



Town of Shelburne, Vermont

CHARTERED 1763

Town of Shelburne MS4 Annual Report for 2015

In order to meet requirements of State of Vermont permit number 7048-9014 issued to the Town of Shelburne on October 1, 2013 we are submitting the following annual report covering stormwater activities completed in calendar year 2015.

1. Minimum Measure 1 – Public Education and Outreach

- 1.1 Payments made to Regional Stormwater Education Program (RSEP): **\$5,000**
- 1.2 Visitors to RSEP's web site: **4,659**
 - 1.2.1 RSEP web address: www.smartwaterways.org
- 1.3 Visitors to Town of Shelburne's Stormwater web site: **Unknown. The web page is part of the Town's website and is currently not set up to monitor traffic to a specific web page.**
 - 1.3.1 Website address: <http://www.shelburnevt.org/221/Storm-Water-Water-Quality>
- 1.4 Supplemental Information for minimum measure 1 can be found in Appendices A.

2. Minimum Measure 2 – Public Involvement and Participation

- 2.1 Payment made to Chittenden County Stream Team (CCST): **\$1,800**
 - 2.1.1 CCST's web address: www.ccstreamteam.org
- 2.2 Number of volunteers at CCST events: **188 (6 Shelburne residents)**
- 2.3 Water Quality Monitoring of Munroe Brook: **The Town supports (\$2,600 annually) the Lewis Creek Association's efforts to collect water quality data in Shelburne. Current efforts have been the McCabe's Brook.**
- 2.4 Number of new storm drains marked with "No Dumping, Drains to Stream": **4**
- 2.5 Supplemental Information for minimum measure 2 can be found in Appendices B.

3. Minimum Measure 3 – Illicit Discharge Detection and Elimination

- 3.1 Illicit discharges detected and eliminated: **0/0**
- 3.2 Stormwater Infrastructure Mapping:
 - 3.2.1 Number of Stormwater Outfalls: **83**
 - 3.2.1.1 Number of Town owned outfalls: **Unknown**
 - 3.2.2 Number of Drainage Structures: **1000+**
 - 3.2.2.1 Number of Town owned drainage structures: **402+**
 - 3.2.3 Miles of pipe, ditch, and other stormwater conveyances: **Unknown**
 - 3.2.3.1 Miles of Town owned stormwater conveyances: **Unknown**
- 3.3 Continued enforcement of Stormwater ordinance: **Yes**
 - 3.3.1 Number of updates to stormwater ordinance: **Planned to be revised in 2016**
- 3.4 Number of stormwater outfalls inspected: **13 (Trudell Consulting Engineers)**
 - 3.4.1 Number of outfall samples collected: **4**
- 3.5 Distributed IDDE educational materials: **0**

- 3.6 Continued maintenance of the “Illicit discharge detection and elimination success stories” section of the Town’s website: **The Town has completed a major overhaul of the Town’s website, unfortunately not all the stormwater information from the previous website was carried over to the new website, including the IDDE subject matter. The Town will be working on updating the website with additional stormwater content in 2016.**
- 3.7 Supplemental Information for minimum measure 3 can be found in Appendices C.

4 Minimum Measure 4 – Construction Site Runoff Control

- 4.1 Enforcement of Land Development Regulations Relating to Erosion Control: **Yes**
- 4.2 Number of construction site inspections for Erosion and sedimentation (E&S) control: **4**
 - 4.2.1 Adoption of local E&S requirements: **Yes**
- 4.3 Development of erosion control ordinance: **No**
 - 4.3.1 Number of building permits distributed: **146 building permits**
- 4.4 Number of projects disturbing greater than 1 acre of land: **1**

5 Minimum Measure 5 – Post Construction Runoff Control

- 5.1 Review effectiveness of existing MS4 regulations: **Yes**
 - 5.1.1 Number of Stormwater Treatment Practices (STPs) maintained by the Town: **13**
 - 5.1.2 Number of new STPs constructed by the Town: **0**
 - 5.1.3 Number of existing STPs taken over by the Town: **0**
 - 5.1.4 Number of STP inspections conducted: **13**
- 5.2 Number of water quality related changes to the Towns Land Development Regulations (LDRs): **0**
 - 5.2.1 Assess regulations to minimize impervious surfaces (Street & Parking Lot design):
 - 5.2.2 Continue enforcement and implementation of stormwater regulations in the LDRs: **Yes**
- 5.3 Number of projects resulting in 1 acre or more of impervious area: **1**
- 5.4 Supplemental Information for minimum measure 5 can be found in Appendices D

6 Minimum Measure 6 – Pollution Prevention and Good Houskeeping

- 6.1 Number of dog waste bags distributed: **24,000**
- 6.2 Date of Town’s last MCAP inspection: **2009**
- 6.3 Volume of material collected from street sweeping activities: **15 yds**
- 6.4 Number of storm drains cleaned: **51**
- 6.5 Volume of material removed from storm drain cleaning activities: **8 yds**
- 6.6 Number of storm drains inspected: **100+/-**
- 6.7 Calibration of the salt delivery systems on plow trucks: **yes**
- 6.8 Supplemental Information for minimum measure 5 can be found in Appendices E

7 Other Stormwater Activities and Reporting

- 7.1 Funds spent on Town’s stormwater management program in fiscal year 2015 (FY15 is July 1, 2014 through June 30, 2015): **\$67,880**
- 7.2 Funds spent on Town’s stormwater management program in fiscal year 2014 (FY15 is July 1, 2013 through June 30, 2014): **\$55,743**
- 7.3 Stormwater training hours attended by Town staff: **32**

8 Stream Flow Monitoring

- 8.1 In April of 2014 the Vermont legislature passed H.650, a bill that enables VT DEC to collect funding from the regulated MS4s for the purpose of conducting stream flow monitoring. The bill became effective on July 1, 2014. The Town is currently working with DEC staff to plan and implement the required stream flow monitoring.
- 8.2 **On February 22, 2016 the Town and VT DEC (along with the MS4 communities) signed a Memorandum of Understanding (MOU) that directs the VT DEC to provide the required stream flow monitoring.**

- 8.2.1 The amount per year expected to be paid to VT DEC for stream flow monitoring in FY 17: **\$12,200**

9 Flow Restoration Plan (FRP) Development

9.1 The Town of Shelburne must participate in the development of two FRPs for the stormwater impaired watersheds located within the Town's MS4 boundary. The Town intends to work with other MS4s and hire consultants to complete these FRPs by the deadlines specified in the MS4 permit. Below is the an update on the Town's progress on each FRP:

- 9.1.1 **Munroe Brook FRP – The Munroe Brook watershed is predominately located in the Town of Shelburne with a very small section in South Burlington. South Burlington and the Vermont Agency of Transportation continues to be copied on correspondence with each stakeholder provided the opportunity to provide input on the FRP's development. The draft FRP plan is expected to be ready for Town review by the end of April, 2016. The plan is expected to identify at least 25 BMP sites that will require a retrofit or construction of a new BMP.**
- 9.1.2 **Bartlett Brook FRP – The Bartlett Brook watershed is predominately located in the City of South Burlington with only an extremely small section passing through Shelburne. The City of South Burlington will be responsible for the completion and implementation of this FRP.**

10 Regulatory Analysis and Assistance

11 Proposed Changes

- 11.1 **The Town is contracting with the City of South Burlington to manage and maintain a majority of the Town's stormwater system. It is expected that the Town will consider updating our Stormwater Management Plan (SWMP) in FY17. The update will be better structured and will include a more concise list measurable goals.**
- 11.2 **The Town also anticipates changes to the SWMP to include the provisions related to the Stream Flow Monitoring.**
- 11.3 **With the implementation of the Lake Champlain Total Maximum Daily Load expected to be finalized in FY17, the Town anticipated a revision to the SWMP again in FY 2018.**

12 Reliance on Other Entities

- 12.1 **In order to meet the requirements of the MS4 permit, The Town relies on the Regional Stormwater Education Program (RSEP) and the Chittenden County Stream Team (CCST). In FY16 these two entities merged to form the MS4 Sub Committee. This is expected to be more efficient and reduce the MS4s annual costs.**
- 12.2 **In order to meet the Stream Flow Monitoring requirement of the MS4 permit, the Town relies on the VT DEC to implement and maintain the monitoring stations, including the collection and organization of the data.**

13 Signatures

This report was prepared by Christopher R. Robinson, Water Quality Superintendent.

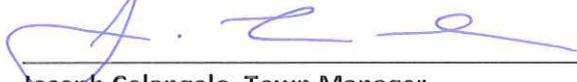
"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."



Christopher R. Robinson, Water Quality Superintendent

4/8/16
Date

Approved by:



Joseph Colangelo, Town Manager

8-APRIL-2016
Date

Summary of Appendices

Appendix A – Chittenden County Regional Stormwater Educational Program Annual Review: 2015 Program Year Summary

Appendix B – Chittenden County Stream Team Summary of Activities January-December 2014

Appendix C – Map of Stormwater Outfalls

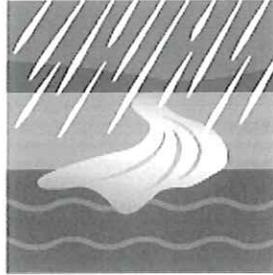
Appendix D – Map of Annual Inspections

Appendix E – Maps of Catch Basins

Appendix A

Chittenden County Regional Stormwater Educational Program Annual Review: 2015 Program Year Summary

SMART WaterWays



Add Up To
Cleaner Water

Chittenden County Regional Stormwater Educational Program

Annual Review: 2015 Calendar Year Summary

2015 was a maintenance year for RSEP, utilizing 2014's "Slow the Flow" campaign creative around rain barrels and rain gardens and also the creative informing people about the best time to fertilize (if at all). In 2015, we saw strong results, with the second-highest website visits on record. (Only 2014 was higher.) We continued to use data from past campaign performance to tweak media buys and try some different ad formats, consistently working to reach more people.

In 2015 we also continued to improve our website, focusing on cleaning up links, developing stronger verbiage, and deleting outdated content. Building on the design refresh of 2014, the website is now technically and visually more modern, more clearly written, and easier to navigate.

Spring Advertising Campaign

During the Spring campaign we utilized some new ad formats with *Xfinity*, specifically a home page takeover and Comcast Video Plus, which allowed us to advertise on *Comcast* partner sites. Compared with Table 2: Fall 2015 Online Campaign Results, it's clear that the traditional pre-roll ads (ads that run prior to watching a video) prove to be more effective than these new ad opportunities.

The online portion of the advertising budget accounts for 36% of the overall expenditure of \$19,855. The remainder covers radio, television and print advertising. Media beyond online ads raises awareness and allows consumers additional impressions, but the vast majority of web clicks come from online ads, driven by the ease by which people can access the Smart Waterways site from an online ad.



Table 1: Spring 2015 Online Media Results

	Impressions	Clicks	Cost	Cost per Click
WCAX	90,000 impressions	198	\$990	\$5.00
Xfinity*		373	\$1,725	\$4.62
	video pre-roll, 16,300 impressions	252		
	home page takeover	33		
	Comcast Video Plus, 26,300 impressions	88		
Front Porch Forum	210,000 impressions	253	\$1,500	\$5.93
Google ad network	pay-per-click	382	\$1,398	\$3.66
Seven Days	100,000 impressions	116	\$1,093	\$9.42
TOTAL		1695	\$6,706	\$3.96

Fall Advertising Campaign

For the Fall campaign we focused back on the issue of not using fertilizer in the spring. In order to use past material, we worked with local Fox television affiliate *WFFF* to remake the old television spot (which was not digital and looked grainy) in an HD format. This spot can now be used into the foreseeable future.

In addition, as mentioned above, based upon what we learned using the *Xfinity* ad formats, we decide to revert back to using pre-roll ads only, driving down the cost per click. Even with the high cost per click for *WFFF/ABC 22* ads, our overall cost per click was very low at \$3.07, as shown below in Table 2. The online portion of the advertising budget was 51% of the overall expenditure of \$9,940.

Table 2: Fall 2015 Online Campaign Results

	Impressions	Clicks	Cost	Cost per click
WCAX	120,000 impressions RSS feed	316	\$600	\$1.90
Xfinity	55,000 video pre-roll impressions	832	\$1,980	\$2.38
Front Porch Forum	50,000 impressions	77	\$750	\$9.74
Google ad network	pay-per-click	329	\$860	\$2.61
WFFF/ABC 22	90,000 impressions	38	\$700	\$18.42
TOTAL		1,592	\$4,890	\$3.07



Traffic to Program Website (www.smartwaterways.org)

Presented below in Figure 1 and Table 3 is the website visitor information for 2015, compared to preceding years.

The site had 4,659 visits during 2015, not as strong as 2014 but still the second highest on record. Website traffic increases correlate with media campaigns. The Chittenden County' Stream Team's *Connecting the Drops* program ran in Williston during the June timeframe, keeping web traffic high in between campaigns.

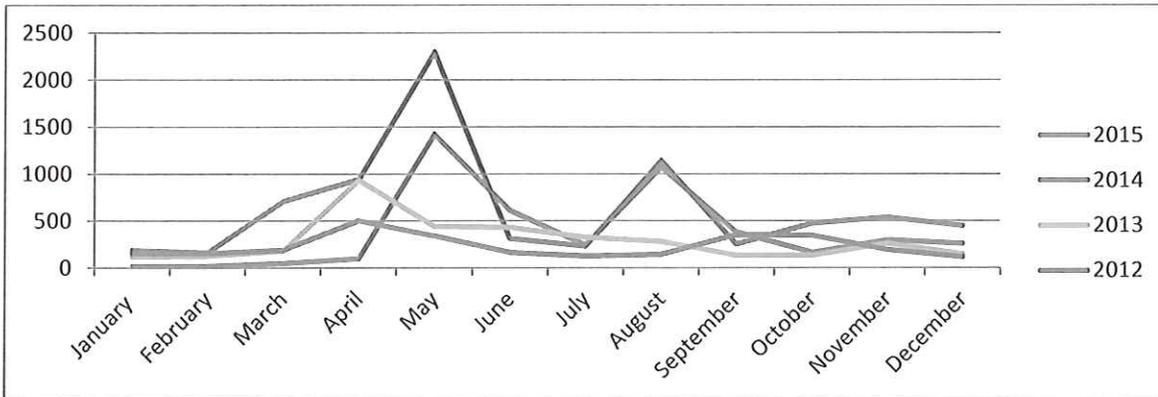


Figure 1: Total Internet Traffic to SmartWaterways.org

Table 3: Total Internet Traffic to Smartwaterways.org

YEAR	TOTAL
2015	4,659
2014	7,728
2013	3,542
2012	2,817
2011	2,859



Appendix B

Chittenden County Stream Team Summary of Activities January-December 2014

Chittenden County Stream Team Summary of Activities January-December 2015



This report summarizes CCST activities in the 2015 calendar year. Demographic data about participant numbers from each town is presented in tabular form following the narrative.

Social Media

Facebook

- 120 total “likes”-- a 15% increase in likes from 2014 annual report numbers (104 total likes)
Facebook ‘likes’ can’t be isolated by year; only total numbers over time can be counted.
- 20% of the people who like CCST are from Burlington (23 people)
- 41% of the people who like CCST live in CCST member towns (49 people)

CCST Website

Google Analytics provides website traffic data from: January 1, 2015 to December 31, 2015

- 1,773 website visits, spending an average of 1 minute and 53 seconds on the website per visit. The number of visits is up 22% from 2014 (1,454 visits)
- 3,603 page views, similar to the 2014 quantity (3,683)
- 80.5% of visitors were new visitors to the site.
- The highest spike in page views occurred on April 2nd, with 39 visits, which coincided with the announcement that the Chittenden County Regional Planning Commission was recognized by The New England Water Environment Association with a *Stormy Award* for “Regional Collaboration for Enhanced Stormwater Program Efficiency.” Website traffic remained relatively high through April and May as the Connecting the Drops display was planned and installed. There were also spikes in July around the time of the rain barrel give-away and two rain barrel workshops. On average, the busiest months for web traffic were April, May, June and July.

Newsletter and e-correspondence

- In 2015, there were 459 subscribers to the CCST newsletter, up 55% from 295 in 2014.
- A spring newsletter was sent out in May with a 37.1% open rate. A fall newsletter was sent out in October with a 42.1 % open rate. CCST E-News open rate is high; the typical open rate for similar industries is between 20-25% according to research completed by Mail Chimp.
- The Mail Chimp email list was used throughout the year to announce rain barrel workshops and to request volunteers for water quality monitoring.



Chittenden County Stream Team

Summary of Activities January-December 2015

Organizational Partnerships

The Chittenden County Stream Team partnered with nine different organizations in 2015; CCST partnered with 12 organizations in 2014.

- A local gardener donated plants for the Stream Team's rain gardens. In 2015, Ann Pearce provided CCST with dozens of iris, lobelia and native grasses for multiple rain gardens (Chamberlin School, South Burlington and Williston Town Hall Annex, Williston).
- CCST worked with multiple schools and school groups this year for hands-on events and for outreach opportunities. The Stream Team partnered with teachers from South Burlington High School, Winooski High School and the Winooski Teen Center. Additionally, students from Champlain Valley Union High School decorated two of the rain barrels for the Connecting the Drops 3.0 display.
- CCST partnered with towns and other local organizations to host two rain barrel workshops. CCST partnered with the South Burlington Natural Resources Committee, the South Burlington Department of Public Works and the Town of Williston Public Works Department to hold the rain barrel workshops.
- During the 2015 Connecting the Drops outreach campaign and events, CCST partnered with the Let it Rain program (administered by Winooski Natural Resources Conservation District and UVM's Lake Champlain Sea Grant) to develop outreach materials and to manage the events. Lake Champlain Sea Grant staff member Becky Tharp recruited the artists for the displayed rain barrels and coordinated press and advertising. CCST partnered with the Town of Williston to provide outreach for Connecting the Drops, display the barrels and engage citizens.
- CCST worked with the Milton Conservation Commission to provide outreach to the community and to build-up future ideas for hand-on participation in the town.

Media

The Chittenden County Stream Team had six media appearances this year, and increase from 4 in 2014. Copies of each article are archived in the CCST 3-ring binder housed at the office of the CCST chair (if applicable).

- Water Environment Federation (WEF) Stormwater Report May 5, 2015 (Stormy Award recognition) <http://stormwater.wef.org/2015/05/stormy-awards-elevate-new-england-stormwater-efforts/>
- Milton Independent: May 7, 2015. The Stream Team is not mentioned in the linked article, but there was a picture of CCST tabling at Milton's Green-Up Day and a caption in the print edition. <http://www.miltonindependent.com/retro-rubbish/>
- Williston Observer: May 21, 2015 <http://www.willistonobserver.com/artsy-stormwater-management-i-89-northbound-rest-stop-gets-new-rain-barrel/>
- Williston Observer: July 30, 2015 <http://www.willistonobserver.com/photos-building-a-rain-barrel/b> Photos of the Connecting the Drops rain barrel workshop
- The Citizen: May 14, 2015: <http://www.thecitizenvt.com/2015/05/14/partnership-offers-rain-barrel-workshop-june-7/>
- Shelburne News: May 6, 2015: <http://www.shelburnenews.com/2015/05/06/build-your-own-rain-barrel-june-7/>

Outreach



Winooski Natural Resources Conservation District
"Connecting people to a sustainable landscape"

Chittenden County Stream Team Summary of Activities January-December 2015

Outreach events include tabling and the distribution of educational materials or information. There were nine outreach events in 2015 in which the Stream Team interacted with 324 people. See Table 1 below for detailed outreach audience information. An additional 36 people clicked on Front Porch Forum advertisements about the Connecting the Drops 3.0 outreach campaign, bringing total outreach numbers to 360.

- Milton Green-Up Day (5/2/2015, 36 people reached)
- Connecting the Drops 3.0 ribbon cutting ceremony in Williston (5/18/15, 35 people reached)
- Presentation to Milton Conservation Commission (6/23/15, 7 people reached)
- Williston Independence Day Celebration (7/3/15, 35 people reached)
- Burlington farmers Market (8/1/15, 46 people reached)
- Water Works Fair in Burlington (8/9/15, 26 people reached)
- Summervale in Burlington (8/20/15, 28 people reached)
- Shelburne Farmers Market (9/12/15, 33 people reached)
- Shelburne Harvest Festival (9/19/15, 88 people reached)

Event-Driven Tasks

There were nine hands-on events held and the continuation of on-going tasks including, rain garden adoption and maintenance, and water quality monitoring in 2015. Detailed participation data is provided in Table 2.

- Rain Barrel Painting for Connecting the Drops 3.0 Display (April/May 2015)
 - Partnered with Champlain Valley Union High School's Art club to decorate two rain barrels for the Connecting the Drops 3.0 display in Williston
 - Six students and one teacher worked to paint two display barrels
- Rain Garden Adopters are Supplied with Plants and Mulch for work days in mid-May (May 2015)
 - Rain garden adopters worked to maintain the gardens at Williston Town Hall Annex, Chamberlain Elementary School in South Burlington and at the Coast Guard Station in Burlington.
 - Donated rain garden plants were planted in the Chamberlin School garden in South Burlington, the Williston Town Hall Annex garden, and in the Coast Guard Station garden in Burlington. Other volunteers maintained the gardens but were not in need of supplies.
- Volunteer Water Quality Monitoring Training/Sampling and Volunteer Thank You (6/16/2015)
 - Interest in the water quality monitoring program was high; 28 people contacted CCST to find out more information about volunteering. Of those who contacted CCST, 22 volunteers participated in the water quality monitoring training session. Sampling occurred on five scheduled dates (6/23, 7/07, 7/21, 8/04, 8/18, 9/1)
 - Sampling was expanded this year to include e. coli sampling at Wheeler Park in South Burlington
 - Volunteers were recognized for their dedication with pizza and appreciation during the water quality monitoring training event.
 - Analyzed sampling data was uploaded to the CCST [website](#).
- Rain Barrel Decorating at the Williston Independence Day Celebration (7/3/2015)
 - 17 Williston residents participated in rain barrel decoration during the Connecting the Drops 3.0 rain barrel give away at the Independence Day Celebration; most of these people also signed up to win a rain barrel.
- South Burlington Rain Barrel Workshop (7/7/2015)



Chittenden County Stream Team Summary of Activities January-December 2015

- Partnered with South Burlington’s Natural Resources Committee and the South Burlington Department of Public Works to hold a rain barrel workshop
- 32 participants built 29 barrels. All participants received outreach materials about rain barrels and stormwater.
- Connecting the Drops 3.0 Rain Barrel Workshop (7/25/2015)
 - Partnered with the Town of Williston’s Public Works Department and Lake Champlain Sea Grant to prepare and advertise for the event.
 - 32 participants built 26 rain barrels. All participants received outreach materials about rain barrels and stormwater.
- Potash Brook Stream Clean-Up with South Burlington High School (9/20/2015)
 - Partnered with South Burlington High School Environmental Science class
 - 21 students and 1 teacher participated in the clean-up, removing four bags of trash from Potash Brook.

CCST Outreach and Event Demographic Impacts

Since participation numbers for Milton and Shelburne were low in 2014 and because CCST had not focused on Burlington in some time, these towns were identified as the outreach target towns in 2015. Displayed in the table below, 2015 outreach efforts in these towns were a success and all workplan goals were met. Hands-on events are planned for these 3 towns in 2016.

Table 1: Participation in Outreach Activities by CCST Member Town

Activity	Location	Participant Town									Total
		Burlington	South Burlington	Essex	Essex Jct	Milton	Shelburne	Williston	Winooski	Other/Unkown	
Facebook 'Likes'	N/A	23	10	0	4	2	2	4	4	71	120
Website Visits	N/A	236	42	58	0	4	7	27	5	1,394	1773
e-news Mailing List	N/A	56	40	10	34	30	13	71	25	180	459
Green-Up Day	Milton	0	0	1	0	32	0	0	0	3	36
Milton Conservation Commission	Milton	0	0	0	0	7	0	0	0	0	7
CtD 3.0 Ribbon Cutting Ceremony	Williston	3	0	3	0	0	1	18	0	0	25
Independence Day Celebration	Williston	0	0	5	2	0	0	28	0	0	35
Farmers Market	Burlington	25	8	0	2	2	1	0	3	5	46
Summervale	Burlington	18	1	0	3	0	0	0	3	3	28
Water Works Fair	Burlington	19	2	1	3	0	0	0	0	1	26
Harvest Festival	Shelburne	35	0	3	0	0	5	11	9	25	88
Farmers Market	Shelburne	0	0	0	0	0	28	0	1	4	33
Front Porch Forum CtD 3.0 Ad 'clicks'	Williston	0	0	0	0	0	0	36	0	0	36
Total		415	103	81	48	77	57	195	50	1686	2712

**Colchester represents a portion of the “other” participants, with 51 Colchester residents engaged with CCST outreach events (See Table 3 for details).

Hands-on participation events in 2015 were targeted to the towns of Williston, Winooski and South Burlington. The workplan goals for participation were met and exceeded in all three towns. There were a total of 188 event participants in 2015, surpassing the workplan goal of 100 participants. Outreach towns for the following year are selected from end-of-year event participation numbers and frequency of targeting a town. Based on the participation numbers from 2015 and the inclusion of Colchester into CCST, the towns that will be targeted for outreach in 2016 are: Colchester, Essex and Essex Junction.



Chittenden County Stream Team Summary of Activities January-December 2015

Table 2: Participation in Hands-On /Event-Driven Projects

Activity	Location	Participant Town									Total
		Burlington	South Burlington	Essex	Essex Jct	Milton	Shelburne	Williston	Winooski	Other/ Unkown	
Adopt-a Rain Garden Maintenance Days	Multiple	7	12	0	9	0	0	4	0	0	32
WQ Monitoring Training and Volunteer appreciation	Williston	7	5	1	2	0	1	4	2	0	22
WQ Monitoring Volunteers	Multiple	5	4	0	0	0	1	3	1	0	14
Stream Clean-Up	Winooski	0	0	0	0	0	0	0	10	0	10
Painting Barrels for CtD Display	Hinesburg (CVU)	0	0	0	0	0	1	3	0	3	7
Rain Barrel Workshop	South Burlington	9	14	0	0	0	3	0	0	6	32
Rain Barrel Decorating	Williston	0	0	0	0	0	0	17	0	0	17
Rain Barrel Workshop	Williston	0	3	1	1	3	0	22	0	2	32
Stream Clean-Up	South Burlington	0	22	0	0	0	0	0	0	0	22
		28	60	2	12	3	6	53	13	11	188

Other Vermont towns that are not part of the Chittenden County Stream Team participate in CCST activities. The chart below identifies towns with significant participation (Table 3).

Table 3. Participation in CCST Activities from Non-Member Towns

CCST Outreach and Event Participation Beyond Participating MS4 Towns									
	Huntington	Jericho	Richmond	Hinesburg	Charlotte	Colchester	Montpelier	St. Albans	Total
Facebook likes	1	4	0	3	0	7	4	4	23
e-news	1	2	4	3	1	12	0	2	25
website visits	0	2	1	6	1	26	48	8	92
Green-Up Day tabling in Milton	0	0	0	0	0	3	0	0	3
Burlington Farmers Market	0	0	0	0	0	2	0	0	2
Burlington's Summervale	0	0	0	0	1	0	0	0	1
Water Works Fair (BTV)	0	0	0	0	0	1	0	0	1
Shelburne Harvest Fest	0	0	0	0	0	0	2	2	4
Shelburne Farmers Market	0	0	0	2	0	0	0	0	2
	2	8	5	14	3	51	54	16	153

Connecting the Drops 3.0

In 2013, the Winooski Natural Resources Conservation District received a grant from the Ecosystem Restoration Program, VT DEC, for Let it Rain, a technical and financial assistance program aimed at supporting landowners in the installation of low impact development practices, and subsequently received funding from the Lake Champlain Basin Program to support this initiative with funding for outreach and education to landowners about stormwater. Connecting the Drops emerged from Let it Rain as an art and education installation about stormwater, featuring rain barrels, in downtown Burlington in the summer of 2013. WNRCD received a \$40,000 grant from ECOS to develop Connecting the Drops. RSEP provided an additional \$12,500 to leverage the exhibit's exposure for logo placement on print and web ads, signage, website, fliers, and verbal recognition at public events associated with the exhibit.



Chittenden County Stream Team Summary of Activities January-December 2015

Based on the successful outcomes of the 2013 campaign, RSEP members requested a proposal for a second year of the Connecting the Drops Project, known as Connecting the Drops 2.0 (CtD 2.0). With a significantly smaller scope, Lake Champlain Sea Grant (LCSG) worked with The Chittenden County Stream Team (CCST) to develop a “traveling” version of the Connecting the Drops exhibit to be held in Essex Junction during the summer of 2014. CtD 2.0 had a significant impact on successfully meeting and exceeding CCST’s outreach goals in 2014. The amount spent by CCST (\$1,728.77) on CtD2.0 was six percent of CCST’s FY15 budget. This relatively small budget percentage had a large impact on overall community participation numbers, which exceeded workplan goals in 2014. Due to the success of CtD2.0, CCST decided to pursue a third year of the campaign, Connecting the Drops 3.0 (CtD 3.0). The Town of Williston was selected because it was a 2015 CCST target town and there was support from town representatives.

Full reports on the details of the CtD 3.0 and all of the Connecting the Drops campaigns are available and on file with the CCST chairs.

A total of seven rain barrels were displayed at Williston Community Park for the CtD 3.0 exhibit displayed from May 23-June 29, 2015. Five barrels were decorated by local artists and two barrels were decorated by student artists from the Champlain Valley Union High School Art Club. In addition to the display in Williston Community Park, there were two outreach events associated with CtD 3.0 and a build-your-own rain barrel workshop. Throughout the five weeks that the rain barrels were on display in Williston Community Park before the give-away, 85 people applied through the Let it Rain website/QR code on the display signage to win a rain barrel (Table 4); an additional 30 people signed up during the Independence Day celebration (Table 5) for a total of 115 sign-ups.

Table 4. Rain Barrel Sign-Ups by Town (QR Code)

Town	# of People
Burlington	4
Essex	2
Essex Junction	9
South Burlington	2
Williston	55
Colchester	2
Other	11
TOTAL	85

Table 5. Rain Barrel Sign-Ups by Town (During Event)

Town	# of people
Williston	26
Essex	2
Essex Junction	1
Burlington	1
Total	30

The total cost to plan, manage and implement CtD 3.0 was \$3,800.84. In addition to personnel hours for project management and travel funds, the primary costs are compensation for the five professional artists (\$1,000) and paid advertising (\$722.10). CCST staff used 48.5 personnel hours and \$94.55 of mileage to plan and execute CtD3.0.

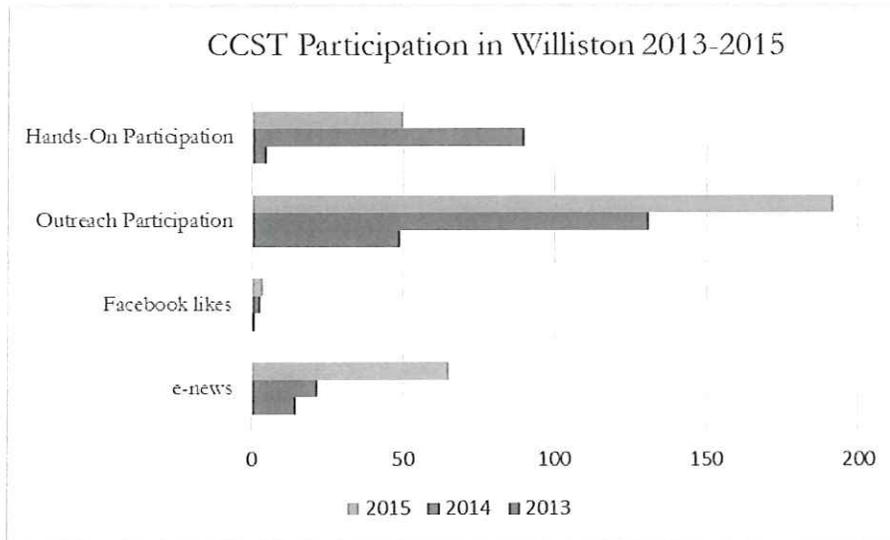
Connecting the Drops 3.0 had a significant impact on CCST’s successful year in 2015. The amount spent by CCST (\$3,800.84) is 14 percent of CCST’s FY15 budget. This relatively small budget percentage had a large impact on the overall participation numbers in 2015. All workplan targets for outreach and event participation in Williston were exceeded through the CtD 3.0 events. Additionally, the draw of signing up to win a rain barrel at the Williston Independence Day Celebration resulted in the largest impact in terms of outreach that CCST has made in Williston to date. Not only did Williston residents sign up to win a barrel, but many of them took outreach materials, talked with CCST staff and/or decorated CCST’s chalkboard rain



Chittenden County Stream Team Summary of Activities January-December 2015

barrel. A comparison of participation numbers in Williston between 2013, 2014 and 2015 for equivalent events and interactions is provided below (Figure 1). The elevated outreach numbers may be attributed to the increased CCST presence and advertising efforts that occurred through CtD3.0.

Figure 1. Williston Participation Numbers 2013-2015



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 clean and attractive by performing basic maintenance activities like picking up litter, pulling weeds, and installing new mulch. The “adopted” gardens are of varying age and origin. A few were installed by the Winooski Natural Resources Conservation District/Chittenden County Stream Team, some have been in existence for a long time and needed extra care, while others are new. Information about CCST adopt-a-rain garden program is available on the Stream Team [website](#). In 2015, CCST chairs approved funding to create signage for the rain gardens. The signs were printed and installed in several gardens.

Following is a description of the status of each of the CCST public rain gardens; Table 6 condenses the information:

Brownell Library Rain Garden

Location: 6 Lincoln St. Essex Junction

Status: 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*.) Although the garden does not currently have an adopter, it has had an active adopter over the last several years. Additional plants and mulch were added to the garden in 2013 and 2014. It has been weeded and well-maintained in 2013, 2014 and 2015. Brownell Library staff are interested in getting rid of the burning bush. CCST would like to work with the Village of Essex Junction to remove the invasive plants and seek replacement shrubs.



Chittenden County Stream Team Summary of Activities January-December 2015

Callahan Park Rain Garden

Location: Locust St., Burlington

Status: This garden has been functioning well for some time, despite its surrounding conditions. In 2013 the garden began to experience significant slumping. Work was done to repair the slumping, which caused the loss of many plants. However, the garden appears to be building back up and doing better. This garden has an active volunteer, Brad Ketterling, who is committed to weeding and monitoring the garden. This garden received donated plants in 2015. Brad is interested in adding more pollinator species in the future.

Chamberlain School

Location: 262 White Street, South Burlington

Status: This garden was installed in partnership with WNRCDC and the Let it Rain Program in 2013. This is one of several rain gardens on the grounds of Chamberlain Elementary. Chris Provost has adopted this garden and actively maintains it. He often uses his students to help maintain the gardens and uses the gardens as an educational aide. Additional plants and mulch were provided to these gardens in 2014 and 2015.

Coast Guard Station

Location: Depot Street, Burlington

Status: This garden was very overgrown for some time. It is a small garden in a large parking lot at the edge of Lake Champlain. In 2014, CCST worked with the ECHO summer kids program to engage elementary school children in rain gardens. In several work sessions over the summer, the students pulled weeds, removed trash, planted dozens of new plants and applied mulch. The garden is doing very well and now has an active adopter, Wiley Reading.

Correctional Facility

Location: 7 Farrell St., South Burlington

Status: This garden is visible from the road and appears to be functioning. Originally, employees of the prison adopted this garden and would occasionally maintain the garden with inmates. There has been a lot of staff turn-over in the past few years without a clear adopter. In 2013, CCST delivered upwards of 50 plants to the center to be planted by the inmates. We were told that there was a weed-pulling day in 2014.

Farrell Park

Location: Swift Street, South Burlington

Status: This garden is unique in terms of its design. It is called an “advanced wetland stormwater filter.” It was installed in 2012. Stormwater enters the garden through 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 not ever in need of additional plants or maintenance. It would not be appropriate to add mulch to this garden. CCST would like to find another adopter to bring any issues to our attention.

Landry Park

Location: North St., Winooski

Status: This garden was constructed in 2006. It was originally constructed 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



Chittenden County Stream Team Summary of Activities January-December 2015

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 most of the vegetation and caused gullies to form. Over the years, CCST has attempted to add more vegetation and mulch in hopes of slowing the flow, but these attempts have not been successful. The City of Winooski is willing to work with CCST to repair the garden. Currently UVM students in an Ecosystem Design course are developing recommendations to repair the garden. There is no current adopter; the adoption program was put on hold for this garden as we try to address its problems.

Williston Town Hall Annex

Location: 7900 Williston Rd, Williston

Status: This small garden, near the entrance walkway to the Annex building and the parking lot, has had an active adopter since 2014, Rita Desseau. Each year she weeds the garden and has installed plants and mulch as needed. In 2013, after an absence of care for a year, UVM students helped clear the garden of trash and weeds.

Williston Library

Location: 21 Library Lane, Williston

Status: This garden has had an active adopter for many years. Andrew Wolf cares for the garden and keeps CCST posted on its status. The garden is functioning properly, is weeded and not in need of any extra care.

New Garden:

South Burlington Fire Department

575 Dorset St.

Status: South Burlington recently installed a bioretention area/rain garden to improve stormwater management at the Fire Department. <http://www.sburlstormwater.com/stormwater-projects/city-offices-stormwater-improvement-project/>. We have been actively looking for a volunteer to maintain this garden over time.

Table 6. CCST 2015 Rain Garden Status Update

Town	Garden Name	Adopter	Last Miantenance	Needs
Burlington	Coast Guard Station	Yes	plants/mulch 2014, 2015 weeding	None
Burlington	Callahan Park	Yes	plants/weeding 2015	None
South Burlington	Farrell Park	No	monitored through 2014	Nothing for garden, but do need a new adopter
South Burlington	Correctional Center	Yes	2014 plants/weeding	Touch base with new staff
South Burlington	Chamberlain School	Yes	2015 plants/mulch	none
South Burlington	Fire Station	No	new garden	needs adopter
Essex Junction	Brownell Library	No	2014/2015 new plants, weeding	Needs new adopter, needs removal of invasives
Williston	Town Hall Annex	Yes	2015 weeding/2014 mulch and plants	None
Williston	Williston Library	Yes	2015 plants/weeding	None
Winooski	Landry Park	No	2014 plants, weeding (2015 maintenance on hold)	Serious attention/redesign



Appendix C

Map of Shelburne Stormwater Outfalls

Appendix D

Map of Shelburne's Annual Inspections



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Project Location



Legend

- + Shelburne Municipal Stormwater Permits
- Munroe Brook
- ▭ Munroe Brook Watershed
- ▭ Town Boundary

Notes

Sources: Bing Aerial Photography (2012); Streets by ANR (2012); Municipal Stormwater Permits by TCE (2014); Munroe Brook by ANR (2012); Stormwater Permits by ANR (2013).

Disclaimer: The accuracy of information presented is determined by its sources. TCE is not responsible for any errors or omissions that may exist. Questions of on-the-ground location can be resolved by site inspection and/or survey by a registered surveyor. This map is not a replacement for surveyed information or engineering studies.

Municipal Permits & Munroe Brook Watershed Map

Shelburne, VT

Project: 14-042

Prepared By: LMJ

03/31/2014

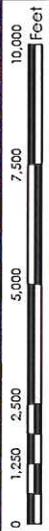
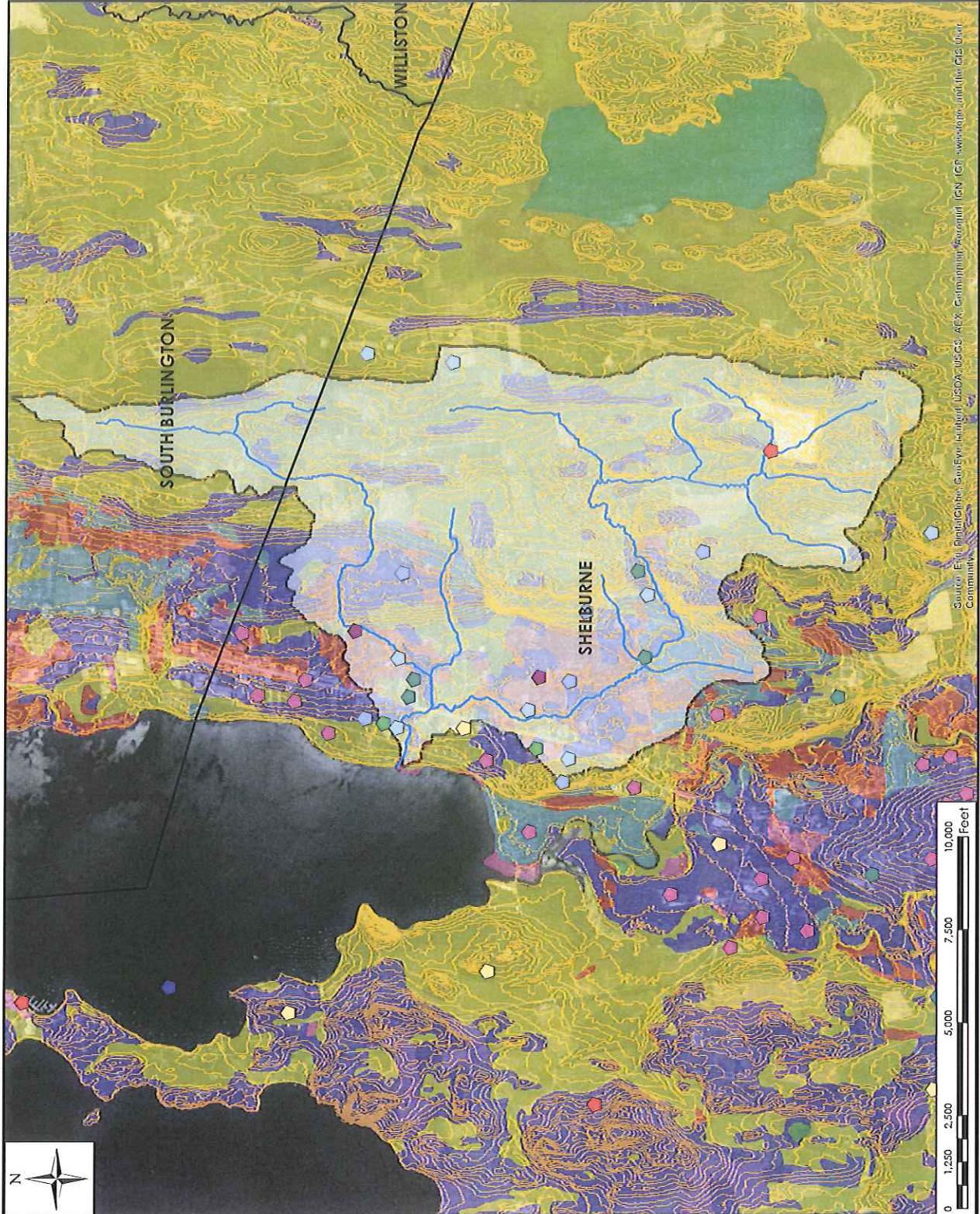
1 inch = 1200 feet





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Project Location



Legend

- Munroe Brook Watershed
- Munroe Brook
- Town Boundary
- Contours (10')

All ANR Listed Stormwater Permits

- 1-
- 2-
- 9003
- 9010
- 9015
- 9020
- 9030
- INDO
- INDS
- Soil (HQS)
- A
- B
- C
- D
- W
- not rated

Notes

Sources: Bing Aerial Photography (2012); Streams by ANR (2012);
Munroe Brook Watershed by TCE (2014); Munroe Brook by ANR
(2012); Stormwater Permits by ANR (2013).
Disclaimer: The accuracy of information presented is determined
by its source. TCE is not responsible for any errors or omissions.
This map is not a replacement for any permits or other
regulatory information. The location of any permit location can be
verified by contacting the appropriate regulatory agency.
Information or engineering studies.

**Munroe Brook Watershed &
Shelburne Permits Map
Shelburne, VT**

Project: 14-042
Prepared By: LMJ
04/07/2014
1 inch = 2500 feet

Source: Esri, DeLorme, GeoEye, iSatellite, IGN, CNR, Landsat, USDA, USGS, AeroGRID, IGN, Esri, Swire, and other GIS data providers

Appendix E

Maps of Shelburne Catch Basins



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Project Location



Legend

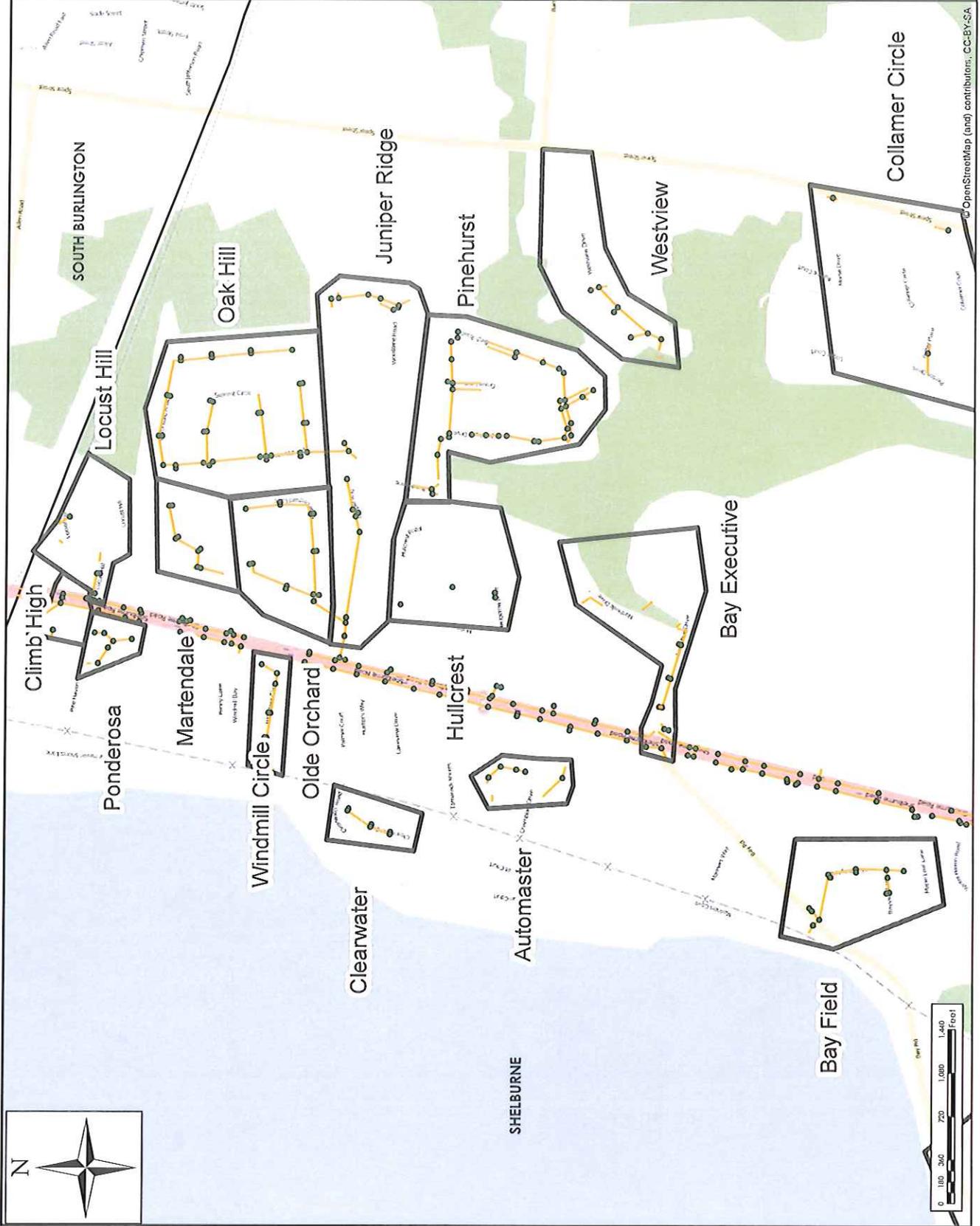
Notes

Sources: Bing Aerial Photography (2012);
Streams by ANR (2012); Munroe Brook Watershed
by TCE (2014); Munroe Brook by ANR (2012);
Stormwater Permits by ANR (2013).

Disclaimer: The accuracy of information presented
is determined by its source. TCE is not responsible
for any errors or omissions that may exist. Our reliance
of on-the-ground location can be resolved by site
inspections and/or surveys by a registered surveyor.
This map is not a replacement for surveyed
information or engineering studies.

**Catch Basin Inventory
Shelburne, VT**

Project: 14-047
Prepared By: SMM
07/23/2014
NTS



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Project Location



Legend

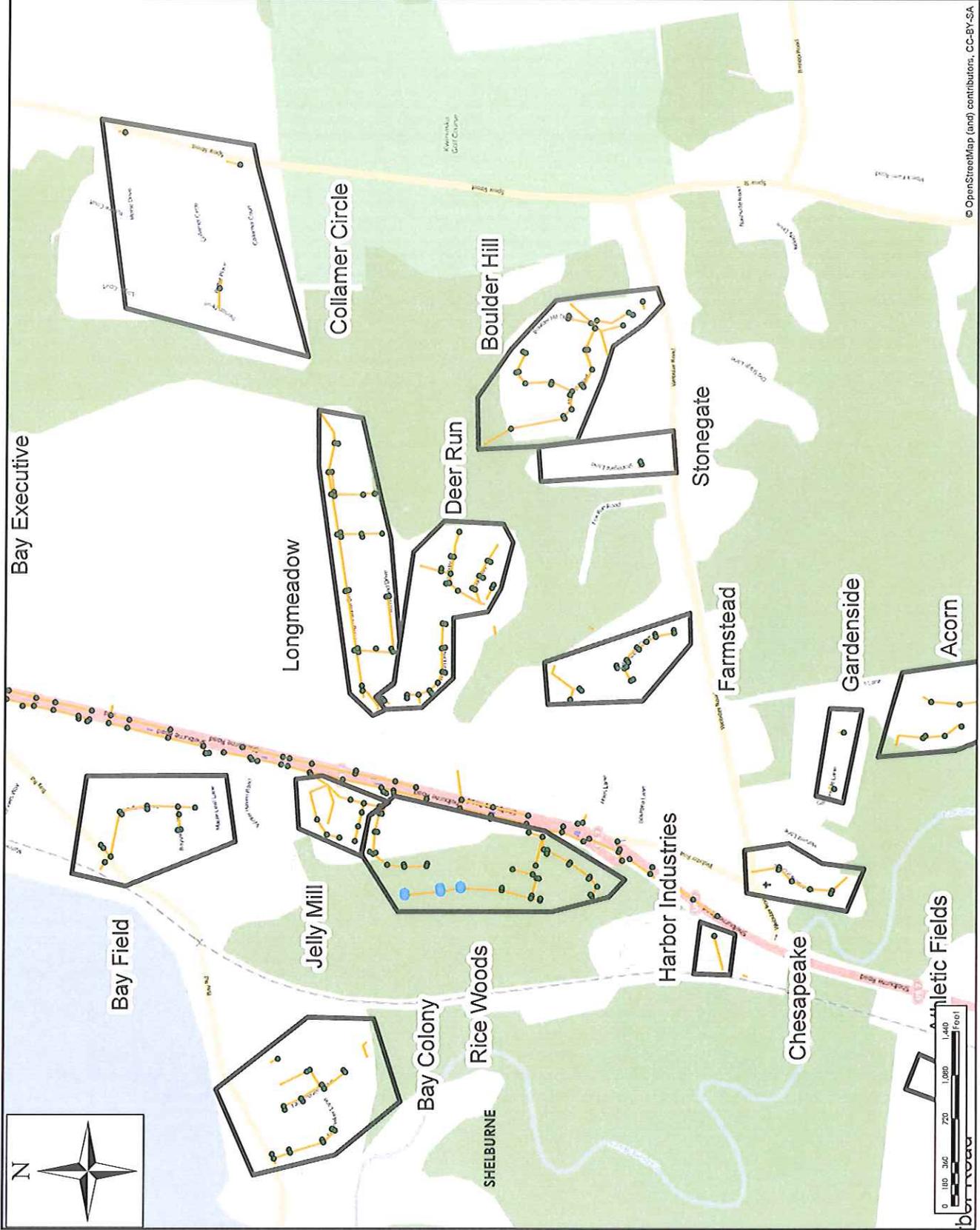
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Sources: Bing Aerial Photography (2012);
Streams by ANR (2012); Munroe Brook Watershed
by TCE (2014); Munroe Brook by ANR (2012);
Stormwater Permits by ANR (2013).

Disclaimer: The accuracy of information presented
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inspections and/or surveys by a registered surveyor.
This map is not a replacement for surveyed
information or engineering studies.

Catch Basin Inventory Shelburne, VT

Project: 14-047
Prepared By: SMM
07/23/2014
NTS





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Project Location



Legend

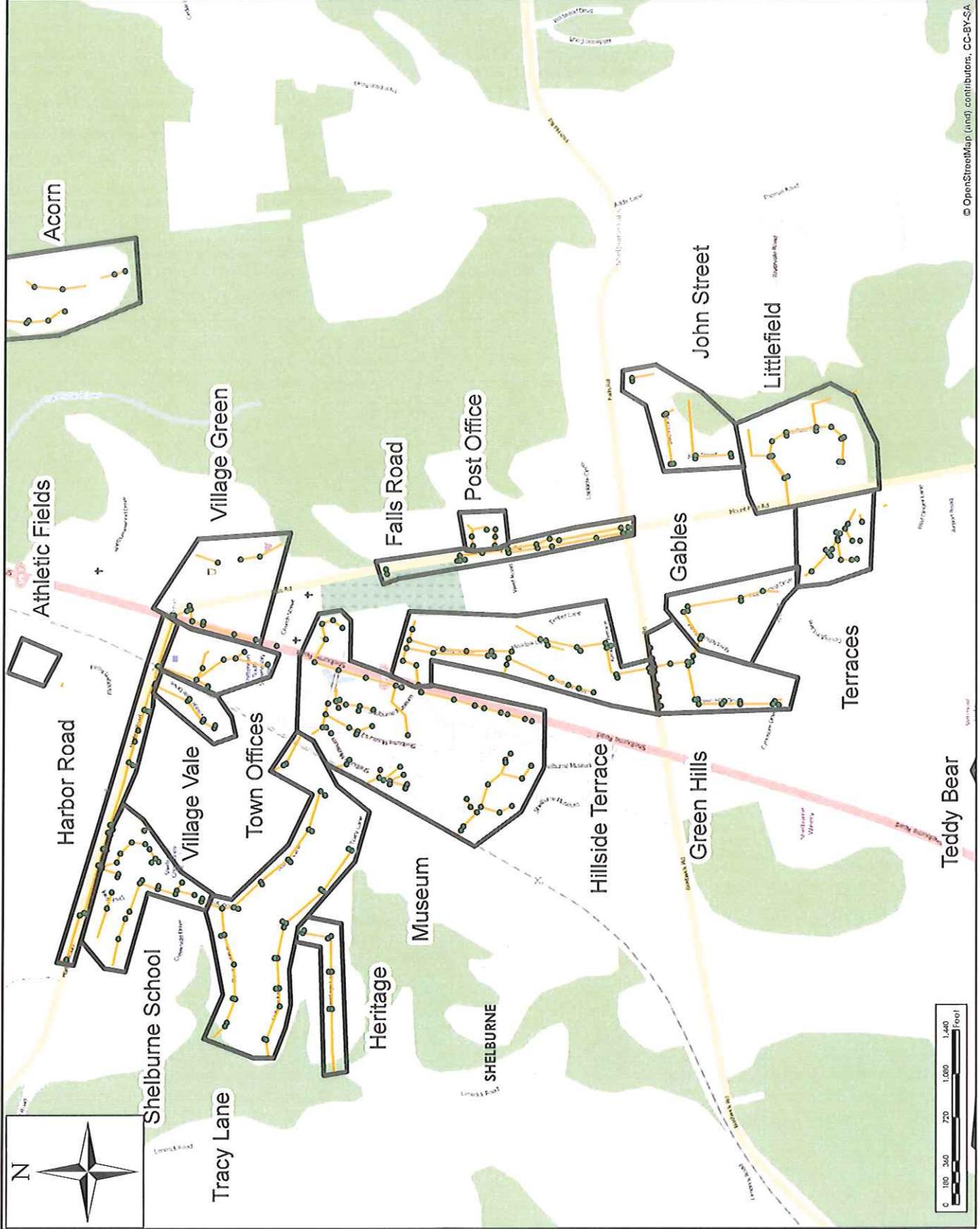
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Sources: Bing Aerial Photography (2012);
Streams by ANR (2012); Munroe Brook Watershed
by TCE (2014); Munroe Brook by ANR (2012);
Stormwater Formats by ANR (2013).

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inspectors and/or surveys by a registered surveyor.
This map is not a replacement for surveyed
information or engineering studies.

**Catch Basin Inventory
Shelburne, VT**

Project: 14-047
Prepared By: SMM
07/23/2014
NTS





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Project Location



Legend

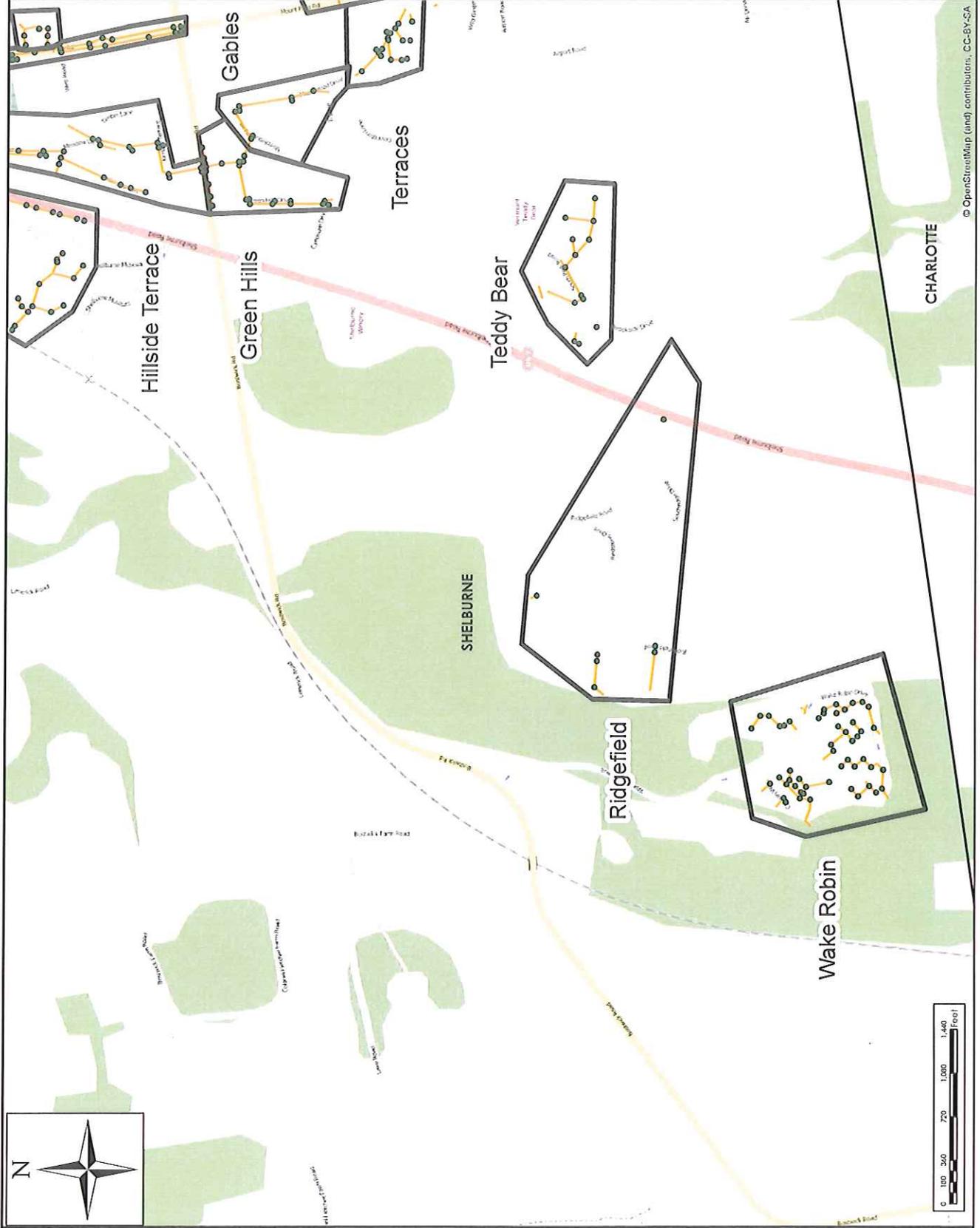
Notes

Sources: Bing Aerial Photography (2012);
Streams by ANR (2012); Muntac Brook Watershed
by TCE (2014); Muntac Brook by ANR (2012);
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inspection and/or a separate or additional surveyor.
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Catch Basin Inventory Shelburne, VT

Project: 14-047
Prepared By: SMM
07/23/2014
NTS



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