# Appendix A – Chittenden County Regional Stormwater Educational Program Annual Review: 2017 Program Year Summary

# MCM #1

# REGIONAL STORMWATER EDUCATION PROGRAM

## JANUARY–DECEMBER 2017 SUMMARY OF ACTIVITIES

PREPARED BY
PLUCK

Since 2003, Chittenden County's twelve MS4s have worked to pool resources to professionally engage the public in a one message, one outreach effort known as the Regional Stormwater Education Program. Through regular Spring and Summer advertisements to drive people to the program's website, www.smartwaterways.org, this cooperative approach to fulfilling their NPDES Permit Minimum Measure #1 requirements has built a regional awareness among the public of the need for individual action to assist in fighting stormwater problems.

Beginning in the summer of 2016, the MS4s contracted with Tally Ho through their Lead Agency, the Chittenden County Regional Planning Commission, to rebrand the Smart Waterways campaign into a combined effort with the MS4's Minimum Measure #2 regional effort known as the Chittenden County Stream Team. The goal was to create one cohesive organization and outreach effort to both educate the public about stormwater and boost public participation in implementation of projects to combat the negative impacts of stormwater. In spring of 2017. Rethink Runoff was publicly launched, including a new website and revised creative.

This 2017 Calendar Year report recaps the performance of the Regional Stormwater Education Program and describes the work done related to the new combined Minimum Measures #1 and #2 effort known as"Rethink Runoff."

## REBRAND AND WEBSITE REDESIGN

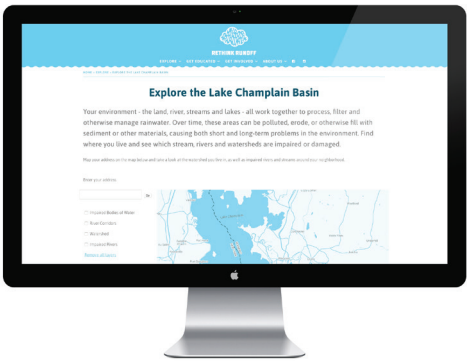
Tally Ho Design rebranded Smart Waterways as Rethink Runoff in spring 2017. Rethink Runoff combines both the existing Smart Waterways campaign and the Chittenden County Stream Team into one organization. The Chittenden County Stream Team continues as a sub-set of the larger brand, serving as the outreach arm of Rethink Runoff.

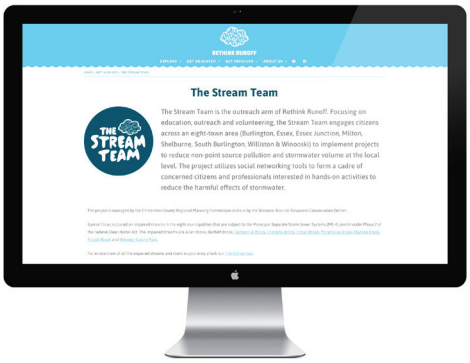
As part of that initiative, Tally Ho also redesigned and reprogrammed a new website, combining information and content from both the previous Smart Waterways website and the Stream Team website under the new URL, www.rethinkrunoff.org.

In addition to the new visual brand and website design, we created digital and print advertisements, stickers, T-shirts, and stencils for outreach.

## RETHINK RUNOFF CREATIVE

# RETHINK RUNOFF


KEEP LAKE CHAMPLAIN CLEAN! RETHINKRUNOFF.ORG

THE STREAM TEAM RETHINKRUNOFF.ORG

RETHINK RUNOFF



## SPRING AND SUMMER CAMPAIGNS

Spring, summer, and fall campaigns were run by Tally Ho Design. Messaging from previous campaigns was redesigned into the Rethink Runoff brand. Video and radio creative was left intact, save for an updated URL at the end of each. With that in mind, television ad buys were minimized while digital advertising was increased, specifically using the Google Ad Network. Using the Google Ad Network allowed specific tracking to reach our target audience by geographic location, age, and interests, among other factors.

### SPRING 2017

Below is a cost breakdown of media buys, compared with spring 2016. Overall, we reduced our television spend and increased our online digital ad spend.

| SPRING 2016 — MEDIA BUYS ACTUAL | | |
|---|---|---|
| SOURCE | COST | PERCENTAGE |
| PRINT | $2,500 | 12.5% |
| RADIO | $4,500 | 22.5% |
| ONLINE | $7,500 | 37.5% |
| TV | $5,500 | 27.5% |
| TOTAL | $20,000 | 100.0% |

| SPRING 2017 — MEDIA BUYS, BUDGETED | | |
|---|---|---|
| SOURCE | COST | PERCENTAGE |
| PRINT | $1,755 | 10.0% |
| RADIO | $3,088 | 17.6% |
| ONLINE | $10,650 | 60.9% |
| TV | $2,015 | 11.5% |
| TOTAL | $17,508 | 100.0% |

Our actual spend differed from our initial budget, as we adjust Google Adwords spends based on performance. As a result, we were able to continue running our Adwords campaign on/off throughout the summer. We continued to run display ads between 5/27–8/02 before our Fall Campaign started.

| SPRING 2017 MEDIA BUYS, BUDGETED | |
|---|---|
| SOURCE | COST |
| PRINT | $1,755 |
| RADIO | $3,088 |
| ONLINE | $10,650 |
| TV | $2,015 |
| TOTAL | $17,508 |

| SPRING 2017 MEDIA BUYS, ACTUAL 04/15–05/27 | |
|---|---|
| SOURCE | COST |
| PRINT | $1,755 |
| RADIO | $3,088 |
| ONLINE | $3,600 |
| TV | $2,015 |
| TOTAL | $13,191 |

| LATE SPRING/EARLY SUMMER 2017 MEDIA BUYS, ACTUAL 05/28–08/02 | |
|---|---|
| SOURCE | COST |
| PRINT | - |
| RADIO | - |
| ONLINE | $3,825.96 |
| TV | - |
| TOTAL | $3,825.96 |

In addition, we budgeted a small algae-bloom related campaign designed to run during beach closures. Our goal was to piggyback on local coverage of beach closures during the summer months. There were no large scale beach closures before school started. There was an algae bloom outbreak once school started. As a result, we trimmed some of our advertising buys, and ran digital ads related to algae blooms in tandem with the existing fall creative.

## FALL

Our Fall campaign continued the same display ads used in the spring. In addition, we introduced the algae bloom-focused ads, based on the mid-September algae bloom-related beach closing.

| ALGAE BOOM MEDIA BUYS BUDGETED | |
|---|---|
| SOURCE | COST |
| PRINT | $585 |
| RADIO | - |
| ONLINE | $3,650 |
| TV | - |
| TOTAL | $4,235 |

| FALL 2017 MEDIA BUYS, BUDGETED | | |
|---|---|---|
| SOURCE | COST | PERCENTAGE |
| PRINT | $1,170 | 12.5% |
| RADIO | $1,080 | 22.5% |
| ONLINE | $7,100 | 37.5% |
| TV | $1,833 | 27.5% |
| TOTAL | $11,183 | 100.0% |

| 08/03–10/01 FALL/ALGAE COMBINED MEDIA BUYS, ACTUAL | | |
|---|---|---|
| SOURCE | COST | PERCENTAGE |
| PRINT | $1,170 | 13.5% |
| RADIO | $1,080 | 12.5% |
| ONLINE | $4,582.69 | 52.9% |
| TV | $1,833 | 21.1% |
| TOTAL | $8,665.69 | 100% |

## CREATIVE—ADVERTISING

Advertising during year 1 included redesigned creative, incorporating existing messaging with a new visual language based on Rethink Runoff. Video and radio creative was modified to include a new URL, but otherwise remained the same.

Digital ads were created at the following sizes: 160x600, 200x200, 250x250, 300x250, 320x50, 336x280, 480x60, 640x360, 728x90, 970x90, 980x30. This allowed maximum distribution across the Google Ad Network.

### SAMPLE 250x250 ADS







## ANALYTICS FOR FY2017

#### TOTAL SESSIONS (1/1—12/31)

| TOTAL | TIME PERIOD |
|---|---|
| 7,407 | 2017 |
| 6,004 | 2016 |
| 4,659 | 2015 |
| 7,728 | 2014 |
| 3,541 | 2013 |
| 2,787 | 2012 |

#### TOP 10 VERMONT LOCATIONS (4/1—12/31)

| TOWN | VISITS/PERCENT |
|---|---|
| Burlington | 1165 (29.3%) |
| South Burlington | 661 (16.6%) |
| Essex* | 587 (14.7%) |
| Colchester | 506 (12.7%) |
| Shelburne | 181 (4.5%) |
| Montpelier | 101 (2.5%) |
| Williston | 100 (2.5%) |
| Stowe | 83 (2%) |
| Milton | 48 (1.2%) |
| Cambridge | 43 (1%) |

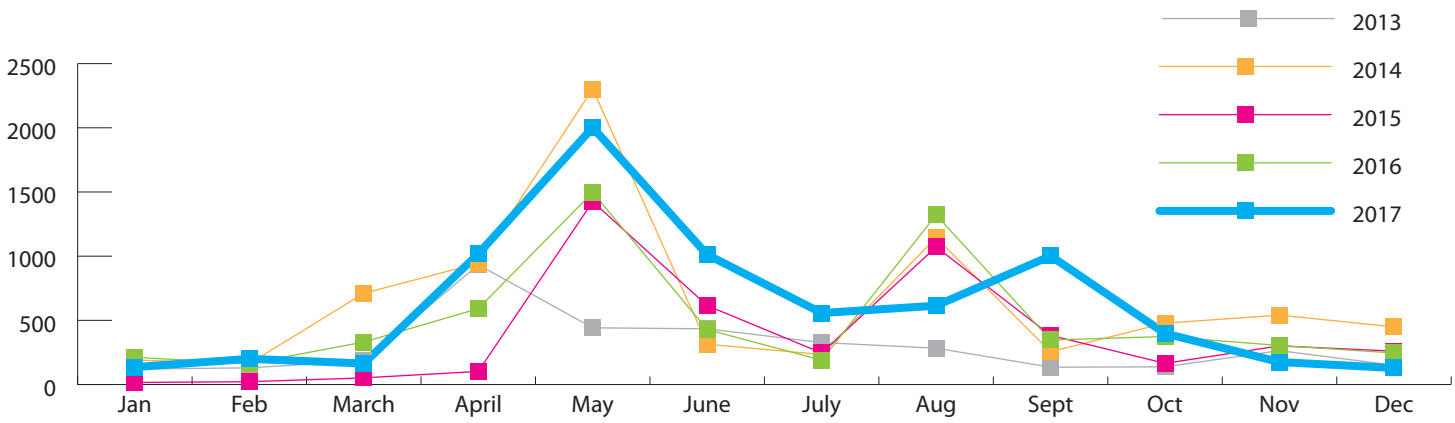
70.5% of total visitors were from Vermont.

* *also includes Essex Junction*

#### DEVICE (4/1—12/31)

| TYPE | VISITS/PERCENTAGE |
|---|---|
| desktop | 50.94 |
| mobile | 37.71% |
| tablet | 11.35% |

## YEAR BY YEAR COMPARISONS OF SESSIONS




## ADVERTISING CLICK-THROUGHS

### SPRING 2017 DIGITAL ADVERTISING METRICS (THROUGH 5/27/17)

| SOURCE | IMPRESSIONS | CLICKS | COST | COST PER CLICK |
|---|---|---|---|---|
| **WCAX (DIGITAL)** | 130,000 impressions | 488 | $1,100 | $2.25 |
| **GOOGLE AD NETWORK** | pay-per-click | 2,880 | $3,600 | $1.26 |

### SUMMER/FALL 2017 ADVERTISING METRICS (6/1–8/2)

| SOURCE | IMPRESSIONS | CLICKS | COST | COST PER CLICK |
|---|---|---|---|---|
| **GOOGLE AD NETWORK** | pay-per-click | 4,178 | $3,825.96 | $1.79 |

### FALL 2017 ADVERTISING METRICS (8/3-10/1)

| SOURCE | IMPRESSIONS | CLICKS | COST | COST PER CLICK |
|---|---|---|---|---|
| **GOOGLE AD NETWORK** | pay-per-click | 948 | $3,382.69 | $3.57 |
| **VTDIGGER.ORG** | 74,993 web<br>Daily Digger email | 57<br>29 | $1,200 | $13.95 |

# Appendix B – Summary Data for www.sburlstormwater.com

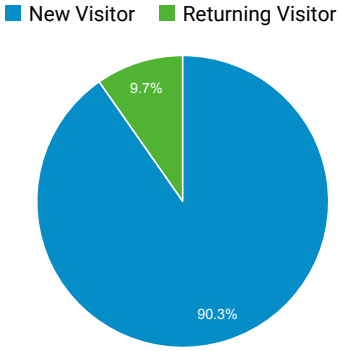
# Audience Overview

All Users
100.00% Users

Jan 1, 2017 - Dec 31, 2017

Overview


| | | | |
|---|---|---|---|
| Users | New Users | Sessions | |
| 1,135 | 1,136 | 1,687 | |
| Number of Sessions per User | Pageviews | Pages / Session | |
| 1.49 | 3,774 | 2.24 | |
| Avg. Session Duration | Bounce Rate | | |
| 00:02:46 | 62.06% | | |




| | Language | Users | % Users |
|---|---|---|---|
| 1. | en-us | 991 | 87.31% |
| 2. | en-gb | 67 | 5.90% |
| 3. | (not set) | 40 | 3.52% |
| 4. | en-ca | 7 | 0.62% |
| 5. | zh-cn | 6 | 0.53% |
| 6. | c | 4 | 0.35% |
| 7. | en-au | 3 | 0.26% |
| 8. | ko | 3 | 0.26% |
| 9. | es-es | 2 | 0.18% |
| 10. | ar | 1 | 0.09% |

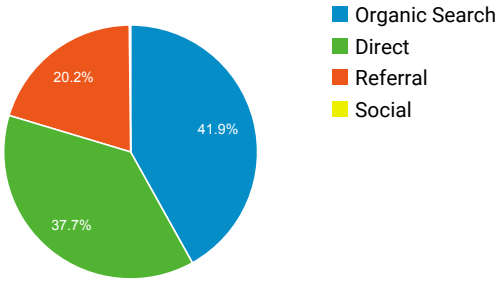
# Acquisition Overview

All Users
100.00% Users

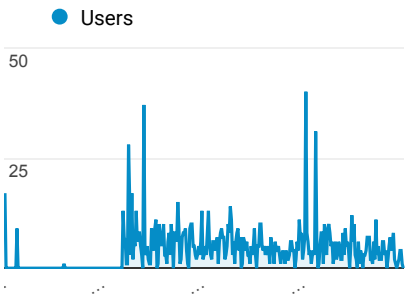
Jan 1, 2017 - Dec 31, 2017

Primary Dimension: Top Channels
Conversion: All Goals

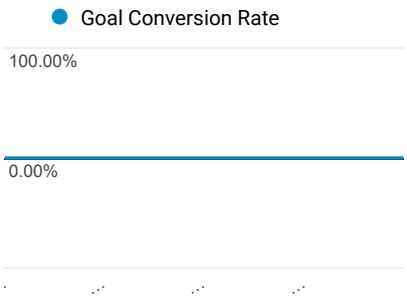
## Top Channels




## Users




## Conversions




| | | Acquisition | | | Behavior | | |
|---|---|---|---|---|---|---|---|
| | | Users ↓ | New Users | Sessions | Bounce Rate | Pages / Session | Avg. Session Duration |
| | | 1,135 | 1,136 | 1,687 | 62.06% | 2.24 | 00:02:46 |
| 1 | Organic Searc | 492 | | | 58.64% | | |
| 2 | Direct | 443 | | | 74.68% | | |
| 3 | Referral | 237 | | | 38.76% | | |
| 4 | Social | 2 | | | 100.00% | | |

To see all 4 Channels click here.

## Conversions

**Set up a goal.**

To see outcome metrics, define one or more goals.

GET STARTED

# Appendix C – Chittenden County Stream Team Summary of Activities January-December 2017

# MCM #2
# Rethink Runoff Stream Team
# 2017 Summary of Activities

## Social Media

### Facebook

- 177 total "likes"- a 14% increase from 2016 (156 in at end of 2016)
- 179 total "follows"

## RRST Website

Google Analytics provides website traffic data from: April 14th, 2017 (launch of new Rethink Runoff website) to December 31, 2017:

- 6,549 website visits; a 411% increase from 2016 (1,281 visits)
- 9,981 page views; a 302% increase from to the 2016 quantity (2,481 page views)
- 5,592 users

## Newsletter and e-correspondence

- As of 12/31/17, there were **467** subscribers to the RRST newsletter. From 2015 - 2017, there was a 9% decrease in subscribers from 449 to 415. After the rebranding of Rethink Runoff, subscribers climbed back up to 467, which is a 13% increase in 2017 and the highest subscription to date.
- In previous years, newsletters outlined what had been accomplished. This year RRST shifted the focus of newsletters to instead offer information on **upcoming events and volunteer opportunities** in an effort to increase engagement in the program**.**
- A winter newsletter was sent out on 1/25 with a 36.2% open rate. A novel "promo" template was developed to increase outreach for specific events. A "Lawn Care workshop" promo and Colchester stenciling event promo were sent on 8/9 and 9/6, respectively. Each had a 29% open rate. A final winter newsletter was sent on 12/20, with an open rate of 18%. This lower open rate was likely due to fact that the newsletter was sent just before the Holidays.
- RRST E-News open rate is high. The typical open rate for similar industries is between 20-25% according to research completed by MailChimp.

## Organizational Partnerships

The Rethink Runoff Stream Team partnered with 11 different organizations in 2017:

- Colchester Conservation Commission assisted RRST with hosting a rain barrel workshop at the Bayside Activity Center on 4/17. Five members of the Conservation Commission assisted with cleaning the rain barrels and helping workshop participants build their barrels. The PWD helped transport the barrels from Williston to Colchester.
- RRST partnered with the Essex Junction Parks and Recreation Department to enlist students from their CampSTAR program to stencil storm drains in the Village.
- RRST recruited staff from Lake Champlain Basin Program, Lake Champlain Sea Grant, and NECTAR Landscape Design to be presenters at the Stormwater-friendly Lawn Care Workshop on 9/20. High Mowing Seeds and Green Mountain Compost provided support through donations to

this event.

- The South Burlington Natural Resource Committee presented RRST materials at their booth on Green-Up Day.
- The South Burlington Cub Scouts (pack 678) held a rain garden cleanup day on 9/16.
- A stormwater lesson was taught to the AP Environmental Science class at Colchester High School.

## Media

The Rethink Runoff Stream Team had **five** media appearances in 2017, exceeding the work plan goal of three articles:

- http://www.essexreporter.com/perfect-storm-organization-seeks-conceptual-storm-drain-mural-designs/
- http://www.essexreporter.com/storm-drains-spruce/
- http://digital.vpr.net/post/what-can-be-done-about-vermonts-aging-sewer-systems#stream/0
- https://vtdigger.org/2017/04/25/chittenden-county-municipalities-rebrand-stormwater-awareness-program/
- The lawn care workshop announcement was published only in print (a hard copy can be provided upon request).

## Outreach

Outreach includes any educational opportunities or tabling events where resources or information are provided to the community about the RRST program. There were **fourteen** outreach events in 2017, with an estimated total outreach to **432** people. Note: this total includes project events and workshops, as all events are used as opportunities to educate the public about the Rethink Runoff program.

- 2016 WQ data poster presented at Town Meeting Day for all **NINE** participating towns (3/7/17, 45+ people reached)
- Rain barrel workshop (4/17/17, 21 people reached)
- Town of Essex "Touch a Truck" Day tabling (5/6/17, 15 people reached)
- 6th Grade Conservation Day (stormwater and GSI lesson) (5/17/17, 48 people reached)
- South Burlington "Day of Play" Day tabling (6/3/17, 23 people reached)
- Volunteer Water Quality Training (6/20/17, 12 people reached)
- Williston 4th of July Celebration tabling (7/4/17, 22 people reached)
- Essex Junction Storm drain mural event (7/12/17, 71 people reached)
- Shelburne Harvest Festival (9/16/17, 60 people reached)
- South Burlington Fire Station rain garden cleanup (9/16/17, 37 people reached)
- Town of Essex lawn care workshop (9/20/17, 27 people reached)
- Milton Activities Fair (9/21/17, 43 people reached)
- Colchester stormwater lesson at Colchester High School (12/1/17, 8 people reached)

Outreach events in 2017 targeted the cities of South Burlington, Winooski, Williston and the Town of Essex (carried over from last year). RRST tabled at the Town of Essex "Touch a Truck" Day on 5/6, the South Burlington "Day of Play" Day on 6/3, and the Williston 4th of July Celebration on 7/4. A place was reserved for RRST at the Winooski Farmers Market on 10/8 but a major storm event persuaded staff to wait for a better opportunity in 2018 as turnout would likely have been low. RRST will make up for this lost outreach

opportunity by attending a tabling event in spring 2018. RRST tabled at several other events (see list above) and hosted a number of education events in which information and resources about the program were shared.

The 2017 work plan goal for outreach participation was 300 people, which was surpassed by a total of 432 people that were engaged in outreach and educational opportunities in 2017. Outreach town are selected from end-of-year event participation numbers and frequency of targeting a town. Chosen outreach towns for 2018 are Burlington, Milton, and Shelburne.

## Event-Driven Tasks

There were **nine** hands-on events held and the continuation of ongoing programs including, the Adopt a Rain Garden and Water Quality Monitoring. Education events are also included as they involved hands-on stormwater lessons (see Colchester project description for more detail).

- Rethink Runoff Rain Barrel Workshop (4/17/17)
    - Partnered with Colchester Public Works Department and Colchester Conservation Commission to carry out this event
    - 21 participants built 23 barrels
- 6th Grade Field Conservation Day (5/17/17)
    - A hands-on lesson on stormwater and GSI was given to 48 students from Essex (26 total) and Colchester (22 total)
- Village of Essex Junction Storm drain mural and stenciling event (7/12/17)
    - Three artists were contracted to paint storm drain murals on 7/12: one at the corner of Lincoln and Railroad Ave, and two in the parking lot of the Brownell library.
    - Over 50 people approached the artists to ask about the project. A handout about the project and the importance of addressing stormwater concerns was made for the artists to hand out to people passing by during the event.
    - Partnered with Essex Jct Parks and Recreation to acquire volunteers from their CampSTAR program. A total of 15 (11 students and 4 adults) assisted RRST with stenciling the new storm drain stencils along Countryside Dr., Tamarack Dr., and Beech St.
- Town of Essex Stormwater-friendly Lawn Care workshop (9/20/17)
    - Partnered with Lake Champlain Sea Grant, Lake Champlain Basin Program, and NECTAR Landscape Design to hold educational workshop. Colleen Hickey (LCBP) provided a State of the Lake presentation, Kris Stepenuck (LCSG) a talk on Natural Lawn Care Practices, Annie White (NECTAR) a talk on Stormwater-friendly Landscaping, and Becky Tharp (LCSG) a presentation on DIY Green Stormwater Infrastructure.
    - A total of 45 people signed up for the 25-person space workshop. A total of 27 participants attended the event (not including presenters and partners, which totaled 35 people).
    - Received donations from Green Mountain Compost (compost bin and cubic yard of compost) and High Mowing Seeds (organic vegetable and flower seed packets) to give away to participants.
    - Purchased and prepared 23 rain barrels to give away to 27 participants who attended the event.

- Adopt A Rain Garden
    - Five of the eleven RRST-managed rain gardens were adopted in 2016.
    - A total of 59 individuals volunteered their time to maintain the gardens.
- Volunteer Water Quality Monitoring Training/Sampling
    - 12 volunteers assisted with the 2017 sampling season. All were trained at the 6/20 training session or subsequent trainings in the field.
    - Sampling occurred on five scheduled dates: 6/27, 7/11, 7/25, 8/8, 8/22; and two rain events: 7/17 and 8/18.
    - Volunteers were recognized for their dedication and work with pizza on 9/30.
    - 2017 water quality data report is currently being developed.
- South Burlington Fire Station rain garden cleanup (9/16/17)
    - Bill Kett and her Cub Scout Pack 678 agreed to adopt this rain garden in addition to the library rain garden. They met on 9/16 to spread mulch, weed, and replant bare sections in the rain garden.
    - Mary Desautels and Stephanie and Don Miner donated +$200 in rain garden plants for the Fire Station garden in So Burlington.
- Colchester storm drain stenciling (9/30/17)
    - 20 catch basins were stenciled along West Lakeshore Drive.
- Colchester High School stormwater lesson (12/1/17)
    - A lesson on BMPs to reduce stormwater runoff and pollution was taught to Kara Lenovoritz's class. Seven students participated in this lesson and the Sea Grant Watershed Game to fortify the concepts learned.

Hands-on participation events in 2017 targeted the towns of Essex, Colchester, and the Village of Essex Junction. A storm drain mural and stencil event was held in Essex Junction on 7/14, a stormwater-friendly lawn care workshop was held in Essex on 9/20, and a storm drain stenciling event was held in Colchester on 9/30. Because of low-turnout in Colchester, an additional Colchester event was provided by way of a stormwater lesson for the Environmental Science class at Colchester High School on 12/1.

A total of 177 people participated in hands-on RRST events in 2017. A total of 90 people volunteered their time in a RRST activity in 2017; surpassing the 80 volunteer goal. Project towns for the following year are selected from end-of-year event participation numbers and frequency of targeting a town. Chosen project towns for 2018 are Williston, So Burlington and Winooski.

## RRST Outreach Demographic Impacts

The table on this next page displays the interaction from each of the nine MS4 communities at tabling events and 2017 project events and workshops. Please note: this is not a comprehensive list of all 432 people reached, as town residence was only acquired when offered.

| Town | # of participants |
|---|---|
| Burlington | 15 |
| Colchester* | 45 |
| Essex Town* | 54 |
| Village of Essex Junction* | 93 |
| Milton | 42 |
| Shelburne | 25 |
| Williston | 37 |
| South Burlington | 93 |
| Winooski | 15 |

**Table 1: Interaction with RRST by member town (asterisk identifies 2017 project towns)**

## Village of Essex Junction Project: Storm drain mural and stencil event

RRST coordinated a storm drain mural and stenciling event for the Village of Essex Junction in 2017. A "call for artists" was published by the Essex Reporter on May 31, 2017 and the opportunity was shared with artists involved in past RRST projects. Three concepts were submitted and all were selected to be painted around three catch basins pre-selected with guidance from the Village's Public Works Department. In addition to murals, a stenciling component was included in this project. Two designs were prepared by Tally Ho Design and six stencils were prepared by Stencils Online LLC for the event. The RRST coordinator elicited volunteer help from the Village's Parks and Recreation CampStar summer camp program.

On the morning of July 12, 2017, the three artists, Elizabeth Fanus, Syd Frolik-Roberts, and Emma Moreman were stationed at their assigned catch basins: one at the corner of Railroad and Lincoln Ave and the other two in the South Brownell library parking lot. The artists signed contracts stipulating the requirements and procedures they had to adhere to in order to participate in the project. Instead of traffic paint, primer and top coat were used to ascertain the longevity of the murals utilizing this new technique. Public Works staff assisted with thoroughly cleaning and laying down durable plastic under the drains. All murals were completed by the end of the day and Public Works staff returned to remove the plastic after the murals had dried.

Once artists were successfully underway, the RRST coordinator met the CampStar group to undertake stenciling in a nearby neighborhood. A total of twelve campers, two adult camp coordinators, and two Public Works Department interns helped to stencil catch basins along the lengths of Countryside Drive, Tamarack Drive, and Beech Street. Prior to stenciling, the campers were brought over to see the artists working on their murals and were given a short lesson on stormwater and the importance of this work.

The total estimated cost to plan, manage and implement this project was $2,015. The approximate personnel time used to plan and execute the project was 26.5 hours or $1,060. The artists were paid a $250 stipend each; a total of $750. The total supplies and half the stencil cost (other half of the expense included in the Colchester project estimate) was roughly $190 and the mileage was $15. The amount spent on this project was just over 8% of RRST's total FY18 budget.


*Essex Junction mural artists (pictured left) and CampStar stencilers (pictured right)*

## Town of Essex Project: "Stormwater-friendly Lawn Care Workshop"

The inspiration for this workshop stemmed from a growing movement of similar events offered throughout the country. In January 2017, RRST reached out to partner organizations and received pledges of support from the Lake Champlain Basin Program, Lake Champlain Sea Grant, and NECTAR Landscaping Design to provide staff to be presenters for the workshop. The event was held on 9/20/17 at a free, community room located in the Town of Essex Fire Station.

The purpose of this workshop was to provide skills, resources, materials, and advice to Chittenden County property owners on building healthier soils and managing stormwater runoff in their yards and lawns in ways that would protect local water quality. The agenda for the workshop was as follows:

5:00 - 5:15 pm - Participants sign in, get refreshments, find seats

5:15 - 5:30 pm - *State of the Lake: An update on the health of Lake Champlain,* Colleen Hickey, Education and Outreach Coordinator, Lake Champlain Basin Program

5:30 - 6:00 pm - *Healthy Soil, Healthy Water: Best Lawn and Garden Practices,* Kris Stepenuck, Extension Leader, Lake Champlain Sea Grant

6:00 - 6:15 pm - Soil test and raising mower blade demonstration

6:15 - 6:45 pm - *Stormwater-friendly landscaping design,* Annie White, Owner of NECTAR Landscape Design and Consulting

6:45 - 7:15 pm - *DIY Green Stormwater Infrastructure – Sink it, Spread it, Store It,* Becky Tharp, Program Manager of Green Infrastructure Collaborative, Vermont Department of Environmental Conservation and Lake Champlain Sea Grant

7:15 - 7:30 pm - Wrap up and questions, announce compost winners, take rain barrels

Some of the topics covered in this event include:

- Soil testing and analyzing test results
- Benefits of and how to aerate your lawn
- Benefits of mowing high and how to raise mower blade demo
- Benefits of and how to utilize smart watering techniques
- Smart fertilizer/pesticide use and alternatives
- Designing stormwater-friendly landscapes
- Selecting the right plant for the right place
- Implementing No Mow zones
- Planting native plants for wildlife and pollinators
- Benefits of rain gardens, rain barrels, and permeable pavement (GSI)
- Installing and maintaining GSI - siting, work involved, cost estimates
- Technical and financial resources available to help with GSI implementation

The incentives to encourage participation at this event were:

- Free admission
- Demonstration for how to take a soil test and raise mower blade
- Free rain barrel
- Free High Mowing seeds packets
- Chance to win compost bin and cubic yard of compost from Green Mountain Compost

Surveys were administered and collected at the end of the event. Suggestions for future workshops based on these surveys include lengthening the workshop to include a hands-on rain barrel building segment. Inviting participants to take soil tests prior to the workshop would be a great opportunity to analyze results with experts. Finally, incorporating a "Lawn Care Management Plan" development opportunity would be a great way to encourage the adoption of stormwater-friendly practices. Participants who pledge to adopt practices could be visited a year after implementing their plan and receive some kind of recognition for their dedication

to environmental stewardship. There may be an opportunity to partner with Lake Champlain International's BLUE certification program to bring this idea to fruition.

The estimated cost to plan and carry out this workshop was $3,670. Personnel time used to plan and execute the project was 74.25 hours or $2,970. The total to provide free rain barrels for the event cost roughly $575, the refreshments for the event cost $106, and mileage was $19. The total amount spent on this project was about 15% of RRST's total FY18 budget.


*Lawn care demonstrations lead by Kris Stepnuck (left) and Stormwater-friendly landscaping talk led by Annie White (pictured right)*

This document was prepared by the Winooski Natural Resources Conservation District, who is contracted by Chittenden County's Ms4 Committee to run the RRST program

## Town of Colchester Project: Storm drain stenciling and CHS stormwater lesson

RRST elected to undertake another storm drain stenciling event this year to redo fading stencils along West Lakeshore Drive as Colchester's 2017 project. Outreach to elicit volunteers was conducted via Front Porch Forum and a handful of volunteers signed on for the project. All backed out last minute; presumably due to the chilly weather forecasted for this date. With help from Karen Adams from the Town's Public Works Department, the stenciling was conducted as planned on 9/30 and all suitable catch basins along West Lakeshore Drive were re-stenciled.

To make up for the lack of engagement in the Colchester project, a stormwater lesson was taught to the environmental science class at Colchester High School on 12/1/2017, with a total of eight participants.

The estimated cost to plan and carry out the stenciling and lesson was approximately $1,125. Personnel time used to plan and execute the project was roughly 24 hours or $960. The total supplies and half the stencil cost (the other half included in Essex Jct project budget) was roughly $145, and the mileage was $20. The total amount spent on this project was around 5% of RRST's total FY18 budget.


*Colchester stenciling on West Lakeshore Drive*

This document was prepared by the Winooski Natural Resources Conservation District, who is contracted by Chittenden County's Ms4 Committee to run the RRST program

## Water Quality Monitoring Program Summary

RRST has maintained an ongoing water quality monitoring program since 2012. These urban or suburban streams are impacted by sedimentation, excessive nutrient loading, high temperatures, bacteria, and other pollution. With another year of support from VT DEC's LaRosa program, RRST collected biweekly water quality samples at eighteen sites on nine streams in 2017. Twelve volunteers helped collected grab samples on five, biweekly Tuesdays from 6/27 - 8/22. Grab samples were analyzed for turbidity, total phosphorus, and chloride. These parameters were also sampled at five of the sites during two rain events on 7/17 and 8/18. See the 2017 Water Quality Monitoring Report in Appendix A for more information.

A required, sampling training was given to RRST's '17 volunteers on 6/20/17. All volunteers returned their samples to the WNRCD office after sampling, and the RRST coordinator ensured all samples were accounted for and delivered to the UVM lab. At the end of the sampling season, a pizza party was held on 9/30/17 to recognize and appreciate the volunteers for their efforts.

| *Stream* | *Location* | *Site ID* | *Lat / Long* |
|---|---|---|---|
| **Centennial Brook** | Grove Street in Burlington | Centennial 10 | 44.48453 / -73.18423 |
| | Patchen Road in South Burlington | Centennial 20 | 44.44872 / -73.14851 |
| **Indian Brook** | Essex High School | Indian 10 | 44.49668 / -73.11093 |
| | Lang Farm in Essex | Indian 20 | 44.50442 / -73.09190 |
| **Malletts Creek** | McMullen Road | Malletts 10 | 44.60779/ -73.20103 |
| **Munroe Brook** | Route 7 and Bay Road | Munroe 10 | 44.38987/ -73.21730 |
| | Spear & Webster Intersection | Munroe 20 | 44.38984 / -73.20103 |
| **Morehouse Brook** | Landry Park Winooski | Morehouse 10 | 44.50037 / -73.19370 |
| **Muddy Brook** | River Cove Road in Williston | Muddy 10 | 44.47293 / -73.13505 |
| | Marshall Ave in Williston | Muddy 20 | 44.45340 / -73.13833 |
| | Van Sicklen Road in Williston | Muddy 30 | 44.42823 / -73.14622 |
| **Potash Brook** | Kindness Court in South Burlington | Potash 10 | 44.44572 / -73.21348 |
| | Farrell Street in South Burlington | Potash 20 | 44.44660 / -73.20415 |
| | Dorset Street in South Burlington | Potash 30 | 44.45150 / -73.17849 |
| | Tilley Drive South Burlington | Potash 40 | 44.44873 / -73.14849 |
| **Engelsby Brook** | Pine St in Burlington | Engelsby 10 | 44.45627 / -73.21394 |
| | Behind Redstone Campus in Burlington | Engelsby 20 | 44.47411 / -73.17354 |
| **Smith Hollow Brook** | Off the Bike Path on Julie Drive | Smith Hollow 10 | 44.53926 / -73.20439 |

**Table 2: 2017 Stream Sampling Site Locations**

*Sampling at Indian 20 on July 11, 2017*

## Adopt-a Rain Garden Program Summary

The Stream Team's Adopt-a-Rain Garden program is an opportunity for individuals to assist in keeping Chittenden County's public rain gardens functional and attractive. This involves basic maintenance activities like picking up trash, pruning, pulling weeds, installing new mulch, and informing the coordinator of non-functioning gardens. There are currently eleven public rain gardens managed by RRST. In 2017, there were four official adopters, but an estimated 78 more students and parents volunteered time to clean RRST gardens this year. Six of the eleven gardens were unattended this year. Efforts will be made in 2018 to find more scouts or student groups to adopt these gardens.

*South Burlington library and Fire Station rain garden cleanup on 9/16/17*

This document was prepared by the Winooski Natural Resources Conservation District, who is contracted by Chittenden County's Ms4 Committee to run the RRST program

An assessment of each garden was conducted in fall 2017 and the status of each is provided below:

**Brownell Library Rain Garden**
**Location**: 6 Lincoln St. Essex Junction
This garden has existed for many years and has several mature shrubs. Unfortunately, several of the mature shrubs are the invasive burning bush (Euonymus alatus). Additional plants and mulch were added to the garden in 2013 and 2014. It was weeded and well-maintained in 2013, 2014 and 2015 but has not had an active adopter since that time. RRST intends to work with the Village of Essex Junction to remove the invasive plants and seek replacement shrubs, and will also seek a new individual or student/scouts group to adopt this garden in 2018. There is a RRST sign at this garden.

**Callahan Park Rain Garden**
**Location**: Locust St., Burlington
This garden has been functioning well for some time thanks to efforts by Brad Ketterling, who has adopted this garden for several, consecutive years. In 2017, Burlington Public Works brought a load of mulch to the garden and Brad spread the mulch and kept up with weeding and monitoring the garden. Several, understory shrubs and flowers have been shaded out by larger, over-story plants that need to be thinned. There are several locations that also need to be replanted, so efforts will be made to locate surplus plants that can be added in 2018. There is a RRST sign at this garden.

**Chamberlain School**
**Location**: 262 White Street, South Burlington
This garden was installed in partnership with WNRCD and the Let it Rain Program in 2013. This is one of several rain gardens on the grounds of Chamberlain Elementary. School teacher Chris Provost adopted this garden again in 2017 and has actively maintained it for several years. Additional effort was made this year to dig out and separate several flower clumps to replant in bare spots in the garden, with help from 20+ students and staff from the school. A RRST sign was also installed this year.

**Coast Guard Station**
**Location**: Depot Street, Burlington
This small garden is located in the parking lot abutting the bike path next to the Burlington Coast Guard Station. In 2014, RRST worked with the ECHO summer kids program to engage elementary school children in cleaning the garden and in 2015 a local resident, Wiley Reading, adopted the garden. The garden did not have an adopter in 2016 and 2017, and has become overgrown and choked with debris. Effort will be made to reconnect with ECHO in 2018 to request assistance with wedding, thinning, replanting, and removing trash from this garden. There is a RRST sign at this garden.

**Correctional Facility**
**Location**: 7 Farrell St., South Burlington
This garden is visible from the road and appears to be functioning well. Originally, employees of the prison adopted this garden and would occasionally clean the garden with inmates. There has been a lot of staff turnover in the past few years without a clear adopter. No formal adoption of this garden was made in 2017.

RRST will attempt to make contact with the Correctional Facility staff to gauge their interest in reinitiating inmates with this work in 2018, as the garden has become overgrown and is bare in some spots. There is not a RRST garden sign at this garden, but one will not be installed here as visiting the area is discouraged.

**Farrell Park**

**Location**: Swift Street, South Burlington

This garden is unique in terms of its design. It is called an "advanced wetland stormwater filter" and was installed in 2012. Stormwater enters the garden through an inlet, flows through the gravel wetland filter media, is cleaned and exits through other end. The garden requires very little maintenance because it has a flushing system that prevents sediment from building up. This garden had an active adopter for its entire life, until 2015 when the adopter moved away. The garden was never in need of additional plants or maintenance. It would not be appropriate to add mulch to this garden. RRST would like to find another adopter in 2018, primarily to weed the site and to bring any issues to our attention.

**Landry Park**

**Location**: North St., Winooski

This garden was constructed in 2006 as two, separate gardens along the narrow strip of grass between a fence at Landry Park and the road. Over the years, the garden has fallen into disrepair. A few years ago, nearby road construction altered the slope of the road carrying larger volumes of water into the garden. The increased flows have killed some of the vegetation and caused gullies to form, but the vegetation seems to have rebounded. It would be beneficial to the functionality of the garden to have the sediment vacuumed out and RRST will attempt to coordinate with the City of Winooski to conduct this work in 2018. In 2016, a group of UVM students in an Ecosystem Design course developed recommendations to repair the garden. There is no current adopter; and RRST coordinator will attempt to find one for the 2017 growing season. There is not currently a RRST sign at this garden.

**Williston Town Hall Annex**

**Location**: 7900 Williston Rd, Williston

This small garden near the entrance walkway to the Annex building and the parking lot has had an active adopter since 2014. Rita Desseau maintained the garden in 2017, but additional work needs to be done at this site to weed, thin larger shrubs, re-plant in bare spots, and mulch the garden. Rita will likely agree to care for the garden again in 2018, but the RRST coordinator will attempt to organize a school group from Williston Central School to help with a rain garden cleanup this year. There is a RRST sign at this garden.

**Williston Library**

**Location**: 21 Library Lane, Williston

This garden had an active adopter for many years, but Andrew Wolf did not adopt the garden in 2017. Although there is a good layer of mulch, the garden needs to be thinned in some locations and replanted in others. RRST coordinator will also inquire about getting assistance from Williston Central School to help clean up both this and the Annex rain garden in 2018.

**South Burlington Library**
540 Dorset St., South Burlington
WNRCD received a grant to construct a rain garden at the entrance to South Burlington Library in 2013. The rain garden received minimal maintenance by the library staff over the years, and was formally adopted in 2016 by Amy Niggel's Cub Scout 678 pack. The pack's leadership changed hands in 2018 and the new cubmaster Bill Kett agreed to continue maintenance of the garden with his pack. The garden weeded and plants thinned on 9/21. There is a RRST sign at this garden.

**South Burlington Fire Department**
575 Dorset St., South Burlington
The City of South Burlington installed this bioretention area/rain garden in 2015 to improve stormwater management at the Fire Department. The Cub Scout pack volunteered to adopt this rain garden as well in 2018, and rain garden cleanup day was held on 9/21 with help from 58 people to plant the following donated plants: Yellow bearded iris, Joe Pye weed, Swamp milkweed, Lobelia, Ostrich fern, Turtlehead, and Shasta daisy. These flowers were donated by two, local residents and hand-pulled and delivered with help from local, gardener Anne Pearce. There is not currently a RRST sign at this garden.

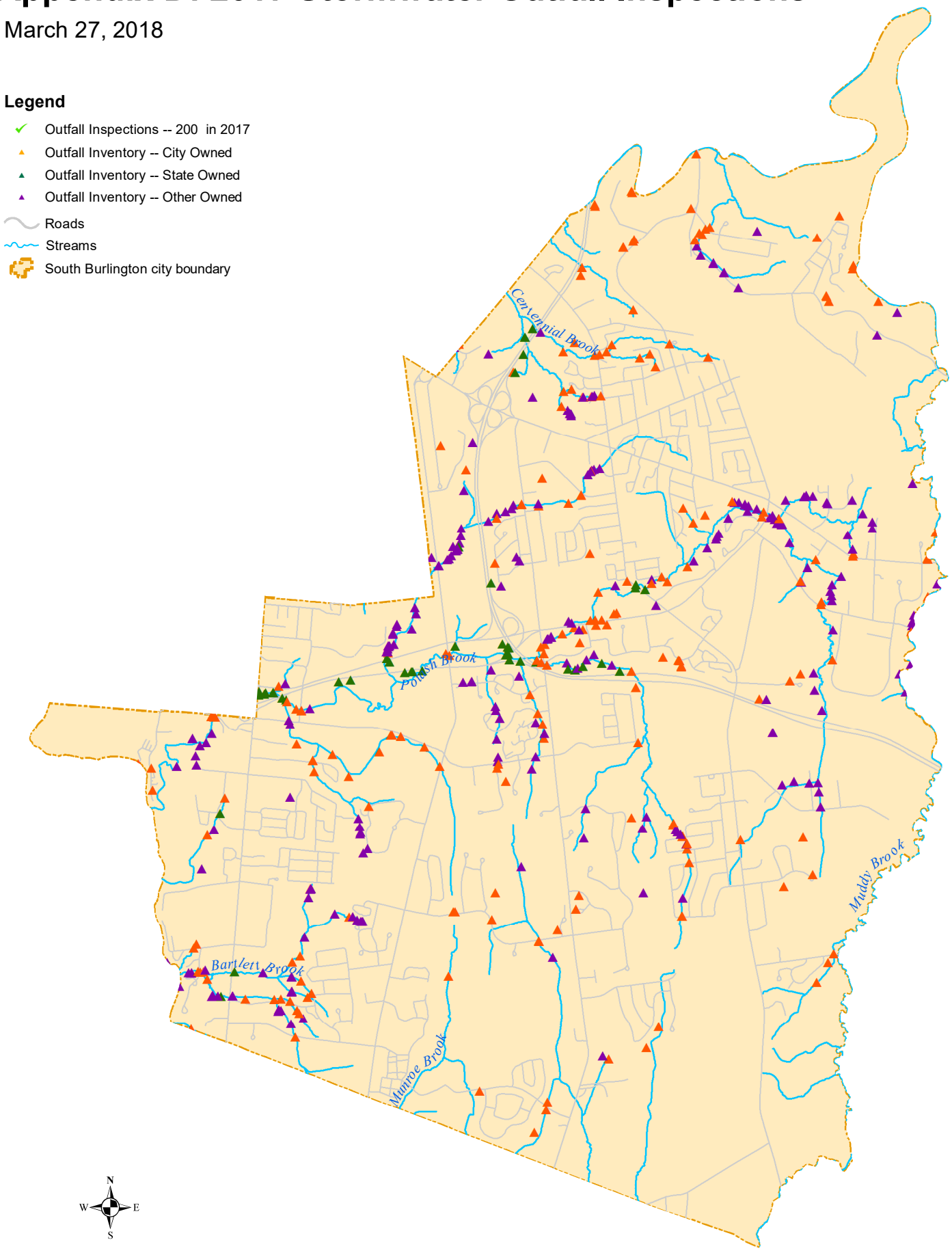
| Rain Garden | Adopter | Previous adopters |
|---|---|---|
| Chamberlin School, South Burlington | Chris Provost and students | Chris Provost |
| Coast Guard Station, Burlington | None | Wily Reading |
| Landry Park, Winooski | None | None |
| Williston Annex | Rita Dessau | Rita Dessau |
| Williston Town Library | None | Andrew Wolf |
| Callahan Park, Burlington | Brad Ketterling | Brad Ketterling |
| Farrell Park, South Burlington | None | None |
| Department of Corrections, South Burlington | None | Dana Scofield and Lori Farley |
| Brownell Library, Essex | None | None |
| South Burlington Fire Station | Cub Scouts 678 (Bill Kett) | Cub Scouts 678 (Amy Niggel) |
| South Burlington Library | Cub Scouts 678 (Bill Kett) | None |

**Table 3: 2017 Rain Garden Adopters**

# Appendix D – Map of Stormwater Outfalls in South Burlington and Inspections Completed in 2017

# Appendix D: 2017 Stormwater Outfall Inspections

March 27, 2018



# Appendix E – Table of Projects in South Burlington That Disturbed Greater Than 1 Acre of Land and/or Created Greater Than 1 Acre of Impervious Area in 2017

| Street # | Street Name | Project Description | Lot Size (sf) | Existing Impervious (sf) | Proposed Impervious (sf) | Impervious Increase (sf) | Construction Disturbance (sf) |
|---|---|---|---|---|---|---|---|
| 1185 | Shelburne Road | Replace existing extended stay dwellings with 4-story mixed use building | 1,765,051 | 377,983 | 415,151 | 37,168 | 142,877 |
| 30 | Iby Street | Construct City Park | 328,007 | - | 25,542 | 25,542 | 62,295 |
| 1775 | Shelburne Road | Construct retail building | 96,703 | - | 52,316 | 52,316 | 52,316 |
| 935 | Shelburne Road | Site Improvements, Kmart Plaza | 521,136 | 434,206 | 419,570 | (14,636) | 232,800 |
| 255 | Kennedy Drive | 118 dwelling unit planned unit development | 1,823,290 | - | 459,000 | 459,000 | 1,089,000 |
| 1200 | Airport Drive | Taxiway and runway improvements | 41,033,520 | 12,938,200 | 13,250,090 | 311,890 | 2,722,500 |
| 1700 | Dorset Street | 3 lot subdivision | 448,232 | 7,262 | 15,445 | 8,183 | 55,520 |
| 403 | Queen City Park Road | New Water Tank & Site improvements | 605,484 | 156,816 | 169,884 | 13,068 | 69,620 |
| 1840 | Spear Stret | Phase II residential neighborhood | 522,720 | - | 278,348 | 278,348 | 727,452 |

# Appendix F – List of Construction Site Inspections Conducted in 2017

## Construction Site Inspections Conducted By South Burlington DPW in 2017

| | ADDRESS | DATE | RESULTS | NOTES |
|---|---|---|---|---|
| 1 | Chaplin lane | 11/7/2017 | Pass | |
| 2 | Rye meadows | 11/7/2017 | Pass | |
| 3 | Commerce Square Stormwater Basin | 11/20/2017 | Pass | |
| 4 | Village at Dorset Park | 11/17/2017 | Pass | Site visit w/State |
| 5 | Larkin Terrace | 11/14/2017 | Fail | Pumping into road. Spoke w/ engineer regarding corrective action. |
| 6 | Oak Creek Village | 11/20/2017 | Pass | Punch List walk through |
| 7 | Bartlett Brook Central | 10/27/2017 | Pass | Inspect storm drains with camera |
| 8 | Commerce Square Stormwater Basin | 10/27/2017 | Pass | Contractor preparing site for additional rain |
| 9 | Bartlett Brook Central | 10/20/2017 | Pass | Final Walkthrough |
| 10 | Oak Creek Village Culvert | 10/20/2017 | Pass | |
| 11 | Oak Creek Village Culvert | 10/13/2017 | Pass | Second Culvert Installed |
| 12 | Oak Creek Village Culvert | 10/6/2017 | Pass | Second Culvert Being Installed |
| 13 | Bartlett Brook Central | 10/6/2017 | Pass | Prepping for curb, paving and fencing |
| 14 | Bartlett Brook Central | 9/29/2017 | Pass | Finishing pipe in roadway |
| 15 | Village at Dorset Park | 9/29/2017 | Pass | Meet contractor to discuss punchlist |
| 16 | Commerce Square Stormwater Basin | 9/29/2017 | Pass | Construction Kickoff |
| 17 | Bartlett Brook Central | 9/22/2017 | Pass | Finished with gravel wetland, working on pipe installation |
| 18 | Bartlett Brook Central | 9/1/2017 | Pass | Finishing Gravel Wetland, installing pipe in roadway |
| 19 | Bartlett Brook Central | 8/2/2017 | Pass | Installing catch basins and pipe along Quail Run |
| 20 | Bartlett Brook Central | 7/26/2017 | Pass | Constructing Gravel Wetland |
| 21 | Bartlett Brook Central | 7/19/2017 | Pass | Constructing Gravel Wetland |
| 22 | Bartlett Brook Central | 7/5/2017 | Pass | Constructing Gravel Wetland |
| 23 | Bartlett Brook Central | 6/28/2017 | Pass | Completed work on outfall pipe |
| 24 | Bartlett Brook Central | 6/23/2017 | Pass | Clearing Site |
| 25 | Oak Creek Village Culvert | 7/28/2017 | Pass | Relocating Utilities |
| 26 | 27 Green Mountain Drive | 6/22/2017 | Pass | Inspect for billing confirmation |
| 27 | Synergy | 3/15/2017 | Pass | Review site with Engineer |
| 28 | Village at Dorset Park | 5/31/2017 | Pass | Work on Pond 1 nearly complete |
| 29 | Rye Meadows | 3/2/2017 | Pass | Reviewed ESCP with contractor prior to rain |
| 30 | Rye Meadows | 6/6/2017 | Fail | Sediment discharge to storm drains. Issued fine to contractor. |
| 31 | Village at Dorset Park | 6/21/2017 | Pass | Working on Pond 2 |
| 32 | Village at Dorset Park | 7/5/2017 | Pass | Finishing Ponds 1 & 2 |
| 33 | Village at Dorset Park | 7/19/2017 | Pass | Working on Pond 3 |
| 34 | Village at Dorset Park | 7/26/2017 | Pass | Working on Pond 3 |
| 35 | Village at Dorset Park | 8/6/2017 | Pass | Working on Pond 3 |

| | | | | |
|---|---|---|---|---|
| 36 | Apple Tree Court | 6/23/2017 | Fail | Sediment discharge from single family house |
| 37 | Airport - Taxiway Foxtrot | 2/23/2017 | Fail | Met with Air Guard to discuss ESCP requirements |

# Appendix G – Stormwater Treatment Practices Maintained by the City of South Burlington

Last updated on 3/29/18

| Stormwater Treatment Practice Name | Street | State Stormwater Permit | SBStrmID | Year SWU Began Maintenance |
|---|---|---|---|---|
| Bartlett Bay Stormwater Treatment System | Bartlett Bay Rd | None | Pd0019 | 2002 |
| Bartlett Brook Central Gravel Wetland | Keari Ln | None | | 2017 |
| Butler Farms Pond | Marcy Street | 2-0312 | Pd0134 | 2012 |
| City Hall Bio-Retention Area | Dorset St | 2-0909 | BR0002 | 2014 |
| City Hall Underground Infiltration | Dorset St | 2-0909 | ST0026 | 2014 |
| Dorset Park Pond | Swift St | 1-1033 | Pd0032 | 2007 |
| Farrel Street Swirl Separator | Farrell St | 5080-INDO.R | Sw0001 | 2008 |
| Farrell Park Constructed Wetland | Swift St | None | Pd0091 | 2007 |
| Farrell Street Bio-Retention | Farrell St | 5080-INDO.R | Pd0030 | 2007 |
| Farrell Street Pond | Farrell St | 5080-INDO.R | Pd0029 | 2007 |
| Farrell Street Porous Asphalt | Farrell St | None | Pa0001 | 2007 |
| Gregory Drive Swirl Separator | Gregory Dr | 3351-9010 | SW0002 | 2007 |
| Harbor Heights Swirl Separator | Harbor View Rd | 6294-9030 | SW0005 | 2010 |
| Harbor Heights Underground Storage | Harbor Heights | 6294-9030 | ST0021 | 2010 |
| Hayes Avenue Stormwater Detention Basin | Kinsington Street | 6553-INDO | Pd0072 | 2013 |
| Indian Creek Dry Detention Basin 1 | Indian Creek Dr | 6285-9030 | Pd0119 | 2010 |
| Indian Creek Dry Detention Basin 1 | Indian Creek Dr | 6285-9030 | Pd0120 | 2010 |
| Kennedy Drive Pond 1 | Kennedy Dr | 1-1582 | Pd0042 | 2007 |
| Kennedy Drive Pond 2 | Kennedy Dr | 1-1582 | Pd0043 | 2007 |
| Kennedy Drive Pond 3 | Kennedy Dr | 1-1582 | Pd0044 | 2007 |
| Kennedy Drive Pond 4 | Kennedy Dr | 1-1582 | Pd0045 | 2007 |
| Kennedy Drive Pond 5 | Kennedy Dr | 1-1582 | Pd0046 | 2007 |
| Kennedy Drive Pond 6 | Kennedy Dr | 1-1582 | Pd0047 | 2007 |
| Kennedy Drive Pond 7 | Kennedy Dr | 1-1582 | Pd0048 | 2007 |
| Laurel Hill Stormwater Detention Tanks | Laurel Hill Dr | None | St0001 | 2002 |
| Laurel Hill Stormwater Detention Pipes | Sebring Rd | None | | 2017 |
| Lime Kiln Bridge Swirl Separator | Lime Kiln Rd | None | SW0003 | 2007 |
| Mayfair Park Swirl Seperator | Mayfair Street | 7226-INDO | SW0008 | 2014 |
| National Guard Avenue | ational Guard Avenu | 6627-9015 | Pd0143 | 2013 |
| Oak Creek Village Micropool (Pond 1) | Hinesburg Rd | 1-0464 | Pd0111 | 2009 |
| Oak Creek Detention Pond 2 | Mill Pond Lane | 1-0464 | Pd0054 | 2012 |
| Oak Creek Detention Pond 3 | Moss Glen Lane | 1-0464 | Pd0055 | 2012 |
| Quarry Ridge Pond | Juniper Dr | 1-1257 | Pd0025 | 2009 |
| Route 2 Widening STP5200(18) | Williston Road | 6676-INDS | IA0025 | 2015 |
| Ridgewood Pond | Lexington Green | 6285-9030 | Pd0121 | 2010 |
| Stonehouse Village Pond | Cobblestone Dr | 3153-9010.R | Pd0031 | 2007 |
| Stonehedge Stormwater Pond | Stonehedge Dr | 2-0100 | PD0168 | 2016 |
| Stonehedge Northeast Bioretention Area (1) | Stonehedge Dr | 2-0100 | IA0023 | 2016 |
| Stonehedge Southwest Bioretention Area (2) | Stonehedge Dr | 2-0100 | IA0022 | 2016 |
| Stonehedge Northwest Bioretention Area (3) | Stonehedge Dr | 2-0100 | IA0021 | 2016 |
| Summerfield Dry Detention Basin | Wildflower Lane | None | Pd0118 | 2010 |
| Twin Oaks Pond | N Twin Oaks Terr | 2-0825 | Pd0109 | 2009 |
| Valley Ridge | Valley Ridge Dr | 3301-9010 | Swal001 | 2009 |
| White Rocks Pond | Country Club Dr | 4124-9010 | Pd0050 | 2012 |
| Winding Brook Pond | Winding Brook Dr | 6391-INDS | Pd0041 | 2010 |
| WNRCD Pond | Dorset St | None | Pd0095 | 2005 |
| WNRCD Swale Forebay | Dorset St | None | Pd0094 | 2005 |

# Appendix H – Municipal Compliance Assistance Program (MCAP) Inspection Summary Letter

VERMONT

**State of Vermont**
**Agency of Natural Resources**
**Department of Environmental Conservation**

Environmental Assistance Office
1 National Life Drive, Main 2
Montpelier, VT 05620-3804
(802) 522-0224
john.daly@vermont.gov

Tom DiPietro, Deputy Director/Stormwater Superintendent
South Burlington Public Works
575 Dorset Street
South Burlington, VT 05403

July 18, 2016

Dear Mr. DiPietro:

I enjoyed meeting with you at the South Burlington Public Works facility on June 30th. As you know, this onsite was part of your efforts to meet the Good Housekeeping Provision of the MS4 Stormwater Permit. It was nice to speak with you about environmental compliance issues, as well as take some time to walk around the entire yard surrounding the facility. I have summarized our visit by listing both direct compliance issues for you to address, as well as BMPs we hope you will consider. Feel free to call me if you have any questions or if you're not sure about something.

Overall, I noted that the facility is in really good shape and that you have management systems and/or operating procedures in place to address each operational area. With ongoing improvement and effort, the facility will continue to operate in a manner that minimizes the potential for compliance problems in the future.

During our time together, I noted several issues in bullet format for you to consider. These BMPs/suggestions are ideas we discussed that will help improve upon the good work already being done at the facility. You should also feel free to call me with questions or if you need additional clarification on anything.

**BMPs and other suggestions:**

- We discussed the magnesium-chloride tanks at the facility, and I recommend you consider a secondary containment structure or berm system around the tanks. In general, we advise secondary containment or diversionary systems for tanks that could catastrophically fail and discharge to surface waters or wetlands. At minimum, a locking value system would remove the temptation of someone vandalizing the tanks by simply opening the value and discharging the contents which would quickly reach the lower storm drain and discharge down the hill into wetlands and surface water.

- I like the berm along the entire edge of your materials management area, which ultimately directs stormwater to the low spot where it can settle and slowly infiltrate and sheet flow to the vegetated area below. I encourage you to maintain that berm and continue to clean out any sediment that collects at that low spot, and manage it with your fill pile.

- During our walk behind the shop, we saw a few areas that could use a little seasonal attention. The area has clearly been organized and maintained, but we did see evidence that it could use some attention. I noted a set of 4 tires laying on the ground collecting water, some of the items along the back edge looked like they needed to be disposed of or recycled, and the area around the trash roll-off needed to be cleaned up. Perhaps a load of stone would help the area where the roll off is, collect less

water and not be so muddy. All the recycling should go over to the CSWD drop-off center and the trash should be picked up.

- I recommend an annual walk thru the swale along the back edge of the facility, to remove trash and inspect for any deep storm water cuts. I did note that where the swale transitions to a steeper gradient storm water was starting to cause a cut. You could place a stone check dam or two just before that cut, to slow the water down before it heads down into the gully.

- I recommend anyone using the fuel system at the facility be trained both in fuel system operations, as well as how to deal with a spill if one should occur. I noted you have a spill kit near the fuel area, and recommend you place a few more oil soaking pads in that kit. While you have done active spills training in the past, each person using the fuel island should be formally trained on how to handle a spill. Consider placing numbers to call in the event of a spill at the island, keeping in mind the 2-gallon regulatory reporting threshold for petroleum spills that are released to the environment.

- While we looked at the fuel island, we noticed the map detailing where the tanks were had been removed. I also noted you took care of this issue at the end of our visit, remember to keep an eye on this UST compliance issue, and replace the map as necessary.

- We discussed your wash bay, and the amount of sediment that collects in the trench drain during washing. Consider a baffle or two along the trench, which will collect sediment and trap it in the trench, which might make it easier to maintain.

- Make sure your SPCC plan is current and up to date. The plan must be updated and recertified every 5-years.

- Confirm that you have proper spent fluorescent bulb storage at the facility, or make sure when bulbs are replaced, spent bulbs are immediately taking over to the CSWD Depot. Any spent bulbs present onsite should be properly stored.

## Conclusion

I enjoyed the chance to spend some time with you at the City of South Burlington highway facility. Our walk around the entire yard was a good opportunity to get a snap-shot of how you are doing with regard to Good Housekeeping as it applies to the MS4 Stormwater Permit. I noted you are doing an excellent job and should easily be able to address the items we discussed during our time together.

I hope you will use this letter as a source of information to help you in your efforts, and please feel free to call if you're not sure about something. See the fact sheets in the vehicle service guide book for additional information, or take a look at our web site at **www.eaovt.org**

Thank you for working with our assistance program. We appreciate your positive attitude towards environmental compliance and your willingness to make changes. I look forward to additional work with the City of South Burlington Public Works. I will be happy to assist you whenever possible and encourage you to use all of the resources available from the Environmental Assistance Office. If there is anything we can do in the immediate future, please do not hesitate to call. I can be reached directly at 802-522-0224.

Sincerely,

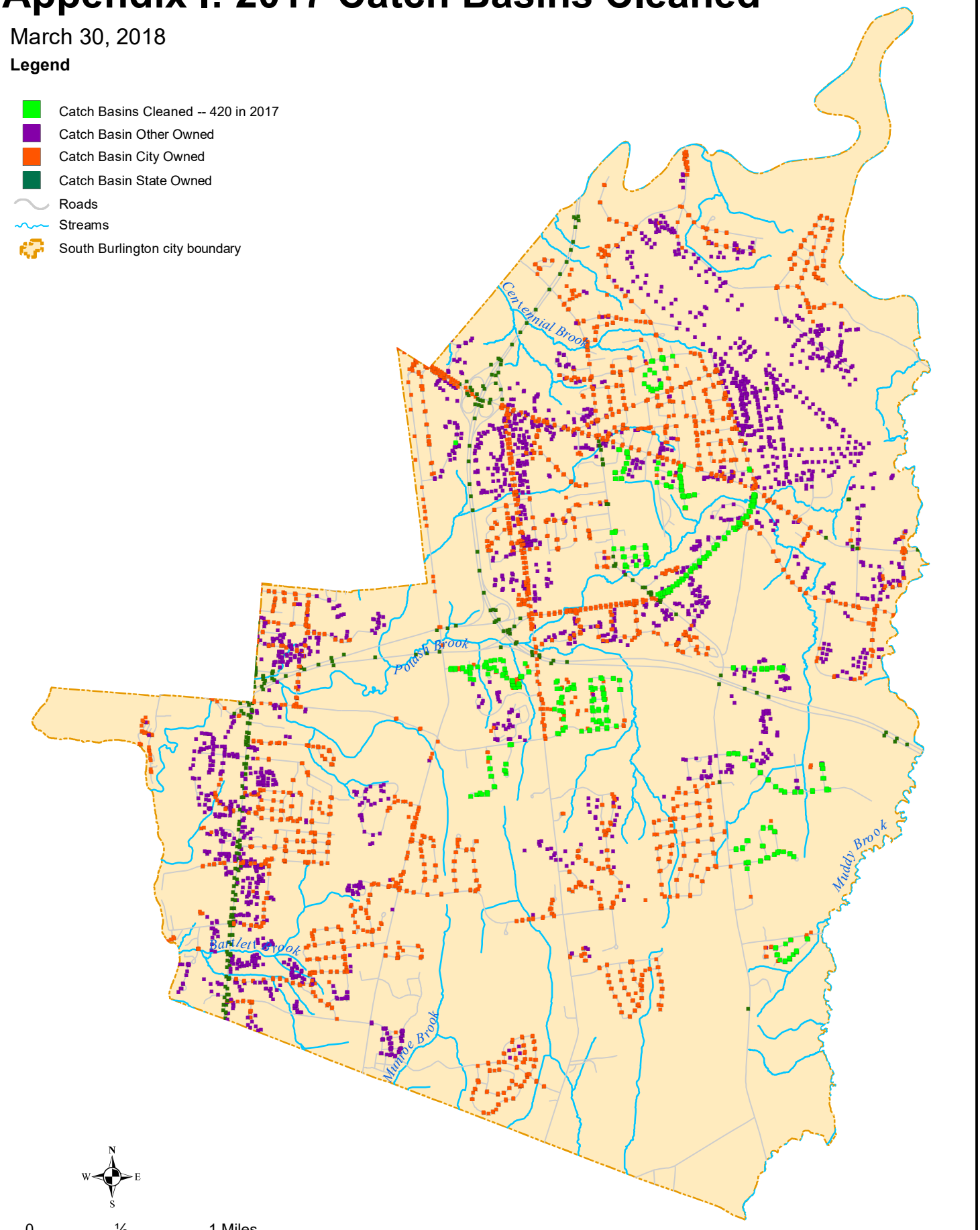
John Daly
Environmental Assistance Specialist

# Appendix I – Map of Storm Drains Cleaned in 2017

# Appendix I: 2017 Catch Basins Cleaned

March 30, 2018

**Legend**




Data Disclaimer: Maps and GPS data ("material") made available by the City of South Burlington are for reference purposes only. The City does not guarantee accuracy. Users release the City from all liability related to the material and its use. The City shall not be liable for any direct, indirect, incidental, consequential, or other damages. Contact GIS@sburl.com with questions

P:\Stormwater\MS4AnnualReport\2016\CatchBasinsCleaned_2017_8x11.mxd exported by jgrossman On 3/30/2018