

Municipality/Organization: Southwick
EPA NPDES Permit Number: MAR041022
MassDEP Transmittal Number: W-045481
Annual Report Number Year 13
& Reporting Period: April 1, 2015 – March 31, 2016

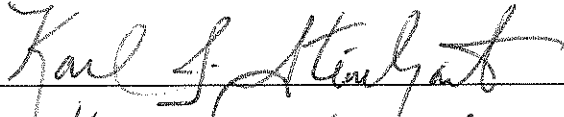
NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2016)

Part I. General Information

Contact Person: Karl Stinehart Title: Chief Administrative Officer
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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: KARL J. STINEHART
Title: C. A. O.
Date: 4/26/16

Part II. Self-Assessment

The Town of Southwick has completed the required self-assessment and has determined that our municipality is in compliance with our Stormwater Management Program and permit conditions. The Town has mapped outfall locations throughout the Town as well as implemented Cartographic mapping for the Town. In 2014, the Town revised its 2012 plan to implement VUEWorks and contracted with Tighe & Bond to host a custom web-based product for work and asset management due to the major increase in VUEWorks licenses and annual fees for maintaining same. Southwick is currently mapping additional stormwater infrastructure such as catch basins to address future permitting requirements. Southwick continues to publicize stormwater-related issues and encourages active participation by townspeople in addressing pollution and stormwater issues. The Town adopted by-laws that address the NPDES requirements while considering the existing regulations and procedures that address stormwater management at the March 15, 2008 and March 16, 2009 Town Meetings. The Southwick Stormwater and Floor Drain Bylaws and the Illicit Connection Bylaw were approved by Town voters at the March 15, 2008 Town Meeting. The Public Sewer Connections Bylaw was adopted May 12, 2003. The Sanitary Sewer Regulations were adopted on January 15, 2009, which also include specific stormwater prohibition provisions. The Construction and Post-Construction Bylaws were approved by Town voters at the March 16, 2009 Town Meeting. The Town actively enforces these by-laws. The final section of the sewer interceptor was completed in 2014, allowing Southwick to increase its flow to 500,000 GPD from the 175,000 GPD cap. Plans are underway to collect the Southwick Regional School District to the municipal collection system. Southwick is in the process of identifying other neighborhoods that could benefit from a sewer expansion project. The factors being considered include housing density, age, small lots, high water table, numerous septic system failures, proximity to the lakes and aquifer, and economic development. The Town continues to seek funding to improve the water quality of Congamond Ponds and to improve stormwater management.

Acronyms Used in the Following Pages:

BOS = Board of Selectmen

Con Com = Conservation Commission

CRC = Citizens Restoring Congamond

DPW = Department of Public Works

LMC = Lake Management Committee

PB = Planning Board

PRC = Parks & Recreation Commission

PVPC = Pioneer Valley Planning Commission

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 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1A	Classroom Education	School District	Incorporate Water Quality into curriculum	Program dropped due to school funding cuts.	Continue to seek support for funding to restore school program.
Revised					
1B	Westfield Evening News	Con Com / BOS	Publish stormwater / water quality information 1x/year	Drinking water results are published annually.	Publish stormwater / water quality information once per year.
Revised					
1C	Newspaper Press Releases	BOS	Publish stormwater / water quality information 2x/year	Newspaper articles published on Town Clean-up Day, Drug Take Back Day, Annual Lake Clean-up, sewer system expansion and installation progress and on-going drainage projects.	Publish stormwater / water quality information twice per year.
Revised					
1D	Local Cable Access	BOS	Post stormwater / water quality information 2x/year	Taped and televised re-runs of “Town Cleanup” and “Annual Lake Cleanup” Please refer to BMP 2C.	Post stormwater / water quality information twice per year.
Revised					
1E	Lakeside Kiosks	LMC	Post stormwater / water quality information 2x / year	Handout information on exotic species to boaters launching at two State Boat Ramps. Also, “No Weeds In / No	Post stormwater / water quality information twice per year.

Revised				Weeds Out” and “Do not feed waterfowl” signs posted at boat ramps. A Visitor Information Center is also present to provide information to the general public. Applicable Town Bylaw and CMR information is also posted on a kiosk at the North Boat Ramp.	
1F	Community Website	BOS	Post stormwater / water quality information 2x / year	CRC and Commonwealth of Massachusetts websites are linked through the Town’s website; LMC, Con Com and Community Preservation Committee also have pages on the Town website. The DPW webpage also includes information on Highway Division activities including catch basin repairs and cleaning, street sweeping and roadside cleanup. Town Cleanup Day was publicized on the Town website. These pages will continue to be expanded to include more stormwater information as the program develops.	Post stormwater / water quality information twice per year.
Revised					

1a. Additions

1G	CT River Stormwater Committee	DPW/PVPC	Participate in regional stormwater committee	The Town continued its active membership in the CT River Stormwater Committee that is chaired by Patty Gambarini at PVPC (see attached annual report).	Continue active participation in CT River Stormwater Committee.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities
2A	Wetland Clean-Up	Southwick Rotary / Con Com	Support interested groups with trash pickup.	During 2015, the Southwick Rotary sponsored three highway clean-ups along College Highway, averaging 10 participants per cleanup. A total of 52 bags of trash were cleaned up from the roadside. All trash collected was disposed of at the transfer station. The 2015 Green & Clean Day was held on 4/26/2015 and 25 volunteers focused on Coes Hill Road (1.5 mi) and adjacent wetlands. Some 25 volunteers netted ~15 cubic yards of general trash, tires, of roofing shingles, scrap metal, and other roadside litter.	Continue to support interested groups by collecting trash bagged by participants.
Revised					
2B	Student Water Quality Monitoring	School Department	Conduct water quality sampling and analysis	The schools are still unable to continue lake water sampling program due to budget cuts. However, LMC and CRC volunteers continue to take and analyze numerous water samples during the year.	Continue to seek support for funding to restore school program.
Revised					
2C	Annual Lake Clean-Up	CRC	Conduct Clean-Up Day	The CRC and LMC annual clean-up of Lake Congamond occurred on June 13, 2015 in which 8 volunteers removed ~8 cubic yards of debris (barrels, wood, dock parts) from the Lake. Other volunteers cleared Babb's Beach and the North Ramp of weeds and debris. DPW workers transported the materials to the disposal site.	Hold lake clean-up day in Summer 2016.
Revised					

2D	Lakeside Maintenance	LMC	Maintain trash receptacles at Lake Congamond	LMC continued to maintain ~25 trash receptacles at public access points to Lake Congamond.	Continue to maintain trash receptacles at public access points to Lake Congamond.
Revised					
2E	Volunteer Water Quality Monitoring	CRC	Conduct water quality sampling and analysis	Water quality sampling & analysis was conducted monthly at Lake Congamond. Analyses include: temperature, pH, dissolved oxygen, conductivity, phosphorus, and chlorophyll. The Town's consultant prepared a detailed report summarizing the findings and recommendations. The Canal Restoration Subcommittee is in the process of developing a lake monitoring and action plan for long-term lake improvements. LMC volunteers obtained FY2015 funding for additional lake level and temperature sensors, a weather station and data loggers. Volunteers installed two of the three lake sensors and parts of the weather station before winter set in. The plan is for volunteers to complete the weather station along with system wiring and the remote transmitting station once the weather turns more favorable.	Continue water quality sampling and analysis. A consultant has been retained by the Town to perform a detailed study of lake conditions and to make long term recommendations. In addition, the LMC spawned a Canal Restoration Subcommittee that was approved by the BOS on 3/22/11 to address long term canal and lake water quality improvements.
Revised					
2F	Weir Gate Replacement	LMC	Replace wood stop logs on Canal Brook (lake outlet) with sliding weir gates	LMC volunteers sought and received Southwick/Suffield funding for replacing wood stop logs with two stainless steel double-slide weir gates. These gates allow for underflow to reduce canal water stagnation or rising to reduce lake flooding during extreme storm events when the canal (outlet) tends to backflow into the lakes.	Inspect and maintain gates in operational order.
Revised					

2a. Additions

2G	Town-Wide Clean-Up	CRC / Con Com / DPW	Conduct Town-Wide Clean-up Day	The Rotary Club sponsored 3 clean-ups on College Highway in 2015. An average of 10 volunteers per cleanup removed a total of 52 bags of trash from the roadside. The 2015 Green & Clean Day was held on 4/26/2015 and 25 volunteers focused on Coes Hill Road (1.5 mi) and adjacent wetlands. Some 25 volunteers netted ~15 cubic yards of general trash, tires, of roofing shingles, scrap metal, and other roadside litter.	The Rotary Club plans to continue its work on College Highway via the "Adopt a Highway" program. A 2016 town-wide cleanup is currently planned for 4/26/16.
2H	Plantings for Erosion Control	Scouts	Plant trees to control erosion	The Scout's primary project for 2015 was completing a raised walk access to Great Brook behind Southwick Town Hall.	Continue to encourage Scouts to continue plantings in this area as well as other areas in Town in need of erosion control.
2I	Household Hazardous Waste Day			The Board of Health typically hosts a household hazardous waste disposal every other year; however, due to funding constraints household hazardous waste day was last held in 2013. A commercial hazardous waste disposal facility was setup in neighboring Westfield during 2014. The Southwick Police Department added a Drug Kiosk in 2014 at the police station so it can be accessed 365 days per year. The Board of Health offers needles/sharps collection at their office.	Continue to seek funds to hold in-town household hazardous waste disposal day.

2J	Storm Drain Labeling	DPW/ Westfield River Watershed Association	Label catch basins	During 2014-15, Westfield River Watershed Association spearheaded an effort to label storm drains with “NO DUMP” markers. Over 1,000 labels were made for Southwick and volunteers installed them in 2015.	
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3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3A	Mapping Stormwater Outfalls	DPW	Develop map of outfalls	The Town/DPW contracted the services of Cartographic, who mapped the Town for the Assessor’s Office, mapped the catch basins and outfalls in the Town, along with the entire water and sewer system. This system, along with GPS and data system were made fully operational in 2008. The DPW acquired and is implementing Asset Management Software that will greatly enhance the ability to map and track stormwater system components, work orders and actions. During 2015, the DPW had 2 interns working on further mapping of stormwater system components.	Continue to update system as necessary and map additional outfalls as found. Continue to implement asset management software.
Revised					

3B	Develop Illicit Discharge Program	DPW	Draft Plan	DPW has an existing Curtain Drain/ Foundation Drain Policy allowing connection to catch basin and another bylaw that prohibits discharging of sump pumps into the street or catch basins. Periodic inspections are conducted by DPW for presence of gray water or bacteria, which would result in disconnection from the system. Through storm drain outfall mapping process, potential illicit connections (sump pumps) continue to be identified and addressed. Townspeople voted to approve the new Illicit Discharge and Floor Drain Bylaws at the March 15, 2008 Special Town Meeting.	Revise procedures/ plan as necessary in future.
Revised					
3C	Non-Stormwater By-Law	BOS/DPW	Draft by-law.	During the March 2008 Town Meeting, the Town adopted an Illicit Connection By-Law regulating illicit connections and discharges to the storm drain system.	Enforce existing by-law.
Revised					

3D	Illegal Dumping	DPW	Perform regular patrols/cleanup	DPW performed regular patrols and cleaned up illegal dumped trash. Police have ticketed those found responsible for illegal dumping. The DPW continues to pull Transfer Station Permits for violating Transfer Station policies and/or dumping trash along the road.	Continue to perform regular patrols/cleanup.
Revised					
3E	Water Quality Monitoring	BOH	Regular sampling at beach sites in summer	BOH performed weekly sampling plus interim sampling (total 11 samples) at Town Beach when open from June through August 2015. The Town Beach was closed to swimming on July 20 to 22, 2015 for high E. coli counts. The Town Beach was closed for the season on August 23 rd due to lack of personnel. The Town/Lake Management Committee has contracted the services of Ken Wagner (Water Resource Services) to provide assessment and guidance for long-term water quality improvements for Congamond. Volunteers have taken literally thousands of data points over the years and an LMC member has created spreadsheets and analyzed same, along with Ken Wagner. More specific data will be taken over the next 6 – 8 month in order to “fill in” the missing information that will Ken to complete his analysis and provide recommendations for future actions. Ken has issued a draft report and expects to issue the final report by 5/15/16.	Continue to perform weekly water quality monitoring at beaches during summer months.
Revised					

3a. Additions

3F	Outfall Monitoring			As part of the LMC's data gathering for the consultant, wet and dry weather samples were taken at 8 stormwater outfalls into Congamond. This data has been added to the spreadsheets.	Further outfall sampling is planned for 2016.
3G	Sediment Analysis			As part of the LMC's data gathering for the consultant, coring samples of the muck at the bottom of the lake and Canal Brook were taken and analyzed by an independent lab. All levels were below typical sediment standards and Massachusetts regulatory limits.	Further coring sampling is planned for other locations in the lakes and outlets for 2016.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities
4A Revised	Construction Run-Off By-Law	PB / Con Com / DPW	Draft By-Law	The Town, with the assistance of PVPC, drafted a by-law which was approved by Town voters at the March 16, 2009 Special Town Meeting. Building Department is distributing information packages on NPDES construction and requiring builders to sign off on receipt of package. Planning Board and DPW are also informing developers of NPDES requirements and have incorporated proof of NPDES NOI submittal and development of SWPPP as permitting requirement.	Continue to work with developers to incorporate BMPs during construction activities.
4B Revised	Plan Review	PB / Con Com / DPW	Enforcement under by-law	Continued plan review per new by-laws.	Continued inspection / reporting under new by-law.
4C	Inspection / Reporting	DPW / PB / Con Com	Enforcement under by-law	Continued inspection / reporting under new by-laws. Town officials have worked with developers to ensure compliance with required BMPs during construction. A consultant was hired by the Con Com to oversee stormwater management, etc on a new development. Developers continue to be cited and fined if necessary by Con Com for violations and the violations continue to be corrected when identified.	Continued inspection / reporting under new by-law.

Revised					
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4a. Additions

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 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5A Revised	Post-Construction Runoff By-Law	PB / Con Com / DPW	Draft By-Law	The Town, with the assistance of PVPC, drafted a by-law which was approved by Town voters at the March 16, 2009 Special Town Meeting.	Continue to monitor need for updating bylaws.
5B Revised	Construction Site Plan Review	PB / Con Com / DPW	Enforcement under By-Law	Continued plan review per new by-law.	Continued inspection / reporting under new by-law.
5C Revised	Stormwater System Maintenance Plan	PB / Con Com / DPW	Enforcement under By-Law	Continued inspection / reporting under new by-law.	Continued inspection / reporting under new by-law.

5a. Additions

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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 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6A Revised	Municipal Maintenance Activity Program	DPW / PRC	Evaluate and draft additional policies	All roads swept as part of spring cleanup. Some are swept 2x/year. All catch basins are vacuumed 1x/year after sweeping, some 2x/year (by lakes).	Continue with annual sweeping and catch basin cleaning program. Draft new policies as necessary.
6B Revised	Training of all Municipal Activities	DPW	Initial good housekeeping training	In-house training is done for new hires or anyone transferring within DPW. Good housekeeping training attended by Town Officials, maintenance and DPW staff on April 23, 2015.	Conduct good housekeeping training. Training session for Town Officials, maintenance and DPW staff is scheduled for March 31, 2016.
6C Revised	Catch Basin Cleaning Program	DPW	Clean 90% of catch basins annually	Town purchased its own vacuum/jet rodder truck in 2005 and now performs catch basin maintenance with DPW employees. 100% of town catch basins within the entire town were cleaned in the months of May through October, 2015.	Clean at least 90% of catch basins in 2016.
6D Revised	Street Sweeping & Cleaning	DPW	Sweep 90% of the streets annually	100% of paved streets within the entire town were swept in the months of April 2015.	Sweep at least 90% of streets in 2016.
6E Revised	Prescription & Pill Collection	SPD	Try to host one collection day per year	New program initiated in 2013 sponsored by Southwick Police Department & Board of Health. The Police Dept added collection boxes in their lobby for 24/7 public access.	Continue 24/7 public access for future years.

6a. Additions

6F	Exotic Aquatics Bylaw	LMC		Townspeople voted 11/30/99 to accept LMC proposed "No Weeds In/No Weeds Out" Town bylaw that addresses boats launching on Congamond Lakes – Ramp Attendants inspect boats entering/leaving ramps. DCR summer employee helped pass out info and educate boaters during summer 2011. The Visitor Center has more information available to public.	Continue reminding public, boat inspection process & giving out handouts on preventing spread of nuisance aquatics. Depending on FY2017 budget, DCR hopes to supply summer employees in 2016 to assist in monitoring boats in/out of ramps and educate users.
6G	Stormwater Management	LMC/DPW		LMC began seeking Town Funds & matching grants in 1995 to address erosion, sedimentation, etc. LMC received grants in 1995, 1997, 1999, 2001 & 2008 for various catch basin, erosion control, sedimentation chambers, etc. New 65-space public parking area designed & built in 1998 adjacent to boat ramp with 100% of stormwater sheet flowing onto grassy area where it percs naturally into ground. The Town & PVPC obtained S319 and municipal funding to implement stormwater quality improvements along Congamond Ponds. This work included 16 BaySeparators, 2 detention/infiltration ponds, and 9 grassed swales that address 16 major stormwater outfalls on the Congamond Ponds.	Continue seeking funding for projects in watershed. Work with PVPC (S319 project manager), consulting engineering company, and contractor to implement BMPs.

6G (cont.)	Stormwater Management (cont.)	DPW		Banks of infiltrators with emergency overflow were added to an outfall by the Rail Trail that served a small development and another local street. Two business expansion projects, a large park project and one new development have installed separators and infiltrators as recommended by the Town. In 2012, the DPW added a new deep sump catch basin, a deep sump DMH and rip-rap swale to help clean stormwater and reduce erosion on an existing outfall on Depot Street. A major DPW stormwater management project followed by paving on Nicholson Hill Road was completed. The project included 18 deep sump catch basins, 3 StormCeptors, infiltrators, plunge pools & curtain drains. During 2015, DPW completed several significant stormwater projects: Replaced deteriorating and underperforming drainage along Iroquois Drive, Woodside Circle, Charles Johnson Road, and Fred Jackson Road; plugged an overflow from a marsh that flowed directly into Congamond Lakes; reconstructed Bugbee Road including all new drainage; and rebuilt and/or replaced several catch basins at several locations throughout Town The DPW/Town continues to promote infiltration as applicable.	Continue to seek opportunities to upgrade stormwater infrastructure to improve water quality. The LMC & DPW are working with PVPC to seek another S319 Grant in 2016 to help address other stormwater problematic areas and outfalls into Congamond, particularly those impacting South Pond and the remaining southern portion of Middle Pond.
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6H	Waterfowl Bylaw	LMC		Townspeople voted 3/14/02 to accept LMC proposed "Do Not Feed Waterfowl" Town bylaw that setup fines for feeding waterfowl. Ramp Attendants hand out literature on "why" not to feed waterfowl & LMC installed "Do Not Feed Waterfowl" signs at ramps & public areas. Compliance is nearly 100% without having to issue fines.	Continue reminding ramp users & public on benefits of not feeding waterfowl (besides fines).
6I	Nutrient Reduction	LMC/DPW		The LMC/DPW sponsored an "Organic Landscapes Workshop" held at Town Hall on 3/23/10. The 22 attendees heard information presented by PVPC on how to have green lawns without nasty chemicals.	Depending on funding availability, conduct outreach on nutrient management.
6J	Waste Oil and Antifreeze	DPW		Added waste oil & antifreeze collection depot for recycling at the Transfer Station. Residents may bring in motor oil, hydraulic oil, and antifreeze.	Continue to collect waste oil and antifreeze from residents.
6K	Recycling	DPW	Increase recycling	Contracted with new local e-cycling firm that recycles more types of electronics; Contracted with "Read Tree" for recycling of books; Contracted with Salvation Army for on-site collection boxes for clothing, shoes, etc.	Continue searching for more recycling firms for more materials and products recycling.

6L	Stormwater BMPs	DPW	Reduce erosion, flows and TMDL	Redesigned stormwater detention system and outfall at Lexington Circle subdivision. Implemented recommended design changes, including raising overflow invert, adding pipe, four drop-manholes to dissipate flow energy, plunge pool and secondary settling basin to existing outfall. Added one new deep sump catch basin and replaced one shallow sump basin with deep sump structure along with berm and paved swales at Foster Road/Matthews Road intersection to reduce road edge erosion, eliminate flooding and erosion problems, while increasing sand/silt storage capacity in those structures.	Maintain proper operation of updated Lexington Circle detention pond and outfall per O&M. Continue replacing old shallow/no sump catch basins with new deep sump structures.
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7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>

Per Part I.D.3. of the General Permit, “if the MS4 is required to implement stormwater Waste Load Allocation provisions of the TMDL, the permittee must assess whether the WLA is being met through implementation of existing stormwater control measures or if additional control measures are necessary. The permittee’s assessment of whether the WLA is being met is expected to focus on the adequacy of the permittee’s stormwater controls (implementation and maintenance), not on the response of the receiving water.” Southwick’s MS4 discharges into waterbodies within the Long Island Sound watershed, which has a Final TMDL for Total Nitrogen. Because the TMDL is for a pollutant likely to be found in storm water discharges from Southwick’s MS4, our Stormwater Management Program includes the following existing stormwater control measures, as reported in the above Annual Report, that address total Nitrogen:

- Community Website (BMP 1F)
- CT River Stormwater Committee (BMP 1G)
- Wetland Clean-Up (BMP 2A)
- Annual Lake Clean-Up (BMP 2C)
- Lakeside Maintenance (BMP 2D)
- Label Storm drains (BMP 2J)
- Construction Reviews (BMP 4B, BMP 4C, BMP 5B)
- Municipal Maintenance Activity Program (BMP 6A)
- Training of All Municipal Maintenance Activities (BMP 6B)
- Catch Basin Cleaning Program (BMP 6C)
- Street Sweeping and Cleaning (BMP 6D)- Stormwater Management (BMP 6G)
- Nutrient Reduction (BMP 6I)
- Stormwater BMPs (BMP 6L)

Part IV. Summary of Information Collected and Analyzed

- The Town notes the high involvement of its citizens and various community and lake organizations in improving town-wide environmental conditions.
- The Board of Health performed weekly sampling plus interim sampling (total 11 samples) at Town Beach located in South Pond during the 2015 beach season, from June through August 2015. The Town Beach was closed to swimming on July 20th for high E. coli counts and closed for the season on August 23 due to insufficient staff availability.
- Extensive water analysis by a consultant during 2009 showed the mean levels of total phosphorus ranging from 24 ppb to 103 ppb depending on depth and width (of the three) ponds. Phosphorus levels were measured in all three ponds throughout the 2015 season and showed top levels as high as 0.025 to 0.030 mg/L and bottom levels as high as 0.080 to 0.450 mg/L. Phosphorus levels greater than 50 ppb (0.050 mg/L) are indicative of eutrophic conditions and indicate that the Congamond lakes are being impacted by stormwater runoff from roads and/or waterfront properties. Water testing was performed by a contractor and volunteers during 2015. That data and decades of data were compiled into a spreadsheet and analyzed by a Lake Management volunteer. The Town contracted with consultant limnologist Ken Wagner (Water Resource Services) to further analyze the data and make recommendations for additional data and future efforts needed to improve water quality.

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2015 through March 31, 2016)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed – Currently being covered by DPW, Con Com, Town Planner, Building Inspector & Board of Health – Long range staffing and necessary funding being assessed. Con Com hired an outside consultant under MGL Ch. 44 §53G to perform peer reviews of new subdivision stormwater management plans. DPW secured \$30K funding in FY2012 for Asset Management software that will aid in identifying, categorizing tracking and servicing parts of the stormwater utility. The system was procured. Training and customizing of the product to reflect Southwick's needs continues on an ongoing basis.	(y/n)	Y & N (See note left)
Annual program budget/expenditures **	(\$)	100,000
Total program expenditures since beginning of permit coverage	(\$)	Unknown

Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		General Fund, Chapter 90 +S319 Grants

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	20%
Stormwater management committee established	(y/n)	Y
Stream teams established or supported – LMC Canal Brook Restoration Subcommittee was formed in March 2012.	(# or y/n)	Y
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	5-6 miles/ yr
Shoreline cleaned since beginning of permit coverage	(mi.)	50 – 60 miles
Household Hazardous Waste Collection Days		Normally 1x / year
▪ days sponsored ** (Not done during 2015 due to funding but neighboring municipality, Westfield, has commercial Hazmat facility)	(#)	
▪ community participation ** (Waste oil/antifreeze and latex paint taken at Transfer Station)	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented May be restored pending funding restoration by regional school district	(y/n)	NA

Legal/Regulatory

	<i>In Place Prior to Phase II</i>	<i>Reviewing Existing Authorities</i>	<i>Drafted</i>	<i>Draft in Review</i>	<i>Adopted</i>
Regulatory Mechanism Status (indicate with “X”)					
▪ Illicit Discharge Detection & Elimination					3/15/2008
▪ Erosion & Sediment Control					3/16/2009
▪ Post-Development Stormwater Management					3/16/2009

Accompanying Regulation Status (indicate with "X")					
▪ Illicit Discharge Detection & Elimination					3/15/2008
▪ Erosion & Sediment Control					3/16/2009
▪ Post-Development Stormwater Management					3/16/2009

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	~225
System-Wide mapping complete (complete storm sewer infrastructure) Structure locations GPS'd, flows paths not completed – New Asset Management system installed in 2014 and stormwater data collected will repose in this new system.	(%)	100%
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	100%
Outfalls inspected/screened **	(# or %)	~50
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	100%
Illicit discharges identified **	(#)	3
Illicit discharges identified (Since beginning of permit coverage)	(#)	~40
Illicit connections removed ** Owner notified; Fines to follow if had not been corrected.	(#); and (est. gpd)	2
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	~35
% of population on sewer (added ~10 residential units to system during 2015)	(%)	25
% of population on septic systems	(%)	75

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) ** (Adjacent ANR lots total >1 acre are not covered by regs)	(#)	4

Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	100
Site inspections completed ** (3 rd party weekly site reviews for TOS + DPW & Con Com reviews	(# or %)	~8
Tickets/Stop work orders issued ** Con Com & DPW cited three sites	(# or %)	3
Fines assessed/collected ** Fines issued by Con Com	(# and \$)	\$0/\$0
Complaints/concerns received from public **	(#)	~3

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	80
Site inspections (for proper BMP installation & operation) completed **	(# or %)	~15
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	Y
Low-impact development (LID) practices permitted and encouraged	(y/n)	Y

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	1x / year
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	1x / year
Qty of structures cleaned **	(#)	~1,100
Qty. of storm drain cleaned **	(%, LF or mi.)	~500'
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	600-700 tons (dry weight)
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Town landfill / compost

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)** Part of DPW overall tasks/budget	(\$)	~\$60,000

• Hourly or per basin contract rate ** Performed in-house since 2005; Estimate is for 2 DPW workers and vac truck	(\$/hr or \$ per basin)	~\$125/hr
• Disposal cost** (Performed in-house since 2005, estimated vac cost if contracted out)	(\$)	~\$30,000
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	0
• Vacuum truck(s) owned/leased	(#)	1
• Vacuum trucks specified in contracts	(y/n)	0
• % Structures cleaned with clam shells **	(%)	0
• % Structures cleaned with AquaTech B10 **	(%)	100

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	1x / year
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	1x / year
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	1,000 – 1,200 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Town landfill / compost
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)** Contracted cost plus in-house trucking)	(\$)	\$35,000
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	\$119/hr
• Disposal cost**	(\$)	
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	0
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	Y
• % Roads swept with rotary brush sweepers **	%	100
• % Roads swept with vacuum sweepers **	%	0

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	NA
▪ Herbicides	(lbs. or %)	NA
▪ Pesticides	(lbs. or %)	NA
Integrated Pest Management (IPM) Practices Implemented	(y/n)	

	(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	25% NaCl 0% CaCl₂ 0% MgCl₂ 0% CMA 0% Kac 0% KCl 75% Sand
Pre-wetting techniques utilized **	(y/n or %)	N
Manual control spreaders used **	(y/n or %)	Y (2)
Zero-velocity spreaders used **	(y/n or %)	Y (3)
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	N/C
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	N/C
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100
Storage shed(s) in design or under construction	(y/n or #)	N
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008 – Funding not authorized by Selectmen/Town Voters	(y/n)	N

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	N/A
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	N/A
• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	N/A