL COMMITTEE

A. The Regional District School Committee shall consist of nine members, three from each member town, who shall be elected by the voters of that town. Each member so elected shall serve a three year term. In the event that a town or towns separate from the Regional School District at the elementary level as stated in Section X, the three (3) elected members from said town or towns shall constitute the elementary school committee as well as represent their town at the regional level.

B. Any vacancy occurring on the Regional District School Committee for any cause shall be filled by the local Board of Selectmen and the remaining School Committee members from the town where the vacancy occurs. Such replacement shall serve until the next annual town election.

C. At the first scheduled meeting of the Regional District School Committee after the annual election of all member towns, the Regional District School Committee shall organize in accordance with Massachusetts General Laws, Chapter 71, Section 16A, known as “Regional School Committee, Organization”. In addition, the Regional District School Committee shall fix the time and place for its regular meetings for the new term, provide for the calling of special meetings upon notice to all its members, and appoint appropriate sub-committees and other officers.

D. The Chairmanship, Vice Chairmanship and Secretary positions shall be revolving with one position being from each town. No Town shall hold more than one office.

Section II. QUORUMS, VOTES AND GOVERNANCE

A. A quorum to conduct business at regular meetings shall consist of a simple majority of its members and special meetings shall require not less than two members from each of the towns.

B. On all issues requiring a vote of the Regional District School Committee, each member’s vote will be weighted according to the respective town’s population based on the most recent decennial Federal census data, calculated out to two decimal places, and remain as such until the next official Federal census.

C. Any action voted by the Regional District School Committee which directly and specifically affects the elementary school(s) in only one town shall require that two of the three members of the Regional District School Committee from the town in which the affected elementary school is located vote in support of that action. In order, however, for a school to be closed in any member town where there is more than one elementary school, all three committee members from the affected town are required to vote in favor of the proposed closure after a public hearing is held in the affected town.

Section III. TYPE OF SCHOOL

A. The Regional School District shall include all grades from PK – 12.

B. The secondary schools shall serve students in grades 6 or 7 – 12.

C. The elementary schools shall serve students in grades PK – 5 or 6.

D. In the agreement where "preschool" is mentioned it is done so for future purposes to permit the Regional District School Committee with the approval of all member towns at their respective Town Meetings, at some future date, to include preschool classes. Until such time all preschool expenses shall be on a self supporting basis, except those excluded by law.

Section IV. LOCATION OF SCHOOLS

A. The Regional District secondary school buildings shall be located on sites owned by the District.

B. There shall be not less than one elementary school in each member town. Students in grades PK – 5 or 6 shall attend schools in their towns of residence, except in cases of emergency as defined by the Regional District School Committee, children attending special education low incidence classes, regional "magnet" classes, or intradistrict school choice. In such instances of emergency, refer to the Pentucket Regional School District "Contingency Plan" as approved by the Pentucket Regional School Committee, and as may be amended from time to time.

C. Each member town shall retain ownership of all elementary school buildings and related grounds, including any new elementary school buildings constructed in the future. Each member town shall lease each elementary school building and related grounds to the Pentucket Regional School District for the sum of one dollar. Each lease shall be for a term not greater than the term permitted by either general or special State law. The initial term of each lease shall commence on the date that the Regional District School Committee assumes jurisdiction over the pupils in grades PK-12 or as otherwise provided in such lease. Each lease may contain provisions for an extension of the lease term at the option of the Regional District School Committee. Responsibilities for maintenance of elementary school buildings shall be uniform across all District elementary school leases. A lease shall not prevent the use of the elementary school buildings or premises by the

respective owner towns with the approval of the School Committee, which shall not withhold such approval unless educationally necessary. If permitted by either general or special State law, a lease may provide that it shall terminate and the leased property shall revert to the member town if the town should no longer be a member of the Pentucket Regional School District or if the Regional District School Committee should determine that the land, with the building and other improvements thereon, is no longer needed for the educational program of the District. Each lease may include such other terms as may be agreed upon by the Board of Selectmen of a member town and the Regional District School Committee. A lease shall be executed by the Board of Selectmen on behalf of the member town and the Regional District School Committee on behalf of the District.

D. Said requirements to lease land and buildings shall not include portions of land and buildings already under separate lease at the time of the effective date of this agreement until such time as the existing lease terms expire.

E. Payments from present leases and future leases shall be paid to the Regional School District in accordance with the lease agreement by and between the District and the Town.

F. When necessary to implement due to an emergency as described in Section IV (B), the Pentucket Regional School District "Contingency Plan" will be in place for not more than one year, or until all towns have ~~had the opportunity to~~ convened a special town meeting for the purpose of reviewing any amendments as may be proposed to the Regional Agreement, whichever comes first.

Section V. TRANSPORTATION

Transportation shall be provided by the Regional School District. The Regional District School Committee shall set District transportation policy.

Section VI. DEFINITIONS

The budget for construction and operation of the District's Schools including payments of principal and interest on bonds and other evidence of indebtedness issued by the District shall be apportioned to the member towns subject to the following definitions:

A. Budget

As defined by this document, the budget is the amount of dollars voted by the Regional District School Committee to finance the District schools to be paid from the general revenues of the Regional School District.

The budget shall be comprised of two parts: operating costs and debt service, each as herein defined.

1. DEBT SERVICE and CAPITAL COSTS include all costs that are used for payment of principal and interest on bonds or other obligations issued by the District. Capital projects shall be defined as costing not less than $10,000 and having a depreciable life of not less than 5 years.

2. OPERATING COSTS include all costs not included in Debt Service and Capital Costs as defined in 1, but includes interest and principal on revenue anticipation notes.

Section VII. METHOD OF ASSESSING COSTS OF THE REGIONAL SCHOOL DISTRICT

A. All operating costs shall be assessed to the three towns on the basis of M.G.L. Chapter 71, Section 16B.

1. The district assessment will be calculated and reported to the member towns by using the two – step method. The District shall list all general fund revenues, including but not limited to Chapter 70 and Transportation Aid, and reduce the member assessment as it relates to the approved operating budget by said amount. The remaining member assessments shall be calculated by charging each member Town its net minimum spending amount as approved by the Department of Elementary and Secondary Education for the Fiscal Year being assessed. Should the requested member assessments exceed the net minimum spending required then the remaining amount shall be charged to each member Town based upon its percentage of the entire District enrollment calculated to 4 decimal places as of October 1 of the prior Fiscal Year for grades K to 12, including out of District placements, as reported to the Massachusetts Department of Elementary and Secondary Education on the statewide pupil census. All Debt Service and Capital Costs not associated directly to one member community's Elementary School(s) shall be allocated and assessed annually using the calculation stated above for any amount over the net minimum spending requirement.

2. Should all member Towns agree on an alternative method of assessment the District shall be notified in writing by each member community's Board of Selectmen Chair on the agreed procedure on or before March 1 of the year prior to the Fiscal year budget start date. If the per pupil method of assessment is chosen then the calculation shall be the same as the amount over net minimum spending stated in Part 1 of this section.

B. Debt Service, incurred by the District for an elementary school building of a member town, less applicable Chapter 70B MSBA aid, shall be assessed to the member town in which the elementary school is located.

C. The payment of the assessed share of operating costs and debt service by each member town, as computed by the Regional District School Committee according

to the methods specified in Sections VI, and VII, shall be made by each member town's Treasurer by check payable to the Regional School District in twelve equal installments by the fifteenth of each month.

Section VIII. RESPONSIBILITY FOR ADDITIONS, MAJOR REPLACEMENTS AND MAINTENANCE OF SECONDARY AND ELEMENTARY SCHOOLS

A. The District shall develop a 5 year capital plan for each building that will be provided to each member town by January 15th. This plan shall include; item descriptions, estimated costs, and the projected depreciable life. Capital projects shall be defined as costing not less than $10,000 and having a depreciable life of not less than 5 years. Capital projects shall be scheduled and approved by the member Town. Emergency repair procedures shall be defined by the member Town lease agreement.

   In addition, the District shall provide the member towns with a maintenance plan for each of its buildings. The District shall include a line item in its budget to fully fund this plan. A year end maintenance report shall be provided to the member towns identifying the cost of all maintenance performed.

B. Each member town shall be responsible for payment of costs associated with the construction of new buildings, renovations, or making extraordinary repairs to the elementary school building/s located in that member town so long as they meet the requirements of a capital project as described in VIII A.

C. The costs of on-going maintenance for those items not included in paragraph VIII B. for the elementary schools and all costs for the secondary schools shall be borne by the Regional School District.

Section IX. ADMISSION OF ADDITIONAL TOWNS

By an amendment of this agreement adopted by each member town in accordance with Section XIV and complying with the provision therein contained, any other town or towns may be admitted to the Regional School District upon adoption as herein provided
of such amendment and upon acceptance of the agreement as so amended, and also upon compliance with the provision of law as may be applicable and such terms as may be set forth in such amendment.

A new member may be admitted to the Regional School District as of July 1 of any fiscal year, provided that all requisite approvals for such admission, including the Commissioner's approval, shall be obtained no later than the preceding December 31. The authorizing votes may provide for the deferral of said admission until July 1 of a subsequent fiscal year.

Section X. WITHDRAWAL OF MEMBER TOWNS FROM THE REGIONAL SCHOOL DISTRICT

A. Any town withdrawing from the District must first pay all its share of total debt and current operating expenses. All withdrawals are subject to the approval of the Commissioner of Elementary and Secondary Education and must be approved by two thirds of the member Towns.

Any member town may withdraw from the regional school district in total or at the elementary level if accepted by a majority vote of the voters present and voting on the question at its Annual Town meeting called for the purpose, such withdrawal to become effective on June 30th of the year named in the question, provided: (1) that in pursuance of such vote, the withdrawing town gives the regional school district at least one years written notice of its intention to withdraw, (2) that the said town has paid over to the District any costs which have been certified by the District Treasurer to the Treasurer of the withdrawing town.

Section XI. ANNUAL REPORT

A. The Regional District School Committee shall submit to each member town an annual report containing a detailed financial statement and a statement showing methods by which the annual charges assessed against each town were computed, together with such additional information relating to the operation and maintenance of the secondary schools and each elementary school as may be deemed necessary by the Regional District Committee or by the Selectmen and/or the Finance Committee of any member town. This report shall contain a detailed listing of salaries by individual employee.

Section XII. BUDGET

A. ~~There shall be a Regional Finance Advisory Committee, comprised of the following: one Selectmen from each member town annually appointed by each member town Board of Selectmen; the Finance Director, or person holding such position by whichever title it may be known, from each member town; the Regional District School Committee Chair, or his/her designee; and the District Superintendent and/or Business Manager.~~ The Regional Advisory Committee will meet, from time to time, with the Regional District School Committee Chair, the Superintendent and/or Business Manager to discuss matters that may impact the District and/or the towns, including budget calendars and timelines, content and detail of budgets, revenue estimates and other revenue matters, capital budget items and use of Excess and Deficiency funds. ~~The chairmanship of the Advisory Committee shall rotate annually among the members from each of the towns.~~ The Committee shall prepare reports to be read into the School Committee minutes.

B. The Regional District School Committee shall prepare a budget on a fiscal year basis for the District in the following manner:

1. The budget process shall be initiated annually in December and shall provide an opportunity for the Selectmen and Finance Committee of each member town to have input into its preparation. The Regional District School Committee shall complete its proposed budget for the ensuing year, and said proposed budget shall be posted in the Town Hall of each member town, shall be provided to each member town's public library, and shall be submitted to the Selectmen, Finance Directors and Finance Committee members of each member town.

2. The proposed budget shall contain a notice stating when and where a public hearing will be held. The public hearing shall be held in any District school building. The notice of the public hearing shall be posted in all three towns. Said hearing shall be held at least ten (10) days prior to final adoption of the proposed budget. Upon request of the Finance Committee and/or the Board of Selectmen of any member town, the Regional District School Committee shall arrange to meet with such Finance Committee and/or Board of Selectmen for the purpose of discussing the proposed budget. Said proposed budget shall be submitted in the template approved by the School Committee, itemized at least as follows: central administration; expenses of instruction; transportation; operation of school plant; maintenance of school plant; outlay, debt and interest charges; the last named to specify all items costing $1,000.00 or more. All non-recurring expenditures shall be itemized. Enrollment, staffing, total expenditures and assessments for the past five years shall be included. The Chair of any member Board of Selectmen or Finance Committee may request further information.

3. 45 days prior to the date of the earliest member Annual Town Meeting the Regional District School Committee shall adopt by a two-thirds vote of all its members a budget with such changes as may have resulted from conferences and an open hearing. This budget shall be presented in two parts as outlined in the attached template (Exhibit A).No later than 30 days from the date of the approval vote, but within 10 days if possible, the Treasurer of the District shall certify to the Treasurer of each member town its assessed share of such budget.

4. The budget and assessment shall be so constructed as to show debt service, capital and operating costs. It shall also list all general fund revenue used to reduce member assessments as described in VII. A. This budget should also identify the costs of any programs not uniformly offered at all District elementary schools.

5. Budget approval will be in accordance with M.G.L. Chapter 71, Section 16B.

6. If, in the opinion of the Board of Selectmen and/or Finance Committee of any of the towns, the Regional School District budget will not fit the budgetary capabilities of their town, they can request of the Regional District School Committee a special meeting to discuss the budget.

   This meeting shall be called within seven (7) days of the presentation of the budget to the member towns.

   The meeting shall be attended by six members of the Regional District School Committee (two members from each member town), as well as two representatives of the Board of Selectmen and two representatives of the Finance Committee from each member town.

   The purpose of this meeting will be to discuss the ability of the town or towns to meet the financial obligation brought forth by their assessment of the submitted Regional School District budget.

   The charge of this group will be to recommend to the Regional District School Committee a reduced budget that least affects the educational integrity of the District and meets the financial capabilities of the town(s).

7. If a member town fails to hold a meeting within forty-five (45) days from the date on which an amended assessment was adopted by the Regional District School Committee, the member town shall be deemed to have voted affirmatively regardless of whether the town had previously approved an amount equal to or greater than the revised assessment. No action by the town constitutes approval.

Section XIII. INCURRING OF DEBT

A. The Regional District School Committee shall have authority to develop plans for District schools. According to Chapter 71, S.16d. the Regional District School Committee shall not incur any debt for the school until the expiration of sixty (60) days from the date said debt is authorized by the Regional District School Committee. Prior to the expiration of said period each member town will be notified of the intent to incur debt. Each member town which would bear a financial responsibility for the debt through the assessment of all or a portion of the principal and interest on such debt shall hold a Town Meeting for the purpose of expressing approval or disapproval of the amount of debt authorized by the Regional District School Committee by a majority of voters present and voting on the question. If the debt is disapproved by any member town, the debt shall not be incurred, and the Regional District School Committee shall then prepare an alternative proposal and a new or revised authorization to incur debt. The only exception to the restrictions in this paragraph shall be the incurring of debt in anticipation of revenues.

B. In the event that a member town should determine, prior to the issuance by the District of long term indebtedness to finance a Capital Cost, to make an upfront cash contribution to pay all of its allocable share of such Capital Cost, then the total borrowing authorized to pay costs of such Capital Cost shall be reduced by the amount of such upfront cash contribution. A member town's share of Capital Costs for purposes of this section shall be determined in the same manner as used in determining the allocation of Capital Costs for the fiscal year in which the District's borrowing for a particular Capital Cost is authorized.

When a member town has paid its entire share of such Capital Cost, then such member town shall not be assessed for any portion of Debt Service incurred by the District to finance the balance of such Capital Cost. Then, notwithstanding the provisions of Section VII(A) to the contrary, Debt Service on the amount to be borrowed shall be assessed upon the member town or towns that did not determine to make an upfront cash contribution on account of such Capital Cost, as if the District's total enrollment consisted solely of the students from the noncontributing town or towns.

Any upfront cash contribution on account of a Capital Cost shall be paid to the District prior to the issuance of long term bonds by the District to finance such capital cost.

Section XIV. AMENDMENTS

A. Amendments to the agreement must receive a majority vote of approval by each member town at a Town Meeting. Amendments may be initiated by the Regional District School Committee or by the Board of Selectmen of any one of the member towns.

B. No such amendment shall be made which shall substantially impair the rights of the holders of any of the District's bonds or notes of the District then outstanding or the rights of the District to procure the means for payment thereof.

C. This agreement will be reviewed every three years by a group comprised of the Chief Financial Officer of each town, the PRSD Business Manager, and the PRSD Superintendent ~~the members of the Regional Finance Advisory Board, as described in Section XII. A~~ who will make recommendations for changes to the member Town's Boards of Selectmen. At any time the Towns may also appoint a task force to review the Regional Agreement. This task force will be made up of a member from each Town's Board of Selectmen, the member town's Finance Directors, the Chairman of the School Committee, the Superintendent and a citizen from each member town.

D. All amendments are subject to the approval of the Commissioner of Elementary and Secondary Education.

Section XV. SEVERABILITY OF SECTIONS

According to Chapter 71.S.16I., in the event that any provision of this Regional School District Agreement shall be held invalid in any circumstance, such invalidity shall not affect any other provisions or circumstances.

Approval Signatures

Chair, Groveland Board of Selectmen Date

Chair, Merrimac Board of Selectmen Date

Chair, West Newbury Board of Selectmen Date

PRSD Contingency Plan Overviews - Draft

School	Building Value	30% Value**	Short-term Plan	Long-Term Plan
Bagnall	$18,119,900	$5,435,970	• PK through 1st Grade → Sweetsir • 2nd through 5th Grade → Page • Language Program → Page • 6th Grade → MS	**Optimal Educational Option** - Regionalize by grade **Alternative** - Keep Short-term plan in place
Donaghue	$7,030,500	$2,109,150	• 3rd Grade → Sweetsir • 4th Grade through 6th Grade → Page	**Optimal Educational Option** - Regionalize by grade **Alternative** - Keep Short-term plan in place
High School	$12,104,700	$3,631,410	• MS. MS moves to Short-term Plan	HS → MS; MS moves to MS Long-Term Plan
Middle School	$3,364,700	$1,009,410	• Each elementary school will become a PK-8	**Optimal Educational Option** - Regionalize by grade **Alternative** - 7th Grade to Donaghue; 8th grade to Page
Page	$9,075,300	$2,722,590	• 5th & 6th Grade → MS • 3rd & 4th Grade → Donaghue • K through 2nd Grade → Sweetsir • PK → Bagnall	**Optimal Educational Option** - Regionalize by grade **Alternative 1** - Possibly keep Short-Term Plan (send based on geographic location) **Alternative 2** - PK-2 → Bagnall; 3rd and 3rd from Donaghue → Sweetsir; 4-6 → Donaghue
Sweetsir	$4,237,000	$1,271,100	• PK through 2nd Grade → Page • District Programs → Donaghue	**Optimal Educational Option** - Regionalize by grade **Alternative** - School moves to Page; Need to determine what happens to SPED Programming

** 30% Value is 30% of the building's actual assessed value. Any repair at or above that amount would require that the entire structure be brought up to code for accessibility and with the various systems. See *Code of Massachusetts Regulation Title 521*.

D

TOWN OF WEST NEWBURY

APPLICATION FOR APPOINTMENT

The Town appreciates your interest in serving. Please complete this form and return to: Board of Selectmen, 381 Main Street, West Newbury, MA 01985 or e-mail to: selectmen@wnewbury.org
For additional information please call 978-363-1100, ext. 115.

Name: WAYNE S. AMARAL - DPW DIRECTOR

Address: 381 MAIN STR #7 WEST NEWBURY

e-mail: DPWDIRECTOR@WNEWBURY.ORG

Mobile phone: [redacted] Home phone: [redacted]

Board(s) or committee(s) you are interested in volunteering on:

EMERGENCY MANAGEMENT AGENCY & ADA ASST COORDINATOR

Current or past committees served on: _____

Relevant skills, expertise and education: DPW DIRECTOR

All board or committee vacancies will be filled by citizens deemed most qualified to serve in a particular capacity. I also understand that in the event that I am appointed to a position, my activities will be governed by the Massachusetts Conflict of Interest Law, Open Meeting Law, Public Records Law, the Bylaws of The Town of West Newbury and all other applicable federal, state and local laws or regulations.

Signature: _____ Date: 1-11-2019

RECEIVED

JAN 11 2019

BOARD OF SELECTMEN
TOWN OF WEST NEWBURY

E

Town of West Newbury

381 Main Street
West Newbury, Massachusetts 01985

Angus Jennings, Town Manager
978·363·1100, Ext. 111 Fax 978·363·1826
townmanager@wnewbury.org

TO: Board of Selectmen

FROM: Angus Jennings, Town Manager

DATE: January 17, 2019

RE: Review of proposed revisions to Policy on Rental of Town Facilities

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As you know, we are actively pursuing a quote for a so-called TULIP policy that we expect may reduce both the administrative burden/headache, and quite possibly the cost, for facility renters to satisfy the Town's insurance requirements. This work is well underway, and we expect to receive the TULIP quote in the next week.

During related discussion at a recent meeting, the Board appeared to indicate support to reduce the insurance requirements from $1,000,000 incident/$3,000,000 aggregate to $1,000,000 incident/$2,000,000 aggregate. (Our property/casualty insurer advised that the lower aggregate limit would adequately secure the Town's interests).

We therefore bring forward for Board endorsement the enclosed revisions to the policy and form.

We'd also like to take this opportunity to clarify another area of policy. It is my understanding that the Board has, in the past, indicated that the Town Annex and Old Town Hall should not be rented to non-residents for birthday parties, receptions, anniversary parties, etc. In 2018 the policy was revised to allow rental to Town employees.

We recently received a rental application from a non-resident seeking to host such an event. We turned down the application, based on staff understanding of the Board's prior policy direction, but it was pointed out that the policy, as written, is not clear on this point. Therefore, if this is in fact the policy intent, I'd like to see revisions to make this clear.

We'll have the policy on the screen Tuesday so we can revise the language, as may be directed, in a way that clearly conveys the Board's policy intent.

DRAFT amendments for review by Board of Selectmen
Proposed additions are underlined Proposed deletions are in ~~strikethrough~~

Town of West Newbury
Policy on Rental of Town Facilities

Policy Statement

Subject to availability, consistent with the needs of the Town and request of the public, and at the discretion of the Town Manager, the following facilities are available for use/rental to non-profit and commercial groups or individuals for meetings or programs of an educational, informational or cultural nature, or other events as approved by the Town Manager.

1910 Building Second Floor Hearing Room
1910 Building Second Floor Small Meeting Room
Annex
Town Hall (across from the library)
Bandstand
Mill Pond Recreation Building – with approval from the Mill Pond Committee
Pipestave Equestrian Area – with approval from Mill Pond Committee
Pipestave Athletic Playing Fields – with approval from Parks and Rec Commissioners

Policy Description

I. Reservations

Reservations may be made in person or by mail/email. Please contact the Residents Administrator at 978-363-1100 x130 to determine availability of the facility. An authorized representative of the group or organization must complete a request for use of facility form outlining all event details. The fee schedule and forms are available in the Town Manager's Office or online at www.wnewbury.org/town-manager. The individual signing the form will be responsible for the conduct of the group and the protection of the town property.

The use of any of the above-mentioned facilities for municipal purposes will take precedence over all other reservations. If the Town cancels a reservation, every effort will be made to provide as much advance notice as possible. A refund will be issued if a fee has been paid in advance.

II. Insurance

The organization's representative or the individual requesting the space will be required to sign an indemnification agreement with the Town of West Newbury for a scheduled event. A general liability policy ($1,000,000 per occurrence/$~~3~~2,000,000 aggregate) is required as part of the rental agreement, and a certificate of insurance naming the Town as an additional insured must be provided as proof of said policy. (For town resident or staff events, at the discretion of the Town Manager, insurance requirement may be waived upon advance approval by the Board of Selectmen.)

If alcohol is being served, subject to a separate approval by the Board of Selectmen of a one-day liquor license, a Liquor Liability Policy must be provided ($1,000,000) in addition to the general liability policy.

TERMS AND CONDITIONS OF USE:

1. Must leave the facility as you found it, place tables and chairs in the storage area and remove all trash and recycling. The town does not have a custodian on staff and other events may be scheduled to use the facility after you. Please contact Dispatch at 978-363-1213, if the town offices are closed, with any problems.
2. No open flames, i.e. candles, torches, etc. (Chafing trays with sternos are allowed.)
3. Exits and entrances must be kept clear. Tables must be a minimum of 6' from exits and entrances.
4. All decorations must be fire resistant.
5. No live trees or shrubs allowed, including Christmas trees.
6. No smoking inside buildings; smokers must be outside of the building, 20' from all entrances and exits.
7. If deemed necessary to maintain the safety of the public, a Fire Watch (Fire Dept. representative.) may be required at the then-current hourly fee.
8. No fog machines or fake smoke machines allowed.
9. No helium balloons allowed in the Annex.
10. Permits are required for temporary signs. No signs are allowed on public property without prior approval by the Board of Selectmen.

The Town is not responsible for the loss or damage to any person or the property of any user, or of any individual attending the event.

PLEASE NOTE: IF YOU ARE APPLYING TO OFFER *ANY KIND OF CAMP* FOR CHILDREN, YOU MUST GET PRIOR APPROVAL FROM THE BOARD OF HEALTH 978-363-1100, x. 118.

III. Fees

The Board of Selectmen shall establish a schedule of rental fees for town facilities. All fees are payable in advance. The Board of Selectmen may waive any rental fee at their discretion.

Private, Commercial, Town Staff and Political Groups:

Non-Resident Rental Fee

Non-Profit Charitable Groups:

No Rental Fee for use of a facility up to six (6) times per calendar year. Non-profit organizations or groups that request to use a town facility more than six (6) times per year and requesting to waive the fee, must receive approval from the Board of Selectmen at a scheduled meeting.

SCHEDULE OF RENTAL FEES

1910 Building Second Floor Hearing Room – Resident		$10.00/half day $20.00/full day
	Non-Resident	$20.00/half day $40.00/full day
1910 Building Second Floor Small Meeting Room – Resident		$10.00/half day $20.00/full day
Annex –	Resident	$120.00
	Non-Resident	$180.00
Town Hall –	Resident	$120.00
	Non-Resident	$180.00

Athletic Playing Fields
(per season/sport as determined by the Parks and Recreation Commissioners

Bandstand – Resident and Non-Resident		$ 25.00
Mill Pond Building –	Resident or Non-Profit	$ 75.00
	Non-Resident or Business	$150.00
Pipestave Riding Rings – Resident		*(To be determined)*

(Revised form 8/6/18)

REQUEST FOR USE OF FACILITIES

Organization or Group_____

Person Making Reservation _____

Mailing Address _____

Phone_____ e-mail_____

Event Date:_____Start Time_____End Time_____

Summary of Event_____

Number of Attendees_____

Event Details: *Please be specific* i.e. alcohol*, music, food –_____

_____

If alcohol is being served, a Liquor Liability Policy must be provided ($1,000,000), see page 2.

Check Appropriate Block:

_____ Fund Raising Group _____Commercial In-Town _____Resident _____Town Staff
_____Non-Profit/Public Agency _____Commercial Out-of-Town _____Other

Facility Requested:

_____1910 Bldg Hearing Room (1) _____Pipestave Equest. Area** _____Other
_____1910 Bldg Meeting Room (2) _____ Athletic Playing Fields*
_____Town Hall- (across from Library) _____ Mill Pond Rec Bldg**
_____Annex _____ Bandstand

_____**Fee Paid by Check/Cash _____** _____**Fee Waived**

TERMS AND CONDITIONS OF USE:

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2. No open flames, i.e. candles, torches, etc. (Chafing trays with sternos **are** allowed.)
3. Exits and entrances must be kept clear. Tables must be a minimum of 6' from exits and entrances.
4. All decorations must be fire resistant.
5. No live trees or shrubs allowed, including Christmas trees.
6. No smoking inside buildings; smokers must be outside of the building, 20' from all entrances and exits.
7. If deemed necessary to maintain the safety of the public, a Fire Watch (Fire Dept. representative.) may be required, at the then-current hourly fee.
8. No fog machines or fake smoke machines allowed. No helium balloons allowed in the Annex.
10. Permits are required for temporary signs. No signs are allowed on public property without prior approval by the Board of Selectmen

PLEASE NOTE: IF YOU ARE APPLYING TO OFFER *ANY KIND OF CAMP* FOR CHILDREN, YOU MUST GET PRIOR APPROVAL FROM THE BOARD OF HEALTH. 978-363-1100, x. 118

~ Continued on other side ~

Name: _____ Event: _____

Insurance: The organization's representative or the individual requesting the space will be required to sign an indemnification agreement (below) with the Town of West Newbury for a scheduled event. A general liability policy ($1,000,000 per occurrence/$~~3~~2,000,000 aggregate) is required as part of the rental agreement, and a certificate of insurance naming the Town as an additional insured must be provided before the date of the event as proof of said policy. If alcohol is being served, a Liquor Liability Policy must be provided ($1,000,000) in addition to the general liability coverage.

* **ATHLETIC PLAYING FIELDS RENTAL: Must have prior approval by the Parks and Rec Commissioners.** Payment by check (to: Town of West Newbury) or cash must be received in the Town Manager's Office, and a Certificate of Insurance must be received prior to the date requested to use the fields. (See above for details.)

****MILL POND RECREATION BUILDING AND PIPESTAVE EQUESTRIAN AREA**: Must have prior approval by the Mill Pond Committee.

Indemnification Agreement: I/We, _____ (group), agree to pay for any damage to the facility incurred during the term of rental by our organization. I/We understand that I/we must leave the area in the same condition that it was found. Furthermore, I/we hereby agree to save and hold harmless and/or indemnify the said Town of West Newbury against any and all claims or liabilities for personal injury or property damage arising out of use of said property.

_____ _____
Individually/Authorized Signature for Group Date

Parks & Rec Committee or Mill Pond Committee
Signature (if applicable): _____ Date: _____

Requests and comments:

Chief of Police
Signature: _____ Date: _____

Requests and comments:

Fire Chief
Signature: _____ Date: _____

Requests and comments:

Approval granted if signed here by Town Manager:

_____
Date: _____

Requests and comments:

G

Town of West Newbury

381 Main Street
West Newbury, Massachusetts 01985

Angus Jennings, Town Manager
978·363·1100, Ext. 111 Fax 978·363·1826
townmanager@wnewbury.org

TO: Board of Selectmen

FROM: Angus Jennings, Town Manager

DATE: January 17, 2019

RE: Clarification of warrant closing date and format/status complete of proposed articles

---

The FY20 Budget guidance I sent to Dept. Heads and Boards/Commissions/Committees last month (included in the Jan. 7 BoS packet) says that the Town Mtg Warrant closes on Feb 13 at 4pm.

I initially recommended this date in anticipation that this would provide time for staff to assemble articles received on/before the deadline for the BoS review at your Feb 18 meeting. The Feb 18 meeting (I had been anticipating) would also be the last date the BoS could add article(s) to the Warrant (unless it were to vote to reopen the warrant later in the spring, due to exceptional circumstances).

As I re-review my FY20 budget guidance, I think a clearer way to say it would be:

> **February 13, 4 pm Town Mtg. Warrant Article requests due to Board of Selectmen.**
> **February 18, 9 pm Town Mtg. Warrant closes.**

I think this retains the spirit of the 2/13 deadline while preserving the Board's discretion to add anything up until/through its regularly scheduled 2/18 mtg.

Unless there are objections in the next day or so I would like to send this out to Dept. Heads and Boards/Commissions/Committees as a clarification.

H

Town of West Newbury

381 Main Street
West Newbury, Massachusetts 01985

Angus Jennings, Town Manager
978·363·1100, Ext. 111 Fax 978·363·1826
townmanager@wnewbury.org

TO: Board of Selectmen

FROM: Angus Jennings, Town Manager

DATE: January 17, 2019

RE: Discussion and request for policy direction regarding potential Mailbox Policy

---

During my initial tenure, the Board established 90-day and 6-month goals for my office, followed by a list of additional objectives without a specified timeframe. The third item on the "second list" was to "Create Mailbox Policy."

Prior to his retirement in 2018, Gary Bill prepared a draft policy modeled on the policy the Town of Hampden, Maine put in place during my tenure there. That policy is online as follows:

https://www.hampdenmaine.gov/vertical/sites/%7B1FCAF0C4-5C5E-476D-A92E-1BED5B1F9E05%7D/uploads/Mailbox_Policy_Adopted_12-7-15.pdf

At my request, the new DPW Director Wayne Amaral has spent some time reviewing Gary's draft, the Hampden policy, policies in other communities in our region, and policies he has enacted and enforced during his work in other communities.

However, no proposed policy has yet been brought to the Board for consideration, and we are not in a position to do so without a better understanding of the Board's policy objectives. With snowy weather approaching (quite literally, as I write this memo), I would therefore like to seek the Board's guidance regarding what policy elements you would like to see included in our proposal.

A threshold issue is whether such policy would provide for compensation to mailbox owners in the event of damage or destruction that is known to have been caused by Town plows (or contractors). In Hampden, no compensation was provided. A related issue, if compensation is to be provided, is whether to establish a uniform cap on the amount of any such compensation and, if so, at what amount.

I fully recognize what a challenging topic this is, and do not envy you – as policy makers – the task of setting policy. However, I think it will be of value to do so, in order to enable my office and DPW personnel to act, and budget, in accordance with an adopted policy.

Depending on how much progress is made during Tuesday evening's discussion, I expect we'll be in a position to bring forward a proposed policy for Board consideration at your next meeting, if that is your wish.

TOWN OF WEST NEWBURY

381 Main Street, West Newbury, MA 01985
Tel. 978-363-1100, ext. 115 Fax 978-363-1826
mwinglass@wnewbury.org

To: Town Manager and Board of Selectmen

From: Mary Winglass, Executive Administrator

Date: January 17, 2019

Re: Discussion of Mailbox Policy

Per the request of Chairman Kemper, below is the only record I could find over the past couple years with a reference to a mailbox policy.

Selectmen's Meeting on April 30, 2018 - Mailbox damage complaints

The Board discussed with Gary Bill creating a mail box policy for damaged mailboxes during the winter months. Gary Bill stated that currently they will fix the mailbox depending on the situation. Selectman Kemper suggested that a policy be created to include fences and mailboxes. They Board requested a written recommendation from the DPW for further discussion.

Elsa Francescone is a resident over 20yrs stated that her mailbox is constantly damaged. Since she has abided by the legal recommendation for placement of her mail post, she is requesting a replacement for her granite post. The Board will follow-up with her once they have further discussion on a policy.

Town of West Newbury

381 Main Street
West Newbury, Massachusetts 01985

Angus Jennings, Town Manager
978·363·1100, Ext. 111 Fax 978·363·1826
townmanager@wnewbury.org

TO: Board of Selectmen

FROM: Angus Jennings, Town Manager

DATE: January 17, 2019

RE: Cont. review of Georgetown Road/Crane Neck Street Intersection Re: Zig-Zag Striping

---

Following the Board's discussion at your January 7th meeting, the enclosed correspondence was received from resident (and former Selectman) John McGrath.

This innovative suggestion seemed promising with regard to the subject intersection, and I referred it to the DPW Director (who is trained and has lengthy experience as a traffic engineer), and to Town Counsel for review.

Unfortunately, Mass. Gen. Laws Ch. 85 Sec. 2 "Traffic signs or devices; erection and maintenance; rules and regulations" requires that any and all signs, traffic control signals, traffic devices and markings must be "in conformance with the [MassDOT's] current manual on uniform traffic control devices." MassDOT has adopted MUTCD as the standard in the Commonwealth.

As noted in the enclosed article, which was provided by Mr. McGrath, this striping treatment is not (yet, anyway) part of MUTCD. The DPW Director and Town Counsel have both cautioned that, were the Town to implement non-compliant pavement markings, the Town would be exposed to liability in the event of an accident causing damage to life or property.

We are appreciative of this suggestion, and will keep our ear to the ground regarding whether this type of pavement marking – which has been widely used overseas for decades – may be added to MUTCD in the future.

From: John McGrath
Sent: Sunday, January 13, 2019 3:27 PM
To: Town Manager <townmanager@wnewbury.org>
Cc: DPW Director <dpwdirector@wnewbury.org>
Subject: Zig zag road stripes can get drivers to pay more attention & 1/13/19 photo Georgetown - Crane Neck intersect

Zig zag road stripes can get drivers to pay more attention
https://ggwash.org/view/40040/zig-zag-road-stripes-can-get-drivers-to-pay-more-attention

Photo 1:00 pm 1/13/19

Photo (looking east from west side)deliberately avoids signing, to show view of a distracted driver. Note that centerline striping continuity- geometry, road alignment and cross shadows nearly remove Georgetown road from view. Crane Neck appears to be continuous and uninterrupted.

John McGrath

GREATER GREATER WASHINGTON
The Washington, DC region is great » and it can be greater.

Zig zag road stripes can get drivers to pay more attention

WALKING By **Angie Schmitt** (Guest Contributor)
November 23, 2015 23

At 11 points in northern Virginia, the familiar straight dashed lines on the road give way to a series of zig zags. The unusual markings, the result of a project from the Virginia Department of Transportation, are meant to alert drivers to be cautious where the W&OD Trail intersects with the road — and bicyclists and pedestrians frequently cross.

Virginia DOT installed these zig zag markings to caution drivers approaching the intersection of a popular walking and biking trail. Image from VDOT.

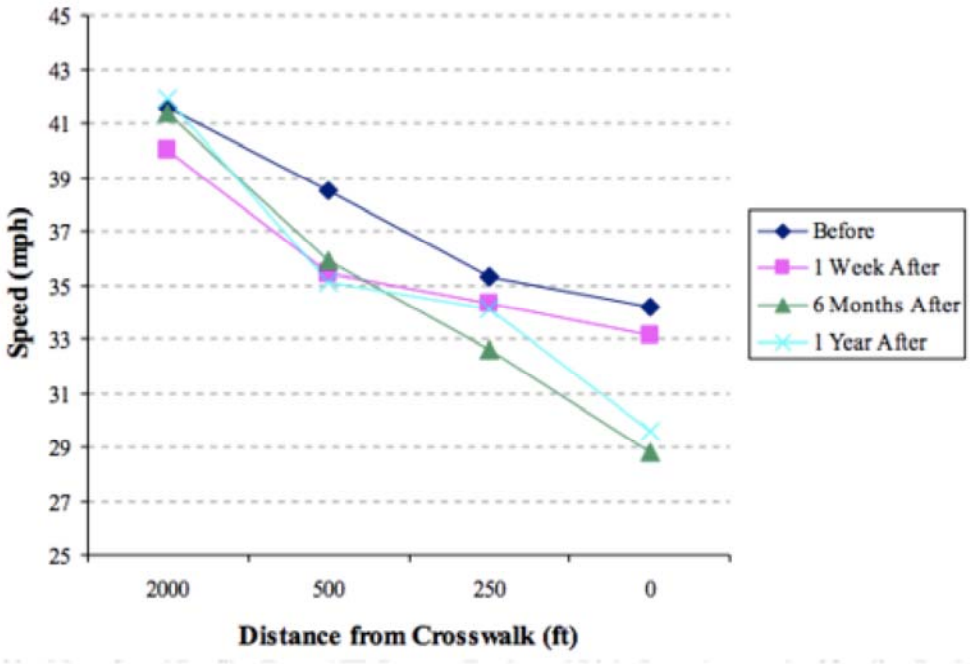
After a year-long study of this striping treatment, Virginia DOT officials say the markings are effective and should become part of the Manual on Uniform Traffic Control Devices — the playbook for American street designers.

VDOT found the zig zag markings slowed average vehicle speeds, increased motorist awareness of pedestrians and cyclists, and increased the likelihood that drivers would yield. They also noted that the effects of the design change didn't wear off once motorists became used to the it — they still slowed down a year after installation.

This photo shows another style of zig zag pavement marking tested in Virginia. Image from VDOT.

VDOT says the results indicate that zig zag markings are a more cost-effective solution for conflict points between trails and high-speed roads than the current treatments: flashing beacons placed above the road or off to the side.

The zig zag concept was imported from Europe. It is currently used in only two other locations in North America: Hawaii and Ottawa, Ontario. It was one of more than a dozen European traffic management techniques VDOT zeroed in on to test locally.



The zig zag markings reduced motorist speeds approaching the trail at Sterling Road by about 5 mph, according to VDOT. The effect remained strong over time. Graph from Streetsblog.

The W&OD trail is a popular route for both recreation and commuting in the DC metro area. Between 2002 and 2008, there were 21 collisions involving cyclists and two involving pedestrians along the trail, which intersects with major roads at 70 points along its 45-mile path in Fairfax and Loudoun counties in Virginia.

The effect of the zig zag markings was measured using speed radars over the course of a year. Feedback from motorists, cyclists, and pedestrians was also collected using online surveys. While the survey did not come from a random sample, 65 percent of drivers said they were more aware because of the markings and 48 percent said they liked them. The zig zags were also popular with cyclists; 71 percent said the markings affected driver behavior.

Said one respondent: “Drivers rarely stopped before the markings were installed. Since installation, they stop much more often.”

Continue the conversation about urbanism in the Washington region and support GGWash’s news and advocacy when you join the GGWash Neighborhood!

Tagged: bicycling, bike safety, pedestrian safety, pedestrians, vdot

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Angie Schmitt is a Cleveland-based writer and activist who specializes in transportatin planning and Midwestern cities. She manages the national sustainable transportation advocacy blog, Streetblog.net. Angie is a former newspaper reporter with a masters degree in urban planning, design and development.

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23 COMMENTS

THREADED NEWEST AT BOTTOM NEWEST AT TOP

JDC on November 23, 2015 at 10:26am

+1 for creative thinking about low-cost solutions to problems.

REPLY LINK REPORT

andrew on November 23, 2015 at 10:32am

Worth noting that this is the standard treatment for all crosswalks in the UK.

REPLY LINK REPORT

Jasper on November 23, 2015 at 10:41am

@ andrew: Do we have a Brit here who can comment?

REPLY LINK REPORT

Jasper on November 23, 2015 at 11:30am

Part I ADMINISTRATION OF THE GOVERNMENT

Title XIV PUBLIC WAYS AND WORKS

Chapter 85 REGULATIONS AND BY-LAWS RELATIVE TO WAYS AND BRIDGES

Section 2 TRAFFIC SIGNS OR DEVICES; ERECTION AND MAINTENANCE; RULES AND REGULATIONS

Section 2. The department of highways, in this chapter called the department, shall erect and maintain on state highways and on ways leading thereto and therefrom, and on all main highways between cities and towns, such direction signs, warning signs or lights, curb, street or other traffic markings, mechanical traffic signal systems, traffic devices, or parking meters as it may deem necessary for promoting the public safety and convenience and shall likewise install and maintain in accordance with the department's current manual on uniform traffic control devices, such curb, highway, street or other traffic markings as conditions may require or as may be necessary to carry out the provisions of other statutes pertaining to highway markings. The department may, from time to time, make, alter, rescind or add to rules and

regulations relative to such signs, lights, signal systems, traffic devices, parking meters and markings, and may issue rules and regulations to direct, govern and restrict the movements of vehicles on all state highways and to carry out the purposes of section nine of chapter eighty-nine on highways, including state highways, which are designated thereunder by the department as through ways, with penalties for the violation thereof not exceeding twenty dollars for each offense. No such rule or regulation shall prohibit the use of passenger or station wagon type motor vehicles whose gross weight is less than five thousand pounds and which are registered for commercial use, on ways, parkways or boulevards where noncommercial passenger-type motor vehicles are permitted to operate. No such signs, lights, signal systems, traffic devices, parking meters or markings shall be erected or maintained on any state highway by any authority other than the department except with its written approval as to location, shape, size and color thereof, and except during such time as said approval is in effect. The department may, after notice, revoke any approval granted under this section. Except as otherwise provided in section two E, any rule, regulation, order, ordinance or by law which excludes motor vehicles from state highways shall be invalid and of no effect. Except as hereinafter provided, any rule, regulation, order, ordinance or by-law of a city or town hereafter made or promulgated relative to or in connection with the erection or maintenance of signs, traffic control signals, traffic devices, school zones, parking meters or markings on any

way within its control shall take effect without department approval provided such signs, traffic control signals, traffic devices, parking meters, school zones or markings are in conformance with the department's current manual on uniform traffic control devices and the department's sample regulation for a standard municipal traffic code; provided, however, that such rule, regulation, order, ordinance or by-law shall not take effect until approved in writing by the department, or be effective after such approval is revoked, if made or promulgated relative to or in connection with the following: (1) any way at its intersection or junction with a state highway; (2) any project which is or was federally aided, in whole or in part; (3) any traffic control signal or flasher in any city or town which does not employ a registered professional engineer in the commonwealth to design, redesign or change the timing and sequence of signal or flasher; (4) any sign excluding heavy commercial vehicles; (5) any school zone establishment or signing in relation to which the city or town intends to seek reimbursement from the commonwealth; (6) any one-way street sign not placed at an intersection of public ways; (7) any rule, regulation, order, ordinance or by-law of a city or town which when made or promulgated would exclude motor vehicle travel on any existing way which connects one city or town with another, unless such rule, regulation, order, ordinance or by-law was promulgated in compliance with the following: (a) the rule-making body of the city or town initiating such rule, regulation, order, ordinance or by-law gives written notice of such

action to the chief executive officer of the abutting city, town or county into which the said way extends, and (b) a public hearing is held by the city, town or county initiating such alteration, relocation or discontinuance, public notice of which must be published for each of the two weeks preceding such hearing in a newspaper of general circulation in the abutting city, town or county into which the said way extends, and (c) after concurrence in writing by the chief executive officer of the abutting city or town into which the said way extends or his designee. Notwithstanding the foregoing, speed control signs may be established only in accordance with the provisions of section eighteen of chapter ninety. If any city or town installs and maintains any of the aforesaid traffic control devices without either requesting or obtaining the required approval or after being notified of such disapproval, or in noncompliance with said manual, the department shall withhold or withdraw the unexpended balance of any funds assigned to the said city or town under the provisions of section thirty-four of chapter ninety or sections twenty-five and twenty-six of chapter eighty-one. Any traffic control device which has not been erected or maintained in accordance with the foregoing provisions may be removed by or under the direction of the department and be stored by the department until claimed by the owner or, if not claimed within sixty days after written notice to said owner, may be disposed of at the discretion of the department. Color and arrow indications of traffic control signals shall have the commands ascribed to them

in said manual. The use of the flashing white walk pedestrian signal indication, as defined in the official standards of the department, is prohibited. The superior court shall have jurisdiction in equity to enforce the provisions of this section and section one, and also sections one and four of chapter eighty-nine and any rule or regulation made thereunder or to enjoin the violation thereof. The provisions of this section shall not apply to the installation by any city or town, on any way within its boundary, of signs warning motorists of the presence of blind, deaf or otherwise handicapped children in the vicinity.