

**Business of the Village Board
Village of Saranac Lake**

SUBJECT: Clean Energy Communities Grant

Date: 04/25/22

DEPT OF ORIGIN: Trustee Shapiro

Bill # 48-2022

DATE SUBMITTED: 04/21/22

EXHIBITS: Scope of Work

APPROVED AS TO FORM:

Village Attorney

Village Administration

EXPENDITURE
REQUIRED:

AMOUNT
BUDGETED:

APPROPRIATION
REQUIRED:

SUMMARY STATEMENT:

A resolution approving a building energy upgrade as the project which to apply the Village's \$10,000 Clean Energy Communities grant.

MOVED BY: Shapiro SECONDED BY: Catillaz

VOTE ON ROLL CALL:

MAYOR WILLIAMS

YES

TRUSTEE SHAPIRO

YES

TRUSTEE CATILLAZ

YES

TRUSTEE SCOLLIN

YES

TRUSTEE BRUNETTE

YES

**RESOLUTION TO APPROVE BUILDING ENERGY UPGRADE AS THE PROJECT FOR
THE CLEAN ENERGY COMMUNITIES GRANT**

WHEREAS, the Village of Saranac Lake is eligible to receive a Clean Energy Communities Grant in the amount of \$10,000; and

WHEREAS, the Village of Saranac Lake must commit to a project category by May 21, 2022 in order to receive the grant funding; and

WHEREAS, a building energy upgrade project could both reduce energy use and energy costs for the village; and

WHEREAS, the proposed upgrades will be informed by what the village learns from a comprehensive energy study of seven municipal buildings that is outlined in the attached scope of work for a Flex Tech Services;

NOW, THEREFORE BE IT RESOLVED, the Board of Trustees authorizes the Community Development Director to submit building energy upgrades as the proposed project for the \$10,000 Clean Energy Communities grant.

PROPOSAL TO PROVIDE FLEX TECH SERVICES

The Village of Saranac Lake, NY

ENERGY MASTER PLAN PROPOSAL

Submitted to:

The Village of Saranac Lake

39 Main St., 2nd Floor

Saranac Lake, NY 12983

Jamie Konkoski, Community Development Director

comdev@saranaclakeny.gov

Submitted by:

L&S Energy Services, Inc.

58 Clifton Country Road

Clifton Park, NY 12065

518.383.9405

518.383.9406 (fax)

Brendan Kelly, PE - Project Manager

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April 11, 2022



Project Summary

The Village of Saranac (“Village”) Lake is located in the northern part of the Adirondack Mountains and covers approximately 3 square miles. The Village is a destination for tourists due to its picturesque setting, historic architecture and opportunities for outdoor adventure.

The Village has requested NYSERDA FlexTech services through L&S Energy Services, Inc. (“L&S”) to create an Energy Master Plan for seven of its municipal buildings. The Village has made sustainability a priority and is operating under many related plans, including the New York State Climate Smart Communities (CSC) and Clean Energy Communities (CEC) programs. L&S will complete comprehensive ASHRAE Level 2 energy studies, screen Heating and Cooling electrification options and help the Village to create a roadmap which will prioritize energy conservation goals established through participation in the CSC and CEC programs.

The following table includes the buildings included in this project, as selected by the Village, with 2021 energy use and cost information:

Building	Annual Kwh	Annual Elec \$	Annual Oil Gallons	Annual Oil \$	Annual Total \$
1-3 Main Street	177,049	\$16,282	3,463	\$7,510	\$23,791
17 Main Street	7,002	\$1,685	3,395	\$7,450	\$9,135
Fire Department	41,125	\$3,568	4,540	\$10,133	\$13,701
Central Garage	-	\$0	3,944	\$8,892	\$8,892
DPW Garage	78,098	\$8,490	5,304	\$11,580	\$20,070
Mt Pisgah Lodge	143,039	\$21,930	1,992	\$4,314	\$26,245
Wastewater Treatment Plant Building	1,080,181	\$53,665	5,826	\$13,332	\$66,998
Total	1,526,493	\$105,620	28,464	\$63,212	\$168,832

Note – Central and DPW garages share an electric meter.

Electricity is supplied and delivered by National Grid and #2 fuel oil is supplied by Hyde Fuel. Peak kW will be gathered during the audit. Total electric and fuel oil costs are estimated to be \$168,832 per year.

The following section includes descriptions of the existing building conditions:

1-3 Main Street

The building located at 1-3 Main Street in Saranac Lake houses the police department and offices. It is a 3-story building with 7,560 square feet which is open 24 hours a day, seven days a week. The masonry building was built in 1927 and was listed on the National Register of Historic Places in 1987.

Performance of the envelope systems is minimal and all lighting has been converted to LED. Heating is provided by a hot water boiler system. There are no air conditioning systems.

17 Main Street

The building located at 17 Main Street is a two story, 6,750 square foot office building. The structure consists with red brick masonry, double hung window inserts with thermal glazing, minimal insulation in the roof and high-performance spray foam on the walls. All lighting has been converted to LED. Heating is provided by a hot water boiler system with radiators. There are no air conditioning systems.

Fire Department

The Village of Saranac Lake Firehouse is a four story, 11,325 square foot building located at 100 Broadway in Saranac Lake. The firehouse is open 24 hours a day, seven days a week. This building houses the Saranac Lake Volunteer Fire Department which is comprised of 5 Full Time fire drivers and various volunteer members. All lighting has been converted to LED. Heating is provided by a hot water boiler system with radiators. There are no air conditioning systems.

Central Garage

The Central Garage is a one-story, 10,725 square foot building located on 95 Van Buren Street in Saranac Lake. The building use includes truck repair bay, workshop and cold storage. The hours of operation are 7:00 am until 3:30 pm, Monday through Friday. The envelope system is metal and has minimal insulation. All lighting has been converted to LED and heating is provided by a forced air oil fired system. Waste engine oil is also used for heating. There is no air conditioning.

DPW Garage

The DPW garage is a single story, 14,400 square foot building also located at 95 Van Buren Street in Saranac Lake. The building use includes offices and vehicle storage. The hours of operation are 7:00 am until 3:30 pm, Monday through Friday. Seventeen full time employees and four part time employees maintain the village infrastructure including water and sewer systems, sidewalks, roads, parks and municipal buildings. The structure is metal with minimal insulation and large overhead doors. All lighting has been converted to LED and heating is provided by a hot water boiler system with radiant floor heating. There is no air conditioning.

Mt Pisgah Lodge

The Mt. Pisgah Ski Lodge is a two story, 5,850 square foot building located at 92 Mt. Pisgah Lane in Saranac Lake. The lodge contains common areas, office, kitchen and auxiliary buildings. The log cabin style structure has large south facing windows for viewing the mountain and minimal insulation in the envelope system. All lighting has been converted to LED and heating is provided by a hot water boiler system with radiant floor heating. The Village is particularly concerned about high electricity usage at this site.

Wastewater Treatment Plant Building

The wastewater treatment plant is a single story 3,649 square foot building with laboratory, office and controls. The hours of operation are 7:00 am until 3:30 pm, Monday through Friday. The building is masonry and the envelope system has minimal insulation and lighting was partially converted to LED. Heating is by three new boilers, installed in 2017-2018: 1 propane/methane and 2 fuel oil hot water boiler systems with hot water forced air systems. There are no air conditioning systems.

Project Work Tasks

Task 1 - Preliminary Energy Analysis and Benchmarking

Scope:

Task 1a - Meetings – Meetings will be held with the Village to refine goals, ensure work is supportive of facility goals and within policy and financial constraints, establish economic criteria and report on progress.

Task 1b - Utility Analysis – The Village has utility meters connected to all buildings. Utility bills or sign on to the utility account, as provided by the Village, will be reviewed for a two-year period.

Task 1c - Benchmarking – National Grid is compiling utility data in Energy Star Portfolio Manager, however, the data is aggregated by address, not by meter. Two years of data will be checked against the utility bills and building types will be checked. If the metrics are available, we will compare the data with other similarly sized Villages.

Task 1d - GHG Assessment – L&S will work with the Village to review and update their existing Greenhouse Gas (GHG) emissions inventory for the building only energy use in with this study. The GHG inventory will provide a baseline from which to measure the impact of future energy upgrades.

Task 1 Deliverables:

- Meeting notes and other records as deemed appropriate
- A discussion of current utility performance as compared to baseline year and long-term goals will be summarized. An energy balance showing the approximate portion each system in the building draws from the utility will be prepared.
- Energy Star Portfolio Manager Report and ranking for the facility.
- Update GHG inventory for energy use associated with buildings in this study.

Task 2 - Campus Energy Assessment

Scope:

Task 2a - Conduct Walk-Through Survey - A field survey shall be scheduled to gather building data for the energy analyses to be performed. Architectural features, mechanical equipment, lighting, plumbing and controls shall be inventoried. Remaining useful life and estimated efficiency of equipment shall be documented. We shall take photographs and record data and conditions as appropriate. Existing equipment documentation and equipment layout, as provided by the facility owner, will be reviewed.

Task 2b - Identify and Analyze Low Cost/No Cost Measures - Low cost/no cost measures can be implemented quickly. These usually consist of operational changes or maintenance items but can produce significant savings.

Task 2c - Identify and Analyze Capital Measures - Capital measures will be identified, analyzed and screened to ensure they are practical to implement. Cost estimates shall be based upon industry standard references including RS Means or vendor quotes. Analyses shall be performed using spreadsheets. Interactive effects between measures shall be considered. Measures may save energy and/or water.

Task 2d - Screening of Heating and Cooling Electrification Options – Screening of heating and cooling electrification options will be completed to evaluate the technological, economic feasibility, and benefits of installing air source heat pumps, ground source heat pumps, and/or variable refrigerant flow (VRF) systems relative to fossil-fuel based HVAC systems.

Task 2e - Review Mechanical and Electrical Designs, Conditions and Operations and Maintenance (O&M) Practices - A review of the existing design, equipment inventory and remaining useful life and O&M practices shall be conducted.

Task 2 Deliverables:

A report including the following:

- Individual building descriptions
- Equipment inventory by building
- Summary of recommendations
- Energy Usage Index (EUI, kBtu/square foot) comparison with similar sites, estimated savings if EUI targets are met, estimate of low cost/no cost savings
- Summary of utility data and utility rate analysis
- Detailed breakdown of energy consumption by end use
- Description of O&M and energy efficiency measures considered
- Energy analysis and measure interaction including capital cost and savings
- Financial analysis of energy efficiency measure
- Clean heating and cooling screenings
- Monitoring and verification methodology

It is important to ensure that the report can be used to develop a long-range plan for the Village.

Task 3 - Develop Energy Master Plan

The results of Task 1 and 2 shall be used to develop an Energy Master Plan that will provide guidance to developing a roadmap for achieving the Village's long-term energy and sustainability goals.

Task 3a - Present Results of the Energy Audit – A meeting will be held with the Village to present the results of the previous tasks and discuss next steps.

Task 3b - Rank Energy Efficiency Opportunities – The Energy Efficiency Measures will be placed in a matrix and screened for implementation. They will fall within the facility's economic criteria and be able to be implemented without disrupting operations. Some measures may not be cost effective, but should be implemented at the end of the useful life of existing equipment. Other measures may be required to reduce the carbon footprint. Measures selected by the Village for implementation will be integrated into the roadmap for the long-range sustainability and capital plans.

Task 3c - Develop Energy Master Plan - The Energy Master Plan is a long-term document that takes into account the multi-year goals of the Village, the service life of equipment and financial constraints.

Task 3d - Identify Funding Opportunities – Assist with Grant Applications – Provide assistance to the Village to identify and apply for grants in support of implementing the Energy Master Plan, including energy efficiency and green energy.

Task 3 Deliverables

- A matrix of proposed energy efficiency roadmap scenarios that are cost effective, with a timeline for implementation. This will help the Village to forecast a path to long term targets.
- Equipment upgrade projects and timeline to execution. These will likely be implemented at the end of useful life for the equipment.
- Integration plan for the building sub-metering and energy management system for ongoing tracking and commissioning.
- Evaluation of existing O&M plans and recommended improvements.

Task 4 – Final Report – One report shall be provided for review and comment to the applicant and NYSERDA, which encompasses the tasks as outlined in the approved scope of work and adheres to the Study Report Requirements and includes a Project Summary Sheet.

Assumptions

The workscope and fee proposal are based on the following assumptions. The customer shall:

- Provide access to the facility as needed to collect site data
- Access to building controls will be provided
- As-builts or other design schematics, if available, will be provided
- Provide monthly energy usage and cost data for the most recent two-year period
- Designate a site contact with knowledge of the equipment and systems at the facility

Project Schedule

The anticipated schedule for the audit includes submittal of a final report twelve weeks after project start. It is anticipated that the overall process will proceed according to the following milestones:

Project Schedule

Task	Weeks from Project Start											
	1	2	3	4	5	6	7	8	9	10	11	12
1 Preliminary Energy Analysis and Benchmarking												
Task 1a - Meetings	X				X							X
Task 1b - Utility Analysis		X	X									
Task 1c - Benchmarking			X	X								
Task 1d - GHG Assessment		X	X	X	X							
2 Campus Energy Assessment												
Task 2a - Conduct Walk-Through			X									
Task 2b - Identify and Analyze Low Cost/No Cost Measures				X	X							
Task 2c - Identify and Analyze Capital Measures					X	X	X					
Task 2d - Clean Heating and Cooling Screenings							X	X				
Task 2e - Review Mechanical and Electrical Designs, Conditions and Operations and Maintenance (O&M) Practices								X				
3 Develop Energy Master Plan												
Task 3a - Present Results of the Energy Audit									X			
Task 3b - Rank Energy Efficiency Opportunities									X			
Task 3c - Develop Energy Master Plan									X	X		
Task 3d - Identify Funding Opportunities – Assist with Grant Applications											X	
4 Final Report											X	X

Project Cost

The total cost to complete the tasks associated with this scope of work is \$35,956 (Primary service: \$33,766 for EMP and Supporting Service: \$2,193 for GHG inventory update). The Customer will contribute \$17,978 and NYSERDA will contribute \$17,978, as specified in the NYSERDA Purchase Order.

Version: 1
Date: 04-05-2020

PROJECT BUDGET
FOR: The Village of Saranac Lake



Complete the Budget Template below or equivalent. Provide total study costs and list the Customer and NYSERDA cost-share within the Scope of Work. The budget should be broken down according to task, and potential EEMs as identified during the onsite walk-through and listed in the Scope of Work.

LABOR								
Task Number	Task Description	Principal	SE Engineer	Engineer	Jr Engineer	Admin	Total Hours	Total Labor:
		\$100.00	\$100.00	\$100.00	\$80.00	\$65.00		
1	Preliminary Energy Analysis and Benchmarking							
1a	Meetings	1.0	1.0				2.0	\$ 350.00
1b	Utility Analysis			4.0	6.0	24.0	34.0	\$ 2,440.00
1c	Benchmarking			2.0	4.0	12.0	18.0	\$ 1,300.00
1d	GHG Assessment		4.0	10.0		10.0	24.0	\$ 2,290.00
2	Campus Energy Assessment							
2a	Conduct Walk-Through Survey	1.0	12.0	24.0	24.0		61.0	\$ 6,430.00
2b	Identify and Analyze Low Cost/No Cost Measures		4.0	8.0	4.0	2.0	18.0	\$ 1,690.00
2c	Identify and Analyze Capital Measures	2.0	15.0	24.0	12.0		54.0	\$ 6,300.00
2d	Clean Heating and Cooling Screenings		6.0	15.0			21.0	\$ 2,460.00
2e	Identify Existing Decarbonization Opportunities	1.0	6.0	12.0	4.0		23.0	\$ 2,670.00
3	Develop Energy Master Plan							
3a	Present Results of the Energy Audit	2.0	2.0	2.0			6.0	\$ 900.00
3b	Rank Energy Efficiency Opportunities	1.0	4.0	8.0			13.0	\$ 1,630.00
3c	Develop Energy Master Plan	8.0	15.0	6.0	4.0	2.0	36.0	\$ 5,130.00
3d	Identify Existing Decarbonization Opportunities		4.0	2.0		8.0	14.0	\$ 1,360.00
4	Final Report	1.0	8.0	12.0		4.0	25.0	\$ 2,930.00
		\$1,000.00	\$12,180.00	\$11,170.00	\$4,880.00	\$3,775.00	224.0	\$ 95,950.00

EXPENSES	
Item	Total Cost
Meals	\$351.00
Hotel	\$240.00
Meals	\$215.00

Total Expenses	\$806.00
Total Budget	\$35,956.00
NYSERDA Cost-Share*	\$17,978.00
Customer Cost-Share	\$17,978.00

*Default at 50%. Modify as needed based on project type and study eligibility.

The cost for reimbursement will be the same amount as the NYSERDA cost-share. The estimated eligible cost-share reimbursement amount, based on the final approved scope of work and budget is \$17,978. All requirements of the FlexTech Program PON 4192 Addendum must be met to be eligible for the cost-share reimbursement.