



Town of Georgetown

DESIGNATION GRANT FINAL REPORT

July 2021

EXECUTIVE SUMMARY

The Town of Georgetown was designated a Green Community in February of 2020 and received a designation grant award of \$136,898 the following summer. The grant was awarded to fund energy conservation measures including weatherization, in municipal facilities including Town Hall, the Penn Brook School, Public Safety, and School Garage. These projects will help the Town achieve the energy efficiency goals identified in its Energy Reduction Plan approved as part of designation.

This report is a summary of the projects completed in May of 2021 and will demonstrate how the Town benefited from the Green Community Grant Program. Georgetown looks forward to pursuing further energy saving measures as well as monitoring and tracking the success of these project using Mass Energy Insight.

PROJECTS

The development of every energy project starts with the initial energy assessment which includes a site visit and the collection of utility and operational costs for each location. The next step entails defining measures, budgetary costs, and estimated savings values by measure. In the late summer and early fall of 2019, Energy Conservation Inc. (ECI) completed lighting and mechanical system audits for Town facilities as well as a building envelope inspection report. The purpose of these visits was to assess each of the buildings' electrical, mechanical, and building envelope systems as it relates to energy and operational costs.

ECI is a National Grid Lead Project Expediter that has helped many customers reduce their energy costs through energy efficient measures such as lighting, HVAC, building controls, and weatherization.

Procurement Information: ECI was selected as the vendor for this project in accordance with MGL Chapter 25A section 14.

PROJECT TEAM

Project Lead – Town	John Cashel, Town Planner Ph: 978-352-5713 Email: jcashell@georgetownma.gov
Project Oversight – Town	Andrea Thibault, Planning Department Administrative Assistant
Project Lead – Vendor	Christopher Collins, Energy Conservation Inc. (ECI)
Reporting – MVPC	Jennifer Hughes, Environmental Program Manager

1. TOWN HALL – WEATHERIZATION

Summary Town Hall

The ECI audit describes the Town Hall building as being “fairly leaky” and attributes the air quality and comfort issues to failing weatherstrip and sealants and air leakage on the third floor. According to the inspection report, the third level is constructed within the conditioned attic space, which connects directly to the outdoors - allowing ongoing heat losses all winter and infiltration of hot, humid outdoor air and pollutants.

To reduce energy costs at Town Hall and improve comfort and air quality, ECI proposed to weatherstrip the exterior and boiler room doors; weatherstrip and air seal the six different window types and install side-mount sash locks and pulley seals; and air seal and insulate the roof deck.

The following is a more detailed scope from the ECI Weatherization Report:

Doors

- Weatherstrip non-standard exterior door, 3’6” W x 7’ H, total 1 door
- Weatherstrip non-standard boiler room door, 3’6” W x 7’ H, using fire-rated materials, total 1 door
- Weatherstrip the front-entry, non-standard exterior wood doors, 2’6” W x 7’6” H, using spring-bronze type materials, total 2 doors

Windows

- Weatherstrip the WAT-1, WAT-2, and WAT-3 units with spring-bronze kits, total 1,175 LF
- Air-seal the WAT-1 through WAT-5 units along frame-wall junctures, 1-line, using non-foam sealants, total 1,273 LF
- Install side-mount sash locks on the WAT-1, WAT-2, and WAT-3 units, total 62 windows/124 sash locks
- Install pulley seals on the WAT-1, WAT-2, and WAT-3 units (if there is no rope or chains in place, block the holes with non-foam sealant), total 62 windows/124 pulley seals

Roof Deck

- Install 1” rigid, fire-rated foam insulation to the underside of the sloped wood roof decks, sealing all seams, total 6,133 SF
- Install 1” rigid, fire-rated foam insulation to the interior surfaces of the two wood-framed dormer walls, sealing all seams, total 164 SF
- Install 1” rigid, fire-rated foam insulation to the interior surfaces of the exposed exterior walls (2’ above the attic floor), sealing all seams, total 564 SF

Project Timeline

DOER Approval	February 28, 2020
Town Approval	February 9, 2021
Kick-off Meeting	November 2, 2020
Installation Start	February 12, 2021
Installation End	February 14, 2021
Final Invoice Paid	April 12, 2021

Total Project Cost: \$57,793.96

Green Community Funding: \$56,327.96

Utility Incentives: \$1,466.00

Project Photographs:



Town Hall Window Lock



Town Hall Window Caulk



Town Hall Attic



Town Hall Attic



Town Hall Front Door



Town Hall Boiler Room Door

2. PUBLIC SAFETY BUILDING (A) & GARAGE (B) – WEATHERIZATION

Summary A – Public Safety

The Public Safety Building was built in 1987. It houses the police and fire departments, with a 4-bay high bay (fire) and 2-bay sally port (police). It has wood-framed, insulated wall systems with clapboard exterior, and sloped wood roof systems. The structure is in good condition and well-maintained by staff. The building envelope is quite leaky, due partly to failing weatherstrip and sealants, as well as construction framing details, i.e. no effective air barrier in place between majority of the second floor and unconditioned attic.

Doors

The exterior doors are leaky and need to be weather-stripped. The doors are brushed metal, blue, and grey. Mill-finished door kits will be fine. Weatherstrip the doors, per the QAS manual and floor plan.

- Weatherstrip standard-size exterior doors, **total 4 doors**

Pull-down Stairs

Access to attic space is via pull-down stairs in the sally port.

These stairs need to be weather-stripped, dammed around, and have a removeable insulated stair cover installed. Weatherstrip and insulate the pull-down stairs, per the QAS and floor plans.

- Install a Therma-Dome or custom-fabricated removeable cover of 4" rigid foam board insulation over the 2'6" W x 5' L pull-down stairs at the Public Safety Building. Weatherstrip the access and build a dam around it that will hold a person's weight and is higher than the surrounding insulation, **total 1 pull-down stair cover and dam**

Overhead Doors

There are six sectional-type overhead doors: two measure 9' W X 14' H and the remaining four measure 12' W x 12' H. The doors tested leaky and should be weather-stripped, per the QAS manual and floor plan.

- Weatherstrip the 9' W X 8' H overhead doors, **total 2 doors**
- Weatherstrip the 12' W X 12' H overhead doors, **total 4 doors**

Windows

There are 3 window assembly types. All are metal-frame, double-pane units. The WAT-2 windows tested leaky along sashes. New weatherstrip needs to be installed (double-channel left/right sides, single-channel top/bottom edges). All windows tested leaky

along frame-wall junctures. They need to be air-sealed, 1-line, with non-foam sealants. A few of the units are elevated, with a max working height of 12 feet. Weatherstrip and air-seal the windows, per the QAS manual and floor plan.

- Weatherstrip the WAT-2 units (double-channel on the left/right, single-channel on the top/bottom), **total 414 LF**
- Air-seal the WAT-1, WAT-2, and WAT-3 units along the frame-wall junctures, 1-line, using non-foam sealants, **total 482 LF**

Air Barriers

The sloped wood roof sections have no insulation. In a large section of the second level, there is no effective air barrier in place, merely batt insulation fitted within the truss framing (with second layer atop) and a thin poly liner stapled to the bottom of the framing. There are torn, missing, and deteriorated sections of the poly throughout. A rigid air barrier needs to be installed on the bottom of the truss framing, above the suspended ceiling, using 1" fire-rated board insulation, sealing all seams. The working height to the bottom of the truss framing is 12'. Install an air barrier, per the QAS manual and floor plan.

- Install an effective air barrier affixing 1" fire-rated board insulation to the bottom of the truss framing, sealing seams with 2-component, closed-cell, polyurethane spray foam, total 3,895 SF

Summary B – Public Safety Garage

The Public Safety Maintenance Garage was built recently with wood-framed, insulated walls (wood panel siding) and a wood-framed sloped roof system. The R-19 fiberglass batts are still exposed within the exterior walls and sloped roof framing. The school representative noted construction was still underway concerning the interior surfaces. The structure is in good condition, aside from the unfinished interior wall and roof surfaces. It appears well-maintained by staff, considering repairs/construction were ongoing. The building envelope is moderately leaky, due to failing weatherstrip and sealants, as well as incomplete framing details along the exterior walls and interior roof surface.

Doors

The exterior doors are leaky and need to be weather-stripped. The door in the School Maintenance Garage is white. A white or mill-finish door kit will be fine. Weatherstrip the doors, per the QAS manual and floor plan.

- Weatherstrip standard-size door, **total 1 door**

Overhead Doors

There are two sectional-type overhead doors that measure 9' W X 10' H. The doors tested leaky and should be weather-stripped, per the QAS manual and floor plan.

- Weatherstrip the 9' W X 10' H overhead doors, **total 2 doors**

Windows

There is only one window assembly type. They are single-pane, metal-frame and tested leaky along sashes and frame-wall junctures. New weatherstrip needs to be installed on each sash, and these windows need to be air-sealed, 1-line, at their frame-wall junctures. Weatherstrip and air-seal the windows, per the QAS manual and floor plan.

- Weatherstrip the WAT-1 units at each sash, **total 56 LF**
- Air-seal the WAT-1 units along frame-wall junctures, 1-line, using non-foam sealants, **total 70 LF**

Project Timeline

DOER Approval	February 28, 2020
Town Approval	February 9, 2021
Kick-off Meeting	November 2, 2021
Installation Start	February 15, 2021
Installation End	February 20, 2021
Final Invoice Paid	April 12, 2021

Total Project Cost: \$67,064.04

Green Community Funding: \$65,252.60 (Inc. \$1,525.56 of police salaries*)

Utility Incentives: \$1,486.00

Town Contribution: \$55.68 (Additional police salary*)

*See Police Salary Memo

Project Photographs:



Public Safety Door



Public Safety Window



Public Safety Attic



Public Safety Attic



Public Safety Overhead Door



Public Safety Door
to Garage



Public Safety Ceiling

3. PENN BROOK ELEMENTARY SCHOOL WEATHERIZATION

Summary

The original school was demolished, and the new Penn Brook Elementary School was built in 2015. It has steel framing, CMU/brick masonry wall systems, and flat and sloped metal roof systems. The structure is in good condition and very well-maintained by staff. The building envelope is moderately leaky, due to failing weatherstrip and sealants.

Doors

The exterior and boiler room doors in the building are leaky and need to be weatherstripped. The doors in the building are blue, beige, white, and brushed- aluminum. Black, white, and mill-finished door kits will be fine. Weatherstrip the doors, per the QAS manual and floor plan.

- Weatherstrip standard-size exterior doors, total 17 doors
- Weatherstrip non-standard exterior door, 3'6" W x 7' H, total 1 door
- Weatherstrip non-standard exterior door, 4' W x 7' H, total 1 door
- Weatherstrip non-standard exterior doors, 3' W x 8' H, total 8 doors
- Weatherstrip standard-size mechanical room door using fire-rated materials, total 1 door

Windows

There are 10 window assembly types. The WAT-2 and WAT-3 units are metal-framed and double-pane. These units tested tight. The WAT-1 and WAT-4 through WAT-10 windows are a series of adjoined sub-units (eight different configurations). These units tested leaky at the corners where the horizontal and vertical mullions join. The boxed-out framing is either 3", 8", or 10" deep. These corner seams need to be air-sealed, 1-line, along each of the seams/joints of each sub-unit using non-foam sealants, per the QAS manual and floor plan.

- Air-seal the WAT-1 and WAT-4 to WAT-10 units along corners where the mullions join, 1-line, using non-foam sealants, **total 708 LF**

Project Photographs:



Penn Brook Window



Penn Brook School Door



Penn Brook School Boiler Room Door

Project Timeline

DOER Approval	April 6, 2021 (add-on project)
Town Approval	April 6, 2021
Kick-off Meeting	None (not part of original project)
Installation Start	April 20, 2021
Installation End	April 23, 2021
Final Invoice Paid	May 24, 2021

Total Project Cost: \$12,565.54

Green Community Funding: \$10,477.54

Utility Incentives: \$2,088.00

4. REPORTING AND GRANT OVERSIGHT

Summary

Town staff committed many hours to coordinating and overseeing the designation grant work. Georgetown was able to cover this staff time with grant funding. In addition, the Town worked with Merrimack Valley Planning Commission to close out the designation grant process and contracted with them for final reporting.

Scope

Georgetown Planning Department Staff Time

- John Cashell \$38.65/hr. x 85 hours = \$3,285.25
- Andrea Thibault \$19.49/hr x 85 hours = \$1,656.65 TOTAL = \$4,941.90

MVPC will provide the Town of Georgetown with administrative support for the following

- Final Grant Reporting \$3,000

Total Project Cost: \$7,941.90

Green Community Funding: \$7,941.90

PUBLIC INVOLVEMENT & OUTREACH

The Town Departments, Board of Selectmen and community have been very supportive throughout this process. While becoming a Designated Green Community the Town held public meetings to inform of the changes that were to come like changing to the Stretch Energy Code, to general practices for Town Departments such as anti-idling and fuel-efficient vehicle policies.

State names Georgetown a Green Community, awards grant money

<https://georgetown.wickedlocal.com/news/20200211/going-green-georgetown-approved-for-green-communities-program>

Planning Board Web Page

<https://www.georgetownma.gov/planning-board/news/green-communities-140000-grant>

LESSONS LEARNED

The Town learned many things throughout the Designation process and through the projects we were able to do with the awarded grant money. We were able to take a comprehensive

look at each of the Town owned buildings to see where there was room for improvement, which allowed us to make the decisions on what energy saving matters to tackle first. When work came in under budget, the town was able to react quickly and identify additional work to be completed. The Town was also able to create a vehicle inventory and begin educating departments about future purchases of energy efficient vehicles, as well as begin the work to plan how and where to best implement electric vehicle charging stations in our town.

Georgetown has quite a bit of room for improved energy efficiency, as many of the buildings are quite old. The Town Hall is a two-story wooden framed building built in 1905. The Perley School was built in 1898, and the inside was rebuilt in 1936 after a fire. The Town's library was built in 1909, with a 2006 renovation. We are looking forward to the next grant round and the opportunity to continue work toward our goal of a 20% energy use reduction.

OTHER ENERGY RELATED INITIATIVES

The next projects the Town will be applying for will be focused on buildings we were not able to address with the designation grant which includes the Middle-High School, which needs a new energy efficient furnace and heating system, Perley School, Highway Department Buildings, Municipal Light Department, and the Peabody Public Library. We would also like to implement at least one electric vehicle charging station. There were many measures identified in Georgetown's initial audit, which the Town intends to apply for in the next round of competitive grant funding.