BLUE BTV – Year 3 Report

Residential Stormwater Incentive Program

Introduction

This report outlines the work completed for the third year of the BLUE BTV Residential Stormwater Incentive Program from July 1, 2024, to June 30, 2025. This project is a collaborative effort between the City of Burlington, Fitzgerald Environmental Associates (FEA), Just Water Consulting (JWC), Lake Champlain Sea Grant (LCSG), and the University of Vermont (UVM). BLUE BTV aims to incentivize the installation of small-scale green stormwater infrastructure (GSI) treatment and retention systems to reduce phosphorus loading and stormwater runoff from residential properties within the City of Burlington. The secondary goal of the program is to provide outreach and education to residents regarding water quality and the importance of stormwater management.

Methodology

BLUE assessments were conducted by LCSG staff and an undergraduate intern throughout summer and fall of 2024. BLUE staff conduct ongoing outreach to advertise the free residential site assessments to Burlington residents and encourage sign-ups. These efforts, specifically using Front Porch Forum, generates steady interest in the program. The City included a BLUE BTV ad in the On-Tap Water Bill Newsletter, which was another effective method. LCSG staff partnered with a student group through a course in the Rubenstein School of Environmental and Natural Resources at UVM to design and distribute 150 BLUE 150 flyers. Fliers were distributed to residences in key target areas across the City, particularly where reducing stormwater from residential properties is a priority, including the drainage areas of the City's combined sewer system and Little Eagle Bay. LCSG staff attended tabling events like Spectacular Nature Day at the Intervale and the City's Open Space evening in the New North End to promote the BLUE program.

Burlington residents can request a free BLUE BTV stormwater evaluation via a link on the City of Burlington website. Prior to the site visit, BLUE staff conduct a "desktop assessment" to gather property information from GIS layers on an ArcGIS Web Map, which was built by an undergraduate intern. Examples of these points of interest include the soil type and hydrologic group, square footage of impervious surfaces, and identification of the subwatershed, or the sewer and stormwater collection system, where the property is located. Stormwater leaving a property in Burlington either flows into the City's combined sewer system or discharges to a waterway, like Potash Brook or the Winooski River.

During the site evaluation, BLUE BTV staff members meet the resident at their property to discuss and observe stormwater management and any issues specific to their site. BLUE BTV staff ask a set of questions to understand how and where water flows on the property. They walk around the property to assess driveways, walkways, roofs and gutters, and any existing stormwater management features. Additionally, the evaluator asks the resident questions regarding household habits, such as their lawn and

pet care practices, to encourage best practices with water quality in mind. They use an ESRI Survey123 application to collect this information and capture photos on site.

Upon completion of each evaluation, BLUE staff compile a report for the property that provides site-specific recommendations based on resident preferences for where GSI could effectively improve the infiltration and mitigation of stormwater runoff. Examples of these GSI improvements range from simple and low-cost solutions such as downspout disconnection, to more complex, engineered practices including rain gardens and permeable driveways. The recommendations are meant to provide feasible ways for residents to treat and infiltrate as much stormwater as possible on their property and remove it from Burlington's separate and combined stormwater collection systems. BLUE staff can then provide support and rebates for interested participants who want to implement a recommendation outlined in the Basis of Design. **Figure 1** details the project installation and rebate approval process. For infiltration practices, BLUE BTV team members visit the property to conduct a soil infiltration test to determine project suitability and to inform designs. Residents may decide to self-install a project or hire an outside contractor to complete the work. Staff from FEA and JWC provide construction oversight to insure adherence to standards within the Basis of Design during project installation. Once the project is completed and inspected, residents can apply to receive a rebate of up to $2,000 from the City as reimbursement for a portion of project expenses. The Basis of Design includes a list of maintenance tasks that residents should monitor for and complete during the life of their project to ensure it continues to function as designed.

Rebate eligibility guidelines:

- The project follows design specifications in the BLUE BTV Basis of Design.
- The project directs runoff away from the Burlington right-of-way.
- The project encourages infiltration of stormwater onsite.
- Unique projects outside of the Basis of Design may be approved by the BLUE BTV Team.

The BLUE team participated in several new initiatives from July 2024 to June 2025. BLUE staff members were interviewed as a stakeholder for the Open Space Plan meeting in January and presented the BLUE program to the Burlington Department of Parks Recreation and Waterfront in March. The BLUE program was recognized with the Stormwater Award through the Green Mountain Water Environment Association (GMWEA) in May and summer interns helped facilitate a rain garden tour alongside the Neighborhood Planning Association for Ward 6 in Burlington in June. Two new plant lists were developed during this period for specific site conditions: Water-Loving Clay Tolerant Plant List and a Salt Tolerant Plant List.

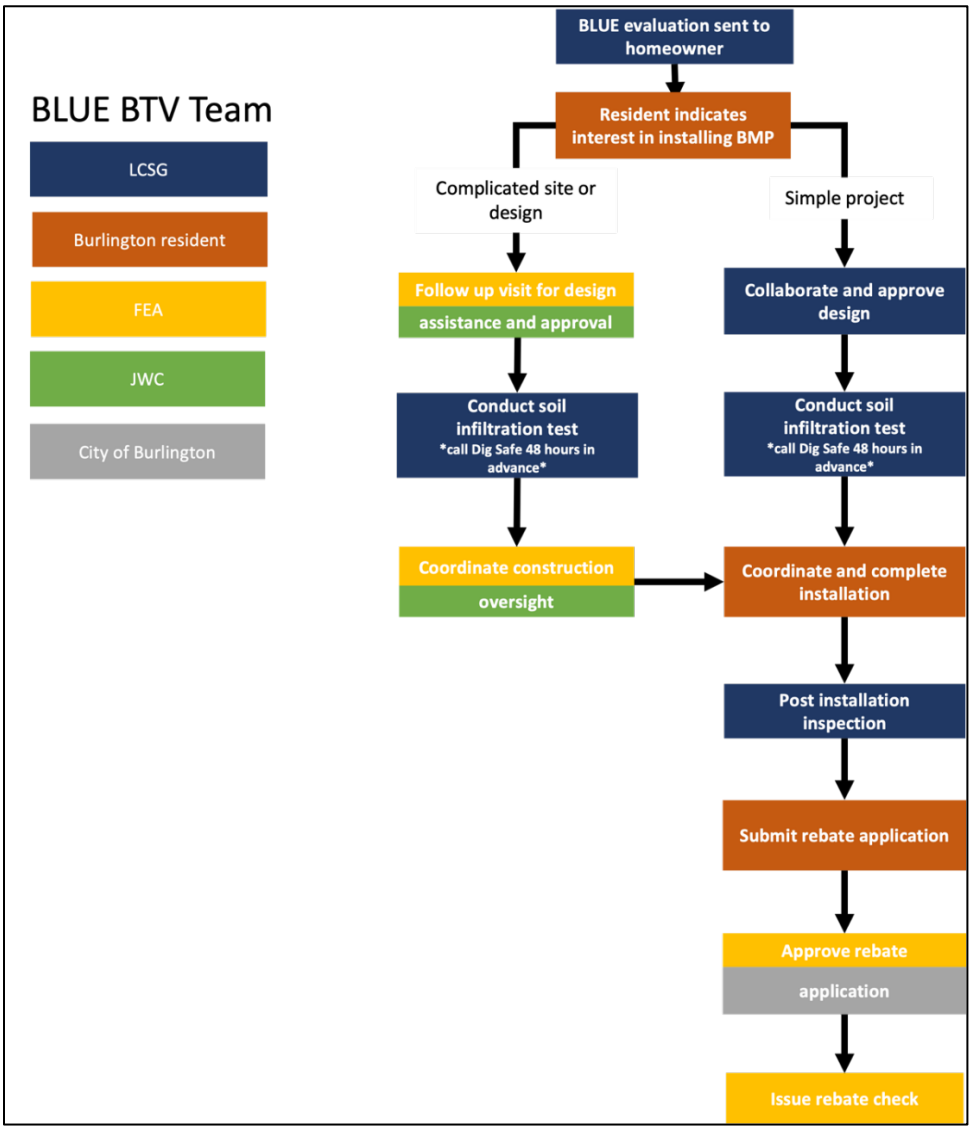

Figure 1: Process flow chart showing roles and responsibilities for project approval and rebate eligibility.

Results

A total of **96** residential stormwater evaluations were completed between 7/1/2024 and 6/30/2025. The properties assessed are located across the entire City of Burlington (see **Figure 4**). Stormwater assessors shared with homeowners a map showing the boundary of the Burlington sub watersheds and informational materials about lawn care practices, cyanobacteria, and combined sewer overflows. These materials, and the conversations with trained assessors, served to inform community members about the water quality issues facing Lake Champlain, actions the City is taking, and the ways that residents can help.

There was a wide range of preexisting knowledge about stormwater issues among the residents who participated in the program. Many participants had minimal knowledge about stormwater and effects on Lake Champlain. These participants primarily signed up for assessments to learn more about stormwater and to explore their options managing runoff. A few homeowners were very knowledgeable, and some had already installed GSI practices on their properties. These individuals often signed up for assessments to receive feedback on the efficacy of their residential stormwater practices and for recommendations on other practices they could install.

The Basis of Design is provided to residents to guide the proper installation of new residential stormwater practices. This document served as sufficient guidance for installations that were both resident-installed and projects professionally installed by contractors. In 2024, the team expanded a list of local contractors who work on BLUE-recommended projects. FEA staff produced site-specific designs for some of the more complex properties to supplement Basis of Design guidance. For any stormwater practice installed as part of the BLUE BTV program, a member of the team always inspected the site to ensure proper installation. Residents who installed GSI practices that met the standards of the program received rebates to reimburse them for a portion of the cost of the installed practice.

Throughout the third year of the BLUE BTV program, **$14,584** in rebates were provided to **11 homeowners**, for practices that cumulatively treat **9,185 sq. feet** of impervious area (**Table 1**). As of July 2025, least 10 BLUE participants that have expressed interest in pursuing stormwater installations that will likely qualify for rebates when completed.

Table 1: Number of individual practices supported through the BLUE BTV program.

Practice Type	Number of Practices Installed*
Permeable Driveway	1
Permeable Pathway	1
Infiltration Trenches	3
Rain Barrel	2
Rain Garden	1
Dry Well	4
Driveway Trench Drain	1
Drainage Swale	1
Rooftop Disconnection (Gutters)	3

** Multiple practices are installed on individual properties, leading to more practices than represented in the total property count.*

A survey was distributed to all 2024 BLUE participants in January 2025 to gather feedback on the program, assess interest in future projects, and identify potential implementation barriers. **Figure 2** summarizes the primary reason that respondents implemented projects.

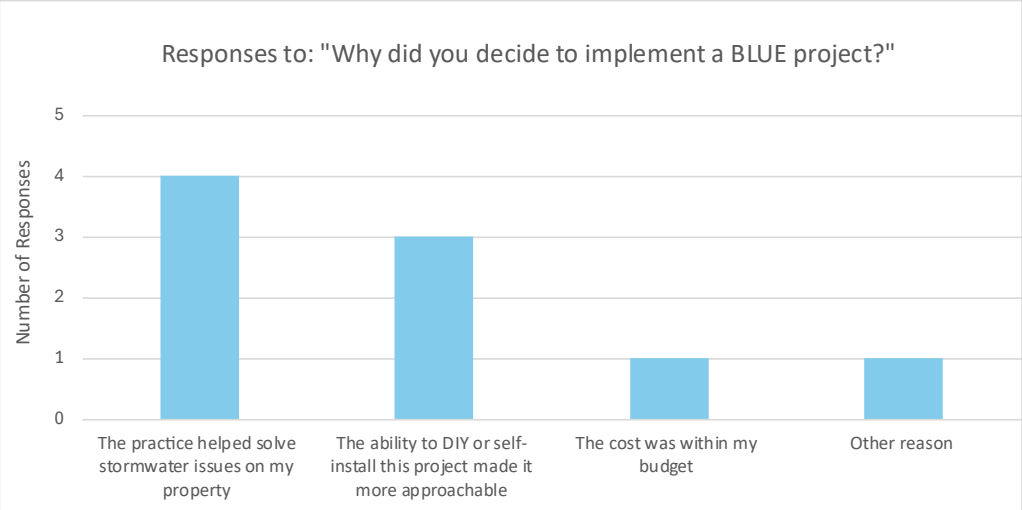

Figure 2: Responses to BLUE Survey Question

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Examples of completed BLUE GSI Projects:

[Left] Infiltration trench. [Right] Gutters directed toward stable lawn.

[Left] Rain barrel with overflow into lawn. [Right] Permeable paver driveway.

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[Above] Driveway trench drain connected to a backyard dry well.

[Left] Drainage swale and permeable paver pathway. [Right] Rain garden.

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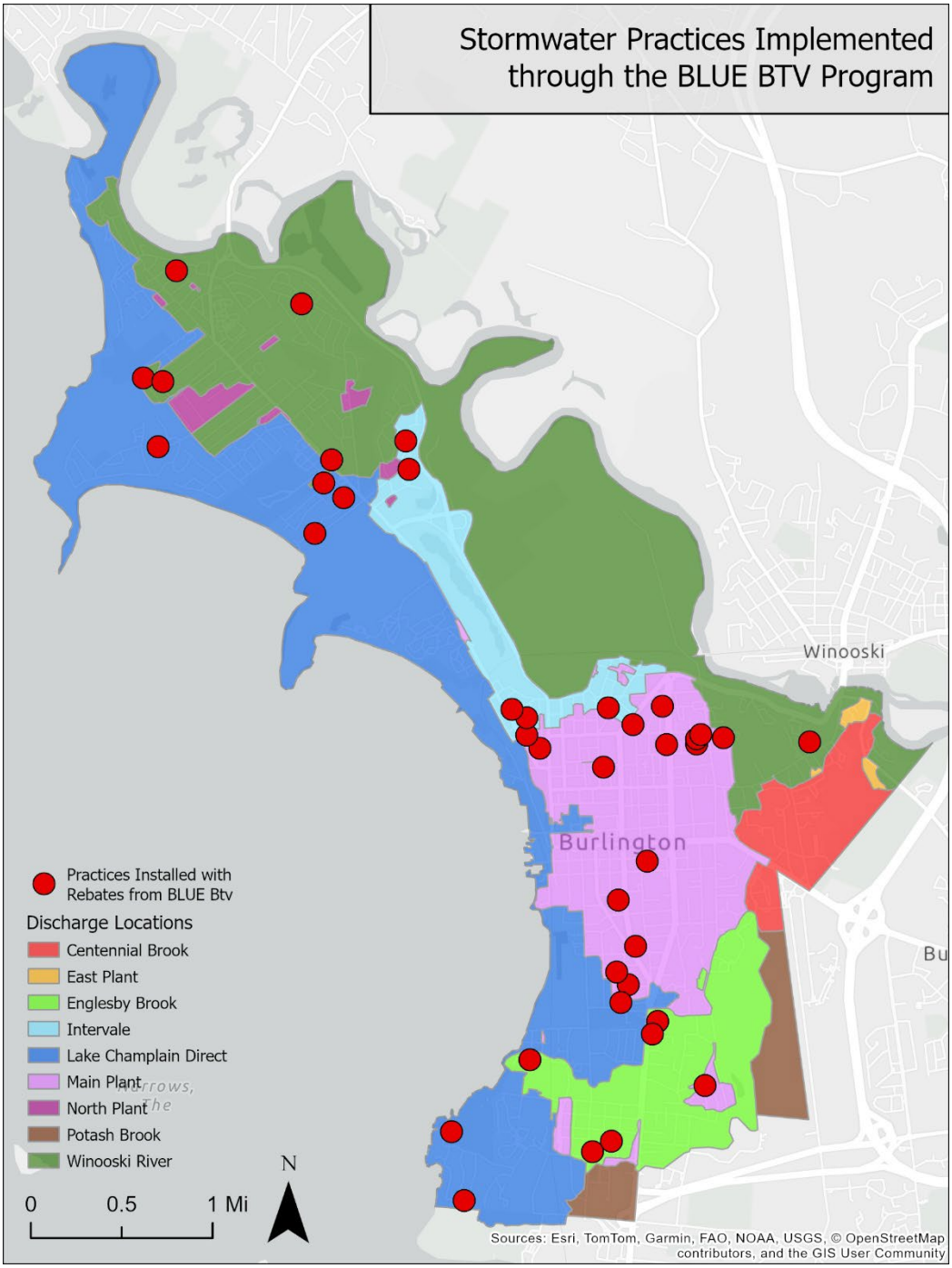

Figure 3: Map of properties that installed a practice supported by BLUE BTV since the pilot of the program in 2018. ** Mapped property locations are approximate.*

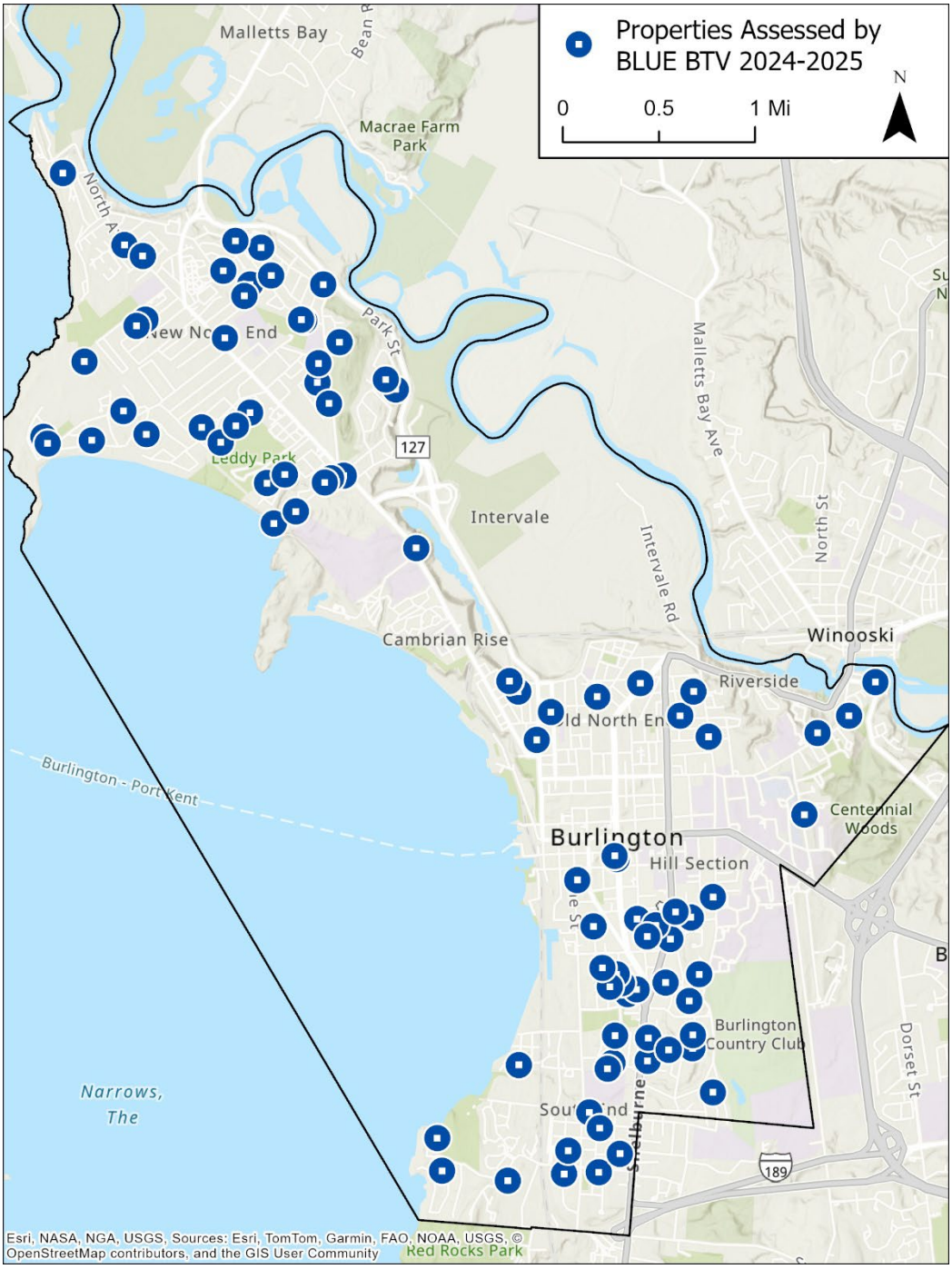

Figure 4: Map of properties assessed through the Residential Stormwater Incentive program between July 2024 and June 2025. ** Mapped property locations are approximate.*

Conclusion

Residential GSI helps mitigate water quality impacts from properties within in the City of Burlington. Because this program is non-regulatory and participation is voluntary, landowners can decide for themselves what actions they take to manage stormwater on their properties. Through community outreach and education, residents will gain a better understanding of the importance of stormwater management. They will see their neighbors committing to practices like GSI, raising lawnmower blades, and stormwater retention practices. This will change attitudes surrounding stormwater management on the community scale, contributing to a cleaner and healthier lake.

By focusing these efforts within stormwater-impaired watersheds and areas with combined sewer systems, this program can further reduce the impact that private properties have on Lake Champlain. A reduction in the total volume of stormwater that the combined sewer systems receive can help to control the number of overflow events that occur. Residential GSI is important in areas that drain directly into receiving waters. Treating stormwater removes harmful pollutants and nutrients before the water flows into rivers and lakes. Untreated stormwater runoff contributes to the cyanobacteria blooms that Lake Champlain experiences every year. BLUE BTV assessments are conducted in all areas of the city, including areas that drain directly into waterways and areas that contribute to water treatment facilities (See **Figure 5**). The BLUE program will continue to grow and support more residents through the implementation of residential stormwater management practices.

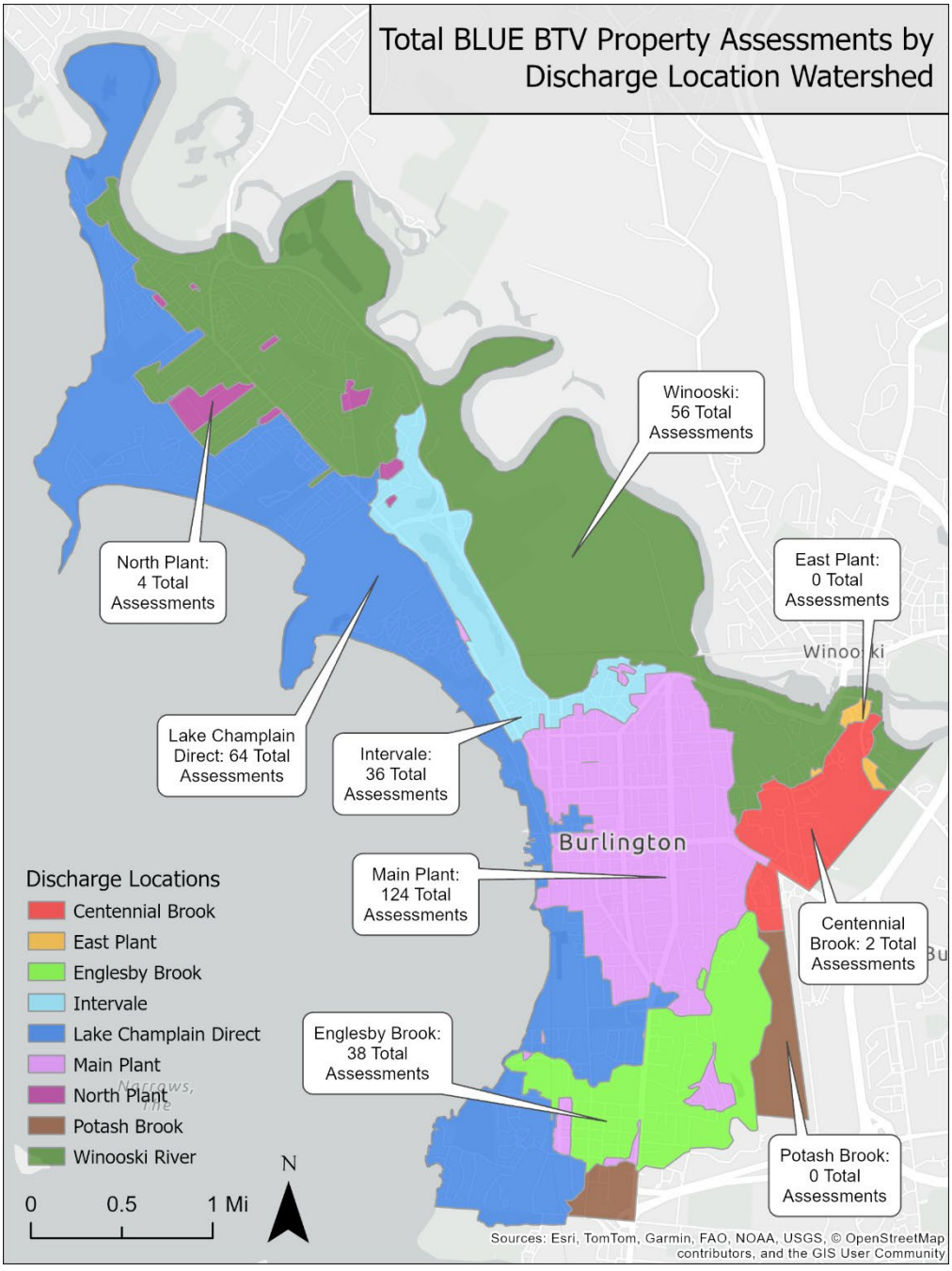

Figure 5: Map of discharges and their contributing stormwater watersheds. Each watershed is tagged with the total number of BLUE BTV assessments conducted since the program pilot in 2018.