

Municipality/Organization: Town of Weston

EPA NPDES Permit Number: MAR041068

MaDEP Transmittal Number: W- 035252

**Annual Report Number
& Reporting Period:** No. 13: March 2015-March 2016

NPDES PII Small MS4 General Permit Annual Report

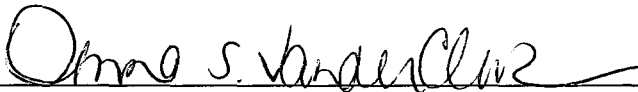
Part I. General Information

Contact Person: Stephen R. Fogg, P.E. **Title:** Town Engineer

Telephone #: 781-786-5115 **Email:** fogg.s@westonmass.org

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate 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, 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.

Signature: 

Printed Name: Donna VanderClock

Title: Town Manager

Date: April 29, 2016

Part II. Self-Assessment

The Town of Weston has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions, except for the following provisions:

BMP 1-7, Progress has been made, but Outreach to Private Ways, has only been partially completed. The Town Engineer has met with the Weston Roads Trust, which owns and manages several miles of private ways and their associated drainage systems.

BMP 2, Public Involvement and participation has increased from previous years, but additional public awareness and involvement would be preferred. Despite this, the passing of the Town of Weston Stormwater & Erosion Control By-law and Stormwater & Erosion Control Regulations has raised awareness levels in the building community, and for residents doing major home additions or other improvements that involve the creation of new impervious area.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (2015-2016) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 14 (2016-2017)
1-1	Flyer to residents	WCC(Weston Conservation Commission), BOH, and SWPA(Stormwater Permitting Authority)	Distribute to 75% of residents	Placed Flyers, postcards, & information on display at Town Hall and DPW And Updated Town Web Pages- Stormwater sections.	Additional flyers on Stormwater, Conservation & Wetlands, and Health Dept. Information
Revised	<i>Septic Info flyer to residents</i>	<i>BOH</i>	<i>On Town website</i>	<i>Completed</i>	<i>Continue distribution of new flyers to all residents</i>
1-2	Lesson Plan for Fifth Graders	WCC and SRF	Lesson plan taught	Lesson plan continuing in schools. Completed lesson and activity for 4 th and 5 th graders (360 students) on “Exploring Stormwater”.	Lesson Plan to continue for 4 th and 5 th graders.
Revised	<i>Plan to be taught in 4th grade</i>				
1-3	Media Campaign	WCC and SRF	Media packet given to press	Written Articles in newspaper about workshops held.	Stormwater education article in local media spots.
Revised					
1-4	Flyer to Businesses	SRF & RES	Distribute to 50% of businesses	Mailed 165 letters/flyers March 2013	Additional updates, memos, flyers to be sent.
Revised			<i>Distribute to 100 % of businesses</i>	<i>No additional letters.</i>	
1-5	Video	WCC and SRF	Show video at public meeting	Power point presentation at Spring Workshop	Continue workshop annually
Revised	<i>“Stormwater Matters Outreach and Participation Campaign”</i>	<i>SUASCO</i>	<i>Implement stormwater advertising campaign</i>	<i>Ad campaign displayed at informational meetings in spring 2011</i>	<i>Provide information to public including post cards, pamphlets, etc. available at Town buildings.</i>
1-6	High School Students involvement in stormwater outreach	SRF	Submit reports to school and to Town Engineer	Intern Students prepared ideas and plans for stormwater outreach	Continue with student involvement in stormwater outreach with new students

1a. Additions

1-7	Outreach to Private Ways	DPW	Develop and send correspondence to road trusts and private way owners about stormwater issues	Continued updates of road conditions to Roads Trust.	Follow up as necessary
<i>Revised</i>		<i>DPW</i>	<i>Private roads monitored as part of and during construction of Stormwater Management Permits projects.</i>	<i>Continued 2-Way Communication with Roads Trusts.</i>	<i>Continue to monitor roads and alert road trusts of conditions.</i>
1-8	Illicit Discharge Detection and Elimination By-Law	DPW, Stormwater Working Group	Hold public meeting to describe proposed bylaw and regulations	Completed in previous year	Revisit residential discharges to Town drainage systems.
1-9	Public Presentations	Conservation Agent	Make presentation to community groups about stormwater	Three classes taught to Env. Science students at Weston High School.	Continue as opportunities arise; possible library presentation
<i>Revised</i>	<i>Public workshop</i>	<i>BOH, WCC, SWPA, Bldg. Dept., Fire Dept.</i>	<i>Information workshop & presentation to Town residents</i>	<i>Home improvement workshop presented to public. Approx. 50 residents attended. Will air on local access cable</i>	<i>Continue annually</i>
1-10	Proposed by-law	Stormwater Working Group	Hold informational meetings and hearings on proposed stormwater and erosion control by-law	By-law adopted at 2011 Annual Town Meeting, May, 2011	Continued outreach and education around new by-law
<i>Revised</i>	<i>Amend/Update By-law</i>		<i>Revise some language in By-law</i>	<i>Amended By-Law, Approved at Town Meeting, May 2014</i>	<i>Update to Stormwater Regulations</i>
1-11	Stormwater talk to High School	SRF & WCC	High School biology class learned about stormwater pollution.	Class visited DPW for tour, and presentation on Stormwater to Environmental class, November, 2015	Classes to visit at least annually.
1-12	Science Fair with science demonstrations	SWPA, WCC	Students to learn about stormwater runoff and pollution	Science Fair held at Elementary School in 2014	Continue Science fair annually for Grades 4 and 5
1-13	Information provided to Town residents	BOH	Educate public on maintenance of wastewater systems	Information booths set up at Spring Fling and at Antique Car show events	Continue annually

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (2015-2016) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 14 (2016-2017)
2-1	Traveling Display	WCC and SWPA	Continuously on display at Town buildings & events	Updated Stormwater Display setup at DPW with flyers, pamphlets, and postcards.	Use display as opportunity arises. Display at Town Hall and/or other common area in Town.
<i>Revised</i>			Continuous display at DPW, except when traveling		
2-2	Poster contest (5 th grade)	SUASCO WCC and SRF	Hold contest	Contest held in previous years.	None
<i>Revised</i>					
2-3	Summit Event	SUASCO WCC and SRF	Hold local stormwater summit meeting	None	None
<i>Revised</i>					
2-4	Photo contest (High School)	SUASCO WCC and SRF	Hold contest	None	None – being considered for next permit cycle
<i>Revised</i>					
2-5	Super—summit event	SUASCO WCC and SRF	Participate in regional “super-summit”		
<i>Revised</i>	“Stormwater Matters Outreach and Participation Campaign”	SUASCO	Implement stormwater advertising campaign		
				Ad campaign displayed at informational meetings in spring, 2014-2015.	Continue to use displays at all relevant Town events.

2a. Additions

2-6	Stream team survey of Seaverns Brook	SRF and stream team	Complete survey	None	Provide GIS mapping and complete survey
<i>Revised</i>	Stream team survey of Hobbs Brook	Weston Girl Scouts	Complete survey	Survey completed, April 2008	

2-7	Catch basin stenciling program	SRF	Volunteer group(s) to install 180 storm drain markers in selected locations	completed in a previous year	Continue program to other areas of Town
2-8	Hazardous Waste Day	DPW	Provide safe location for residents to dispose of hazardous waste	Event held at DPW; 161 Cars participated compared with 200 in the prior year	Continue annually

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (2015-2016) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year14 (2016-2017)
3-1	Stormwater System Mapping	DPW	Complete mapping of stormwater system over a 3 year period	Additions to Town GIS system as time allows	Completion of stormwater system mapping using GPS to construct pipe network; link As-built plans to system.
3-2	Dry weather screening of outfalls	DPW	Visual inspection/report of known outfalls, 33% each year	Done in previous year	Continue to inspect outfalls and document changes from last inspection
<i>Revised</i>		<i>DPW</i>	<i>Create database and tracking system for outfall inspections.</i>	<i>Completed</i>	
3-3	Illicit Discharge Elimination	DPW, Board of Health	Trace non-stormwater flows and eliminate within 1 year	None	Sample flowing outfalls using IDDE protocol
3-4	Water Quality Monitoring	Cambridge Water Supply	Obtain and review results of regular monitoring	Water quality data summary from CWS - See Attachment A	Same as prior years; DPW to work closely with CWS(Cambridge Water Supply) on discharges that affect CWS waters
3-5	Amend Stormwater regulations	DPW	Amended regulations adopted at 2003 Annual town Meeting	Goal met	
<i>Revised</i>			<i>Amended regulations adopted at 2010 Annual Town Meeting</i>	<i>Goal met</i>	
<i>Revise-2</i>	<i>Amend/update Stormwater regulations</i>	<i>SWPA</i>	<i>Meetings/discussions to update stormwater regulations</i>	<i>Discussions ongoing</i>	<i>Updates planned for the Stormwater and Erosion Control Regulations</i>
3-6	Septic System Monitoring Program	Board of Health	Develop, implement and enforce septic pumping	BOH not planning to institute mandatory pumping	
.			System in place to identify frequent pumping	Database created and in use; frequent pumping locations are investigated	

3-7	Dechlorination of New Water Mains	DPW - Water Div.	Use dechlorination tablets when flushing new mains	New water mains installed in two streets, and were dechlorinated before flushing.	As needed
3-8	Trench Dewatering Policy	DPW	Require siltation control on all trench dewatering projects	Siltation control specified on all capital projects; controls used on DPW projects	As needed

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (2015-2016) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 14 (2016-2017)
4-1	Erosion and Sediment Control Bylaw	Stormwater Working Group	Develop, implement and enforce bylaw	By-law adopted at Town Meeting, May 2011 Stormwater Management Permits reviewed and approved; construction projects monitored & inspected.	Continue full implementation of by-law and regulations
<i>Revised</i>	<i>Implementation of by-law and regulations</i>	<i>Stormwater Permitting Authority(SWPA)</i>	<i>Update and clarify some By-law language</i>	<i>; Amended By-Law, Approved at Town Meeting, May 2014</i>	<i>Update Stormwater and Erosion Control Regulations</i>
4-2	Planning Board review of projects	Planning Board	All projects reviewed for compliance with runoff control measures	All applicants are required to demonstrate that they are addressing stormwater runoff control during construction	Same as prior years
4-3	Conservation Commission review of projects	Conservation Commission	All projects reviewed for compliance with runoff control measures	All applicants are required to demonstrate that they are addressing stormwater runoff control during construction	Same as prior years
4-4	Street Opening permit process	DPW	Inspections conducted for compliance with Stormwater Regulations	DPW inspector assigned to this task	Inspections documented and reported in annual report – continue this program.

4-5	Building Permit process	See 4-1	See 4-1	Stormwater Permit must be approved before Building permit is issued.	

4a. Additions

4-6	Stormwater Management Permit review of projects	SWPA	Review all applications; conduct site inspections	Reviewed 50 Stormwater Management Permit Applications. No site work can start until erosion control installed and inspected.	Review as needed
4-7	Inspection of erosion control for Demo permits	SWPA	Erosion controls inspected prior to demo of buildings	Erosion control to be installed adequately before Demo Permit issued	Continue to inspect erosion control

5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (2015-2016) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 14 (2016-2017)
5-1	Stormwater & Erosion Control By-law	DPW, SWPA	Same as control measure 4-1	Bylaw and regulations in place.	Monitor the progress of the new By-law.
Revised	<i>Implementation of by-law and regulations</i>	<i>Stormwater Permitting Authority(SWPA)</i>	<i>All projects meeting established thresholds of land disturbance required to obtain Stormwater Permit</i>	<i>Regulations and permit procedures in place November 2011; Site plan check list added to Application.</i>	<i>Same as prior years</i>
5-2	DPW Runoff Control Policy	See 5-1		No new additional stormwater runoff to streets allowed.	Continue to monitor projects.

5-3	Compliance with stormwater O&M plans under Con Com review	Conservation Commission	Ensure compliance with post-construction stormwater O&M Plans	Any project approved under the Con Com's jurisdiction which increases impervious surfaces by 2,000 s.f. or more must demonstrate that there will be no increase in the rate or volume (offsite) of the 100 year storm. Applicants are required to submit a stormwater O&M plan and annual inspection checklist for the first year after construction	Con Com will not issue a Cert. of Compliance until the Applicant has completed a post-construction stormwater structure(s) inspection and submitted a completed maintenance checklist

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (2015-2016) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 14 (2016-2017)
6-1	Street Sweeping	DPW	Sweep all public streets annually	All public streets swept at least once per year	Same as prior years
6-2	Catch Basin Cleaning	DPW	Clean all public catch basins annually	All public catch basins cleaned at least annually. Vacuumed Water quality units in town.	Same as prior years Vac. Water quality units annually.
6-3	Drainage Improvement Projects	DPW	Incorporate structural BMPs into each project	Completed roadway projects -North Ave. and Viles St.; Highland and Winter St.; Summer St.; Southside project , all with new drainage w/treatment units. Design & permitting of drainage with stormwater treatment for new roadway projects.	Construction of Old Colony Rd. drainage projects South side drainage project design (flood mitigation) 5 year capital plan to continue
6-4	DPW Housekeeping	DPW	Conduct environmental audit, implement recc.	Completed	none
<i>Revised</i>	<i>Environmental Management System</i>	<i>DPW</i>	<i>Develop and Implement Environmental Management System</i>	<i>Implementation of Stormwater Best Management Practices at new DPW facility opened February 2011</i>	<i>Update maintenance program. Continuing program</i>

6-5	Roadway De-icing Program	DPW	Install computerized spreader controls in previous year. Monitored salt usage	Continued to track usage to achieve optimal application rates. Application – Total - 2,772 tons of salt used.	Continue to seek optimal levels to achieve balance between public safety and environmental impact. Pre-wet as needed.
6-6	Waterway Maintenance	DPW	Clear waterways of debris, 3 year rotating basis	Notice of Intent filed with Conservation Commission for permit to do maintenance	Continuing project
<i>Revised</i>	<i>Ditch maintenance</i>	<i>East Middlesex Mosquito Control Project</i>	<i>Clear sediment from ditches</i>	<i>ditch clearing accomplished in one area</i>	<i>Identify and clean as time and budget allows</i>

6a. Additions

6-7	Employee Training Program	DPW	Provide all departments with training	Done for DPW staff as part of EMS program	
<i>Revised</i>	<i>Stormwater training</i>	<i>SRF & RES</i>	<i>Outside stormwater training</i>	<i>Completed</i>	<i>Continue training as available.</i>
6-8	New DPW Facility	DPW	Incorporate Green Building Design into project	Construction completed and building opened Feb. 2011	Implementation of Stormwater Best Management Practices at new DPW facility opened February 2011; Continue Maintenance Program of BMPs.
<i>Revised</i>	<i>DPW maintenance of drainage systems.</i>	<i>DPW</i>	<i>Maintenance of facility drainage</i>	<i>Cleaned all drainage structures</i>	<i>Continued annual maintenance; repairs as needed.</i>
6-9	Erosion repairs	DPW	Repair eroded slope at water tower-Cat Rock Hill	Completed-new soil added with slope reinforcement and grass planted	Monitor Town land for erosion issues and repair.
6-10	Septic System file organization and maintenance	Board of Health	Develop efficient monitoring system of Town septic systems	Digitize all septic as-built plans and Title 5 Inspection Reports	
6-11	New Town Police Station	SWPA & WCC	Project to incorporate Stormwater BMPs	Two rain gardens, infiltration systems, sed. tanks	Monitor and maintain systems.

Part IV. Summary of Information Collected and Analyzed

Attachment A - A summary of water quality monitoring results from Cambridge Water Supply (CWS) is included as Attachment A. Weston has received no notification of specific water

quality concerns from staff in the Watershed Protection Division of CWS. This agency has staff dedicated to monitoring water quality within the watershed on a daily basis.

Other

A tracking system was put in place in 2004 for private development stormwater BMPs that are reviewed and approved by the Town Engineer. This system was updated to incorporate the new Stormwater Permit provisions under the Stormwater and Erosion Control By-Law and Regulations. To date, approximately 530 projects have been reviewed.

The Stormwater Engineer reviews Stormwater Management Permit Applications for compliance with the Town of Weston Stormwater & Erosion Control By-Law and Regulations. 50 Stormwater Permit Applications were submitted and reviewed in 2015.

ATTACHMENT A

CAMBRIDGE WATER SUPPLY – WATER QUALITY MONITORING SUMMARY

2015 Surface Water Quality Data, Cambridge Watershed, Weston																					
Baseflow (no secondary tributary or stormwater samples in Weston, 2015)																					
SiteID	USGS ID	Date	Time	Water temp. (°C)	SpC (µS/cm)	DO (%Saturation)	DO (mg/L)	pH	Orp mV	Turbidity (NTU)	Salinity PSS	TDS mg/L	sample type	station	Air temp. (°F)	BP (mmHg)	Staff Height	Discharge (inst. cfs)	Comments	NH3 (mg/L)	TKN (mg/L)
SB@VILES	01104370	4/2/2015	10:30:15	1.80	329	91.1	12.78	7.11	149		0.15	210	1	1	35.24	767	1.68	45	Stream very full, high velocity flow	<0.050	0.47
SB@VILES	01104370	4/2/2015		1.80	329	91.1	12.78	7.11	149		0.15	210	1	1	35.24	767	1.68	45	FDUP	0.076	0.64
SB@VILES	01104370	6/18/2015	11:00:12	16.12	459	91.9	9.09	7.21	90		0.22	294	1	1	71.60	764	0.69			0.068	0.49
SB@VILES	01104370	7/14/2015	11:27:20	20.05	439.5	86.6	7.82	6.92	156		0.21	281	1	1	77.72	756	0.64	5		0.11	0.52
SB@VILES	01104370	8/18/2015	10:26:11	20.65	552	84.9	7.62	6.95	159		0.26	353	1	1	86.00	762	0.38	2	USGS taking flow measurement at site. NO2, NO3 analyzed by Premier	<0.050	0.44
SB@VILES	01104370	9/16/2015	11:03:26	16.48	553	91.7	9.04	7.19	102		0.26	354	1	1	80.42	768	0.36	2		0.098	0.34
SB@VILES	01104370	11/2/2015	10:58:38	9.28	445	86.1	9.89	6.93	187		0.21	284	1	1	62.42	761	0.63	4		0.130	0.49
RT 20	01104460	3/12/2015	10:48:52	2.07	897	87.6	12.13	7.24	104		0.43	573.7	1	1	35.96	765	5.48	20.00		0.190	0.62
RT 20	01104460	3/12/2015	10:48:52	2.07	897	87.6	12.13	7.24	104		0.43	573.7	1	1	35.96	765	5.48	20.00	FDUP	0.200	0.49
RT 20	01104460	5/7/2015	10:13:52	15.13	673	91.3	9.25	7.17	88		0.32	430.5	1	1	76.10	767	5.26	21.00	NO2/NO3 analyzed by premier	0.14	0.54
RT 20	01104460	7/7/2015	10:27:15	21.32	813	89.8	7.98	6.88	119		0.39	520.5	1	1	78.08	764	5.18	19.00		0.09	0.44
RT 20	01104460	7/29/2015	11:08:57	23.62	877	90.6	7.67	7.08	108		0.43	560.9	1	1	89.06	760	5.48	35.00		0.13	0.38
RT 20	01104460	9/9/2015	10:53:39	24.68	919	92.2	7.63	7.16	115		0.45	587.9	1	1	85.10	759	5.44	32.00	Discharge from USGS	0.074	0.28
RT 20	01104460	10/27/2015	10:27:02	8.86	875	90.8	10.73	7.34	67		0.43	560.1	1	1	45.68	776	5.18	18.00		0.081	0.41
RT 20	01104460	10/27/2015	10:27:02	8.86	875	90.8	10.73	7.34	67		0.43	560.1	1	1	45.68	776	5.18	18.00	FDUP	0.082	0.31
SUMMER ST	01104475	3/12/2015	11:18:56	3.00	476	94.2	12.75	7.52	139		0.22	304.6	1	1	36.3	765	0.66	1.90		0.20	0.760
SUMMER ST	01104475	5/7/2015	10:31:27	14.96	408	98.5	10.02	7.50	140		0.19	261.0	1	1	77.7	767	0.52	0.92	NO2/NO3 analyzed by premier	0.085	0.530
SUMMER ST	01104475	7/7/2015	10:50:21	17.41	426	97.1	9.35	7.27	154		0.20	272.8	1	1	80.2	764	0.34	0.18		0.17	0.37
SUMMER ST	01104475	7/7/2015	10:50:21	17.41	426	97.1	9.35	7.27	154		0.20	272.8	1	1	80.2	764	0.34	0.18	FDUP	0.16	0.51
SUMMER ST	01104475	7/29/2015	11:37:01	18.03	401	96.0	9.07	7.36	162		0.19	256.9	1	1	89.96	760	0.26	0.04		0.110	0.20
SUMMER ST	01104475	9/9/2015	11:15:44	18.86	389	96.4	8.95	7.54	173		0.18	248.60	1	1	86.4	759	0.24	0.12	Discharge from USGS continuous	<0.05	0.40
SUMMER ST	01104475	10/27/2015	10:49:01	7.77	367	92.9	11.29	7.47	137		0.17	235	1	1	46.0	776	0.28	0.18	Sample diluted by Premier due to higher Nitrate	0.10	0.48
MBS	01104453	4/2/2015	10:51:44	4.64	678.3	79.5	10.33	6.77	179		0.32	434.1	1	1	40.35	767	96.54	5.6		0.110	0.460
MBS	01104453	6/18/2015	11:37:20	20.02	731	27.00	2.47	6.53	69		0.35	467.60	1	1	73.8	764	96.32	1.3	Kim from USGS was on site, pulling samples as well. Would be good to get data for comparison	0.074	0.650
MBS	01104453	7/14/2015	11:54:46	23.3	714.3	2.2	0.19	6.13	11		0.34	457.10	1	1	76.8	756	96.44	4.0	Light rain while sampling, intermittent	0.18	0.66
MBS	01104453	7/14/2015	11:54:46	23.3	714.3	2.2	0.19	6.13	11		0.34	457.10	1	1	76.8	756	96.44	4.0	FDUP	0.18	0.66
MBS	01104453	8/18/2015	10:52:11	24.44	779	1.00	0.08	6	32		0.38	498.60	1	1	87.3	762	96.45	4.1	Discharge from USGS instantaneous. NO2, NO3 analyzed by Premier	0.054	0.670
MBS	01104453	9/16/2015	11:38:52	20.03	782	15.30	1.40	7	93		0.38	500.30	1	1	81.1	768	96.49	0.0	Water fairly stagnant	0.120	0.660
MBS	01104453	9/16/2015	11:38:52	20.03	782	15.30	1.40	7	93		0.38	500.30	1	1	81.1	768	96.49	0.0	FDUP	0.093	0.560
MBS	01104453	11/2/2015	11:23:03	10.67	674	78.00	8.66	7	184		0.32	431.00	1	1	63.14	761	97.02	13.0		0.089	0.520
HB@KG	01104440	4/16/2015	10:18:25	9.60	1008	96.8	11.19	7.42	140		0.5	645.7	1	1	55.9	773	1.56	1.27	Discharge measured later in the day using flow tracker	0.170	0.41
HB@KG	01104440	6/25/2015	10:27:34	19.90	763.6	87.3	7.96	7.11	184		0.37	488.7	1	1	76.1	762	1.09	9.49	Discharge measured later in the day using flow tracker	0.120	0.55
HB@KG	01104440	7/22/2015	11:04:18	24.08	899.4	93.3	7.73	7.23	136		0.44	575.6	1	1	77.4	751	1.86	18.00	High flow! Discharge estimated using 2012 Rating curve. NO2 NO3 analyzed by Premier	0.094	0.31
HB@KG	01104440	7/22/2015	11:04:18	24.08	899.4	93.3	7.73	7.23	136		0.44	575.6	1	1	77.4	751	1.86	18.00	FDUP	0.070	0.32
HB@KG	01104440	9/1/2015	10:35:30	24.00	914.5	93.0	7.82	7.18	128		0.45	585.2	1	1	78.8	761	1.80	16.20	High flow! Discharge estimated using 2012 Rating curve	0.060	0.390
HB@KG	01104440	11/10/2015	10:22:07	10.14	899.7	96.2	10.91	7.33	150		0.44	575.8	1	1	49.1	768	1.71	10.41	Discharge measured using flowtracker at time of sampling, rating curve suggests 13.6cfs	0.072	0.28
HB@KG	01104440	12/21/2015	10:31:46	3.97	862.8	104.5	13.81	7.59	98.8		0.42	552.2	1	1	46.04	768	1.28	5.20	HB @ KG, low water level	0.06	0.33
INDUST BROOK	01104433	4/16/2015	10:01:18	9.94	3071	93.2	10.61	6.9	74		1.6	1965			55.22	773	0.80	0.23	Discharge estimated from rating curve	0.28	0.62
INDUST BROOK	01104433	4/16/2015	10:01:18	9.94	3071	93.2	10.61	6.9	74		1.6	1965			55.22	773	0.80	0.23	FDUP	0.29	0.58
INDUST BROOK	01104433	6/25/2015	9:59:02	18.89	2026	64.10	5.94	6.88	48		1.03	1297	1	1	75.02	762	0.70	0.088	Low flow, Discharge estimated by Rating Curve	0.40	0.86
INDUST BROOK	01104433	7/22/2015	10:37:33	20.99	2308	61.80	5.40	6.84	58		1.18	1477	1	1	76.64	751	0.70	0.088	Discharge estimated with 2012 rating curve. NO2 NO3 analyzed by Premier	0.56	0.76
INDUST BROOK	01104433	9/1/2015	10:07:08	20.03	1881	63.40	5.73	6.90	49		0.95	1203.0	1	1	77.54	761	0.70	0.088	Discharge estimated from 2012 rating curve. Water main break in Waltham 8/31, water discharged to Industrial Brook	0.31	0.74
INDUST BROOK	01104433	11/10/2015	9:59:16	7.57	2302	38.90	4.67	7.02	27		1.18	1473.0	1	1	47.84	768	0.62	0.03	Iron oxidizing bacteria very prevalent-seidment orange with oily sheen on water	0.25	0.52
INDUST BROOK	01104433	11/10/2015	9:59:16	7.57	2302	38.90	4.67	7.02	27		1.18	1473.0	1	1	47.84	768	0.62	0.03	FDUP	0.23	0.47
INDUST BROOK	01104433	12/21/2015	10:12:50	4.78	1450	78.90	10.19	7.23	37.3		0.72	928.3	1	1	45.86	768	0.74	0.136	Industrial Brook	0.45	0.64

2015 Surface Water Quality Data, Car																							
Baseflow (no secondary tributary or s							Conductivi ty (umhos/c m)																
SiteID	USGS ID	Total Phos. (mg/L)	Ortho Phos. (mg/L)	Ca (mg/L)	Cl (mg/L)	Color (CU)		E-Coli (MPN)	Mn (mg/L)	NO3 (mg/L)	NO2 (mg/L)	Lab pH	Na (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L CaCO3)	Total Al (mg/L)	Total Coliform (MPN)	Total Fe (mg/L)	Lab Turbidity (NTU)	UV254 (abs)			Fecal Coliform (CFU/100 ml)
SB@VILES	01104370	0.011		18.2	75.2	34	332	18	0.041	0.797	<0.004	6.93	38.1	5	20	0.067	280	0.245	0.75	0.226			
SB@VILES	01104370	<0.01		17.6	75	35	330	34	0.04	0.763	<0.004	6.94	36.8	5.1	20	0.065	180	0.236	0.75	0.232			
SB@VILES	01104370	0.028		26	116	40	458	84	0.057	0.941	0.004	7.33	44.0	5.2	29.5	0.028	2400	0.598	1.27	0.263			
SB@VILES	01104370	0.04		24.70	107	41	415	122	0.066	0.74	< 0.005	7.29	51.40	5.6	31	0.034	2420	0.514	1.23	0.297			
SB@VILES	01104370	0.020		30.7	132	18	516	166	0.049	1.5	<0.010	7.22	72.0	3	35.0	0.0093	2420	0.32	0.58	0.14			
SB@VILES	01104370	0.011		32.20	138	13	563	62	0.03	1.63	0.04	7.23	72.10	2.4	33	0.002	2420	0.226	0.51	0.102			
SB@VILES	01104370	0.012		27.21171	102.4	32	417	15	0.011	0.607	< 0.00	7.06	51.35733	7.0	31	0.011	687	0.28	0.508	0.239			
RT 20	01104460	0.017		34	246	27	829	150	0.27	0.818	0.005	7.17	154	3.1	30	0.12	630	0.68	1.85	0.162			
RT 20	01104460	0.017		36	248	27	794	62	0.29	0.848	0.007	7.13	160	3.2	28.5	0.13	820	0.71	1.82	0.163			
RT 20	01104460	0.018		36.4	177	34	743	150	0.231	0.76	<0.010	7.53	109	4.1	32.5	0.084	2400	0.78	1.22	0.218			
RT 20	01104460	0.02		28.6	227.0	24	769	64	0.237	0.24	< 0.005	7.24	123.0	3	30.5	0.049	2420	0.735	1.14	0.164			
RT 20	01104460	0.018		28.6	234	17	843	185	0.206	0.08	< 0.005	7.33	129	2.4	37.5	0.06	2420	0.6	1.03	0.125			
RT 20	01104460	0.021		27.0	251.0	11	880	64	0.189	0.06	< 0.005	7.53	147.0	2.6	28.5	0.03147	>2419.6	0.475	0.95	0.097			
RT 20	01104460	0.014		32.3	242.0	11	788	18	0.117	0.11	< 0.005	7.4	156.0	2.1	28.5	0.001	980	0.425	0.59	0.094			
RT 20	01104460	0.017		32.2	243.0	12	798	25	0.114	0.14	< 0.005	7.25	155.0	2.7	28.5	0.007	770	0.47	0.59	0.094			
SUMMER ST	01104475	0.021		26	105	24	431	150	0.087	1.38	0.009	7.52	66	4.0	31.5	0.16	630	0.42	1.42	0.145			
SUMMER ST	01104475	0.018		25.6	86.5	14	448	34	0.087	1.100	<0.010	7.65	50.1	2.9	35	0.01	2400	0.417	0.76	0.098			
SUMMER ST	01104475	0.03		23.4	86.1	10	401	88	0.064	1.57	< 0.005	7.68	51.6	2.3	38.5	0.07505	2420	0.305	0.45	0.085			
SUMMER ST	01104475	0.03		24.2	86.3	10	402	57	0.077	1.6	< 0.005	7.62	53.5	2.3	39.5	0.08665	2420	0.334	0.47	0.084			
SUMMER ST	01104475	0.013		21.4	81.1	7	383	23	0.045	2.1	< 0.005	7.9	48.6	1.8	37	0.063	2420	0.165	1.05	0.064			
SUMMER ST	01104475	0.017		19.8	73.2	7	375	108.1	0.011	2.2	< 0.005	7.9	49.0	2.1	41.5	0.01314	>2419.6	0.085	0.36	0.062			
SUMMER ST	01104475	0.01		24.1	69.7	10	330	17	0.006	2.01	< 0.005	7.9	48.1	2.7	45.5	< 0.0005	866	0.375	0.23	0.085			
MBS	01104453	<0.010		23	185	45	691	7.4	0.086	1.11	0.004	6.73	116	5.4	19.5	0.1	440	0.382	1.38	0.284			
MBS	01104453	0.035		22.6	202	77	719	49	0.087	0.024	<0.004	6.68	101.0	7.8	30.5	0.037	2400	0.678	1.43	0.441			
MBS	01104453	0.03		25.4	200.0	64	673	53	0.134	0.03	< 0.005	6.69	106.0		35	0.017	2420	0.473	1.18	0.412			
MBS	01104453	0.03		24.4	186.0	66	676	105	0.129	0.01	< 0.005	6.66	103.0	7	35	0.014	2420	0.425	0.99	0.42			
MBS	01104453	0.038		57.8	201.0	66	728	299	0.454	<0.010	<0.010	6.54	226.0	7.4	45	0.285	2420.0	2.630	2.8	0.385			
MBS	01104453	0.021		28.4	205.0	45	784	70	0.124	< 0.00	0.04	6.78	114.0	5.7	44.5	0.034	1730	0.415	1.35	0.302			
MBS	01104453	0.028		27.6	209.0	45	781	86	0.124	0.02	6.02	6.72	113.0	5.8	43.5	0.168	1200	0.719	1.34	0.304			
MBS	01104453	0.016		37.6	172	49	637	12.2	0.210	0.093	< 0.00	6.79	103.7	7.90	33.5	0.249	548	12.406	1.12	0.33			
HB@KG	01104440	0.018		31.3	941	16	1040	1	0.352	0.931	0.009	7.3	146	2.4	26.5	0.095	520	0.552	1.18	0.11			
HB@KG	01104440	0.026		25.80	209	26	766	210	0.42	0.307	0.080	7.28	107	3.60	29.0	0.087	2400	0.68	1.03	0.177			
HB@KG	01104440	0.011		27.30	242	16	866	38	0.205	<0.050	<0.010	7.72	136.0	2.3	25	0.047	>2419.6	0.414	1.68	0.118			
HB@KG	01104440	0.014		27.40	256	16	858	33	0.174	<0.050	<0.010	7.26	134.0	2.3	27	0.038	2420	0.375	1.1	0.116			
HB@KG	01104440	0.02		26.50	250	14	892	34.1	0.285	0.03	< 0.005	7.69	141	2.5	28	0.0651	2420	0.555	0.82	0.103			
HB@KG	01104440	0.010		28.60	254	8	813	17	0.054	0.058	<0.010	7.43	146	2.9	26	0.01	1550	0.203	0.58	0.081			
HB@KG	01104440	0.02		29.09	236	14	758	9	0.23	0.125	0.000	7.49	123	2.20	26.5	0.12	517	0.58	1.51	0.096			
INDUST BROOK	01104433	0.038		117	154	26	3180	20	0.79	2.58	<0.004	7.02	522	1.50	57.5	0.216	1700	1.98	3.93	0.012			
INDUST BROOK	01104433	0.035		117	282	26	3180	15	0.782	0.775	<0.004	7.11	518	1.50	55	0.115	2400	1.58	3.76	0.123			
INDUST BROOK	01104433	0.029		74.30	607	34	2060	130	0.615	0.714	0.046	7.11	296	2	61.5	0.20	2400	1.58	4.80	0.163			
INDUST BROOK	01104433	0.033		85.2	665	25	2260	866	0.596	0.39	0.04	7.24	317	1.7	61	0.035	>2419.6	0.794	3.62	0.144			
INDUST BROOK	01104433	0.046		72.8	515	36	1850	201.4	0.294	0.39	0.03	7.49	309.0	1.7	66	0.332	>2419.6	1.58	6.42	0.131			
INDUST BROOK	01104433	0.041		104.00	666	39	2020	52	1.12	0.068	<0.010	6.94	355	2.7	94.5	0.02859	2850	4.86	9.58	0.175			
INDUST BROOK	01104433	0.057		107.00	652	40	2100	86	1.17	0.120	<0.010	7.06	364	2.6	94	0.02153	4880	4.62	7.56	0.177			
INDUST BROOK	01104433	0.042		70.18	391	27	1353	13.2	1.096	0.178	0.020	7.01	222	1.9	77.5	0.07674	1986.3	4.12	3.77	0.190			

2015 Surface Water Quality Data, Cambridge Watershed, Weston																					
Baseflow (no secondary tributary or stormwater samples in Weston, 2015)																					
SiteID	USGS ID	Date	Time	Water temp. (°C)	SpC (µS/cm)	DO (%Saturation)	DO (mg/L)	pH	Orp mV	Turbidity (NTU)	Salinity PSS	TDS mg/L	sample type	station	Air temp. (°F)	BP (mmHg)	Staff Height	Discharge (inst. cfs)	Comments	NH3 (mg/L)	TKN (mg/L)
SB@VILES	01104370	4/2/2015	10:30:15	1.80	329	91.1	12.78	7.11	149		0.15	210	1	1	35.24	767	1.68	45	Stream very full, high velocity flow	<0.050	0.47
SB@VILES	01104370	4/2/2015		1.80	329	91.1	12.78	7.11	149		0.15	210	1	1	35.24	767	1.68	45	FDUP	0.076	0.64
SB@VILES	01104370	6/18/2015	11:00:12	16.12	459	91.9	9.09	7.21	90		0.22	294	1	1	71.60	764	0.69			0.068	0.49
SB@VILES	01104370	7/14/2015	11:27:20	20.05	439.5	86.6	7.82	6.92	156		0.21	281	1	1	77.72	756	0.64	5		0.11	0.52
SB@VILES	01104370	8/18/2015	10:26:11	20.65	552	84.9	7.62	6.95	159		0.26	353	1	1	86.00	762	0.38	2	USGS taking flow measurement at site. NO2, NO3 analyzed by Premier	<0.050	0.44
SB@VILES	01104370	9/16/2015	11:03:26	16.48	553	91.7	9.04	7.19	102		0.26	354	1	1	80.42	768	0.36	2		0.098	0.34
SB@VILES	01104370	11/2/2015	10:58:38	9.28	445	86.1	9.89	6.93	187		0.21	284	1	1	62.42	761	0.63	4		0.130	0.49
RT 20	01104460	3/12/2015	10:48:52	2.07	897	87.6	12.13	7.24	104		0.43	573.7	1	1	35.96	765	5.48	20.00		0.190	0.62
RT 20	01104460	3/12/2015	10:48:52	2.07	897	87.6	12.13	7.24	104		0.43	573.7	1	1	35.96	765	5.48	20.00	FDUP	0.200	0.49
RT 20	01104460	5/7/2015	10:13:52	15.13	673	91.3	9.25	7.17	88		0.32	430.5	1	1	76.10	767	5.26	21.00	NO2/NO3 analyzed by premier	0.14	0.54
RT 20	01104460	7/7/2015	10:27:15	21.32	813	89.8	7.98	6.88	119		0.39	520.5	1	1	78.08	764	5.18	19.00		0.09	0.44
RT 20	01104460	7/29/2015	11:08:57	23.62	877	90.6	7.67	7.08	108		0.43	560.9	1	1	89.06	760	5.48	35.00		0.13	0.38
RT 20	01104460	9/9/2015	10:53:39	24.68	919	92.2	7.63	7.16	115		0.45	587.9	1	1	85.10	759	5.44	32.00	Discharge from USGS	0.074	0.28
RT 20	01104460	10/27/2015	10:27:02	8.86	875	90.8	10.73	7.34	67		0.43	560.1	1	1	45.68	776	5.18	18.00		0.081	0.41
RT 20	01104460	10/27/2015	10:27:02	8.86	875	90.8	10.73	7.34	67		0.43	560.1	1	1	45.68	776	5.18	18.00	FDUP	0.082	0.31
SUMMER ST	01104475	3/12/2015	11:18:56	3.00	476	94.2	12.75	7.52	139		0.22	304.6	1	1	36.3	765	0.66	1.90		0.20	0.760
SUMMER ST	01104475	5/7/2015	10:31:27	14.96	408	98.5	10.02	7.50	140		0.19	261.0	1	1	77.7	767	0.52	0.92	NO2/NO3 analyzed by premier	0.085	0.530
SUMMER ST	01104475	7/7/2015	10:50:21	17.41	426	97.1	9.35	7.27	154		0.20	272.8	1	1	80.2	764	0.34	0.18		0.17	0.37
SUMMER ST	01104475	7/7/2015	10:50:21	17.41	426	97.1	9.35	7.27	154		0.20	272.8	1	1	80.2	764	0.34	0.18	FDUP	0.16	0.51
SUMMER ST	01104475	7/29/2015	11:37:01	18.03	401	96.0	9.07	7.36	162		0.19	256.9	1	1	89.96	760	0.26	0.04		0.110	0.20
SUMMER ST	01104475	9/9/2015	11:15:44	18.86	389	96.4	8.95	7.54	173		0.18	248.60	1	1	86.4	759	0.24	0.12	Discharge from USGS continuous	<0.05	0.40
SUMMER ST	01104475	10/27/2015	10:49:01	7.77	367	92.9	11.29	7.47	137		0.17	235	1	1	46.0	776	0.28	0.18	Sample diluted by Premier due to higher Nitrate	0.10	0.48
MBS	01104453	4/2/2015	10:51:44	4.64	678.3	79.5	10.33	6.77	179		0.32	434.1	1	1	40.35	767	96.54	5.6		0.110	0.460
MBS	01104453	6/18/2015	11:37:20	20.02	731	27.00	2.47	6.53	69		0.35	467.60	1	1	73.8	764	96.32	1.3	Kim from USGS was on site, pulling samples as well. Would be good to get data for comparison	0.074	0.650
MBS	01104453	7/14/2015	11:54:46	23.3	714.3	2.2	0.19	6.13	11		0.34	457.10	1	1	76.8	756	96.44	4.0	Light rain while sampling, intermittent	0.18	0.66
MBS	01104453	7/14/2015	11:54:46	23.3	714.3	2.2	0.19	6.13	11		0.34	457.10	1	1	76.8	756	96.44	4.0	FDUP	0.18	0.66
MBS	01104453	8/18/2015	10:52:11	24.44	779	1.00	0.08	6	32		0.38	498.60	1	1	87.3	762	96.45	4.1	Discharge from USGS instantaneous. NO2, NO3 analyzed by Premier	0.054	0.670
MBS	01104453	9/16/2015	11:38:52	20.03	782	15.30	1.40	7	93		0.38	500.30	1	1	81.1	768	96.49	0.0	Water fairly stagnant	0.120	0.660
MBS	01104453	9/16/2015	11:38:52	20.03	782	15.30	1.40	7	93		0.38	500.30	1	1	81.1	768	96.49	0.0	FDUP	0.093	0.560
MBS	01104453	11/2/2015	11:23:03	10.67	674	78.00	8.66	7	184		0.32	431.00	1	1	63.14	761	97.02	13.0		0.089	0.520
HB@KG	01104440	4/16/2015	10:18:25	9.60	1008	96.8	11.19	7.42	140		0.5	645.7	1	1	55.9	773	1.56	1.27	Discharge measured later in the day using flow tracker	0.170	0.41
HB@KG	01104440	6/25/2015	10:27:34	19.90	763.6	87.3	7.96	7.11	184		0.37	488.7	1	1	76.1	762	1.09	9.49	Discharge measured later in the day using flow tracker	0.120	0.55
HB@KG	01104440	7/22/2015	11:04:18	24.08	899.4	93.3	7.73	7.23	136		0.44	575.6	1	1	77.4	751	1.86	18.00	High flow! Discharge estimated using 2012 Rating curve. NO2 NO3 analyzed by Premier	0.094	0.31
HB@KG	01104440	7/22/2015	11:04:18	24.08	899.4	93.3	7.73	7.23	136		0.44	575.6	1	1	77.4	751	1.86	18.00	FDUP	0.070	0.32
HB@KG	01104440	9/1/2015	10:35:30	24.00	914.5	93.0	7.82	7.18	128		0.45	585.2	1	1	78.8	761	1.80	16.20	High flow! Discharge estimated using 2012 Rating curve	0.060	0.390
HB@KG	01104440	11/10/2015	10:22:07	10.14	899.7	96.2	10.91	7.33	150		0.44	575.8	1	1	49.1	768	1.71	10.41	Discharge measured using flowtracker at time of sampling, rating curve suggests 13.6cfs	0.072	0.28
HB@KG	01104440	12/21/2015	10:31:46	3.97	862.8	104.5	13.81	7.59	98.8		0.42	552.2	1	1	46.04	768	1.28	5.20	HB @ KG, low water level	0.06	0.33
INDUST BROOK	01104433	4/16/2015	10:01:18	9.94	3071	93.2	10.61	6.9	74		1.6	1965			55.22	773	0.80	0.23	Discharge estimated from rating curve	0.28	0.62
INDUST BROOK	01104433	4/16/2015	10:01:18	9.94	3071	93.2	10.61	6.9	74		1.6	1965			55.22	773	0.80	0.23	FDUP	0.29	0.58
INDUST BROOK	01104433	6/25/2015	9:59:02	18.89	2026	64.10	5.94	6.88	48		1.03	1297	1	1	75.02	762	0.70	0.088	Low flow, Discharge estimated by Rating Curve	0.40	0.86
INDUST BROOK	01104433	7/22/2015	10:37:33	20.99	2308	61.80	5.40	6.84	58		1.18	1477	1	1	76.64	751	0.70	0.088	Discharge estimated with 2012 rating curve. NO2 NO3 analyzed by Premier	0.56	0.76
INDUST BROOK	01104433	9/1/2015	10:07:08	20.03	1881	63.40	5.73	6.90	49		0.95	1203.0	1	1	77.54	761	0.70	0.088	Discharge estimated from 2012 rating curve. Water main break in Waltham 8/31, water discharged to Industrial Brook	0.31	0.74
INDUST BROOK	01104433	11/10/2015	9:59:16	7.57	2302	38.90	4.67	7.02	27		1.18	1473.0	1	1	47.84	768	0.62	0.03	Iron oxidizing bacteria very prevalent-seidment orange with oily sheen on water	0.25	0.52
INDUST BROOK	01104433	11/10/2015	9:59:16	7.57	2302	38.90	4.67	7.02	27		1.18	1473.0	1	1	47.84	768	0.62	0.03	FDUP	0.23	0.47
INDUST BROOK	01104433	12/21/2015	10:12:50	4.78	1450	78.90	10.19	7.23	37.3		0.72	928.3	1	1	45.86	768	0.74	0.136	Industrial Brook	0.45	0.64

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