

Municipality/Organization: Town of Kingston, MA

EPA NPDES Permit Number: MAR041041

MaDEP Transmittal Number: W-036193

Annual Report Number
& Reporting Period: No. 9: March 11-March 12

NPDES Phase II Small MS4 General Permit Annual Report

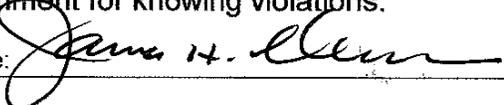
Part I. General Information

Contact Person: James H. Thomas Title: Town Administrator

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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: James H. Thomas

Title: Town Administrator

Date: May 1, 2012

Part II. Self-Assessment

Permit Term 2011-2012

During the March 2011 to March 2012 permit term, the Town of Kingston continued to meet the requirements of its NPDES Phase II permit with consulting assistance from Environmental Partners Group, Inc. (EPG) as well as assistance from other agencies and volunteers. EPG completed all contract deliverables and tasks that were funded through a Massachusetts Water Pollution Abatement Trust (MWPAT) Clean Water State Revolving Fund (CWSRF) loan which was closed out in 2011. Following completion of that work, EPG submitted a proposal to the Town in preparation for submitting a Notice of Intent (NOI) and Stormwater Management Plan (SWMP) under the new NPDES Phase II General Permit, however, the August 2011 issuance date by EPA has now been delayed until Fall 2012. An April 2011 Annual Town Meeting appropriation of \$ 25,000.00 (ATM Article 21, p. 8, http://www.kingstonmass.org/filestorage/49/3191/ATM_Warrant_2011_for_Website.pdf) is still available for development and submission of a new NOI and SWMP. The 2011 appropriation also includes funding for the development of a local stormwater by-law for which the Town & EPG will seek approval at ATM 2013.

In December 2011, the Town of Kingston, with assistance from ATP Environmental, Inc. and other project partners, completed stormwater assessment and planning work under its 2011 Massachusetts Bays Research & Planning Grant project (Massachusetts Bays Window, 3/28/2012, Volume 9, Issue 1, p. 7, <http://www.mass.gov/envir/massbays/pdf/mbw/vol9issue1.pdf>). The Town is in the process of identifying funding sources to finalize engineering plans and implement best management practices (BMPs) for two town-owned sites at the mouth of the Jones River where the highest bacterial loading was identified. The assessment project is the first in a multi-phase project to mitigate stormwater impacts, improve water quality and open up more shellfish growing areas in Kingston Bay.

In coordination with the Jones River Watershed Association's (JRWA) dam removal project on Wapping Road, stormwater upgrades of two town-owned outfalls were required to complete the restoration work in this section of the river. The JRWA was able to secure much of the needed funding for this work through generous funding from the Sheehan Family Foundation in the amount of \$ 30,000.00. The Town of Kingston contributed design, engineering, construction materials and funding toward the purchase of BMPs in the amount of approximately \$ 12,600.00. The Town previously sought grant funds to remediate the two stormwater outfalls upstream of the dam, but the proposal was not funded. As a result, the Town had to use design & engineering funds within the annual budget of the Dept. of Streets, Trees & Parks (DSTPs), on hand construction materials as well as BMP mitigation funds that were available through a permit condition on a 40-B project within the Jones River watershed. By late fall 2011, the Wapping Road dam was successfully removed and that section of the Jones River restored by the JRWA and project partners; a restoration that will contribute enormously to improving water quality as well as fish passage.

The Town was fortunate in the 9th permit term to work with DEP's Regional Monitoring Coordinator, Jenny Sheppard, MIT SeaGrant Scientist, Juliet Simpson, and the JRWA on coordinated dry weather sampling for bacteria and nutrients at multiple in-stream locations within the Jones River watershed (<http://web.mit.edu/newsoffice/2011/sea-grant-kingston-stormwater.html>). Two sampling events at fifteen sites revealed elevated bacteria and nitrogen at a few locations where follow-up sampling will occur in order to track the pollutants to their source which may lead to state- or town-owned stormwater outfalls.

In October 2011, the Town's Mapping/GIS consultant, Cartographic Associates, Inc. (CAI) completed Kingston's parcel data upgrade to MassGIS' Level 3 Digital Parcel Standard and, through this work, Kingston's parcel mapping meets an accepted statewide standard for distribution. This upgrade, along with locally funded text adjustments, significantly increases the Town's mapping capabilities and its ability to share standardized information with the public. In addition, the Town continues to work with CAI to launch Kingston's online GIS platform in which Kingston's GIS data will be published to the web and available for public access. A website demo was provided by CAI for Town staff in March 2012 and the site will be launched for use by the general public within the next month or two. The Town's stormwater infrastructure layer, among others, is intended to be published to the website to further public knowledge of Kingston's MS4.

In the 9th permit term, Kingston's DSTPs continued the task of cleaning stormwater structures with the Town's vactor truck and continued gathering valuable infrastructure data in the process.

In the summer of 2011, the Conservation Commission was fortunate to have an intern who assisted the Conservation Agent with stormdrain stenciling in the MassBays project subwatershed area. At the same time, informational doorhangers were also distributed to inform residents about the project and let them know what they can do to help clean up our waterways. The Conservation office continues working with a Girl Scout who is interested in conducting stormdrain stenciling in targeted areas of Town to earn her Gold Award.

Further accomplishments by the Town of Kingston in the 9th year of implementing its Stormwater Management Plan are described in more detail below.

Stormwater Working Group

The informal Stormwater Working Group met fifteen times, in whole or in part, in the 2011-2012 permit term. Meetings were held to discuss:

- New NPDES General Permit and filing a new NOI as well as SWMP;
- Development of a stormwater by-law;
- Permitting and bidding for Gray's Beach stormwater retrofit project;
- Wapping Road stormwater retrofits;
- Reconnaissance, sampling, preliminary plans and final report for the MassBays stormwater assessment project;
- Greenscapes involvement in public outreach component of measurable goals under the new permit;
- Stormwater improvements associated with the Elm Street bridge project; and

- Submission of 604(b) grant proposal to DEP for the second in a series of stormwater quality assessment projects in a subwatershed area of the Jones River.

Stormwater Improvement Projects

The Kingston Recreation Department and the Kingston Youth Sports Organization (KYSO) implemented some LID measures including vegetated swales and raingardens to solve flooding problems on the entrance road to the Opachinski Field Complex in early 2011. The Wapping Road stormwater retrofits were implemented in the fall of 2011 and included two VortSentry stormwater treatment units upgradient of two separate town-owned outfalls where space was very limited along the roadway. The JRWA and the Town worked with MassDOT to improve stormwater on Elm Street where the Elm Street bridge is being replaced under the Accelerated Bridge Program. MassDOT will be installing two deep sump catchbasins with hoods to handle stormwater in an area that currently has no stormwater controls prior to discharge to the Jones River and they will be cleaning an existing StormTreat unit for the Town where some of the stormwater from Elm Street currently flows. The bridge replacement project began in March 2012. The Gray's Beach low impact development (LID) stormwater retrofit project will commence early in the 10th permit term (May 2012) and will include some work to remove existing pavement and structures by the DSTPs. General construction oversight will be by the Superintendent of Streets, Trees & Parks and the Conservation Agent with engineering inspections by Horsley Witten Group.

Revised Kingston Wetland Protection Regulations

The Kingston Conservation Commission approved an overhaul of the Kingston Wetland Protection Regulations in January 2012 (http://www.kingstonmass.org/filestorage/40/888/KWPR_Final_1_3_2012.pdf). The new regulations include enhanced performance standards for projects subject to stormwater regulations including increased setback distances to wetlands and waterways for stormwater structures, thresholds for impervious surfaces, as well as the requirement that applicants must consider low impact development techniques as part of their stormwater management plans.

Greenscapes Program

In the 9th permit term, the Town of Kingston Water Department continued to support the *Greenscapes* Program sponsored by the NSRWA (South Shore regional partner of the Massachusetts Bays Estuaries Program) and financed by Massachusetts Department of Environmental Protection, Massachusetts Environmental Trust and the Environmental Protection Agency. *Greenscapes* informational brochures were distributed to the public in the Town Hall while the *Be A Greenscaper* banner was prominently displayed in the main foyer of the Town Hall. The Kingston Conservation office regularly mails out the *Greenscapes* brochures to new residents who purchase property within the Commission jurisdiction. Through the *Greenscapes* Program, the MassBays South Shore Regional Coordinator and the JRWA Ecology Program Director conducted outreach to the Kingston Intermediate School (KIS) 5th grade science classes with their *Water All Around You Program* to provide students with the knowledge, tools and desire to be future stewards of the environment.

Website Announcements

In the 2011-2012 permit term Town departments continued to be very active in using the award-winning Town of Kingston website to post community announcements for a variety of things including pollution prevention tips such as the availability of free compost at the transfer station, the sale of subsidized compost bins at the DSTPs, educational messages regarding stormwater, recycling, environmentally sensitive landscaping, etc. (See <http://www.kingstonmass.org> for more details). This annual report will be posted on the Town website as soon as it is complete and development of a stormwater webpage, in conjunction with Kingston's Stormwater By-Law, will also be explored in the next permit term.

Household Hazardous Waste Day

Residents from the Town of Kingston and Duxbury participated in a Kingston-sponsored Household Hazardous Waste Day on May 7, 2011 through a reciprocal arrangement that allows other member towns of the South Shore Recycling Cooperative (SSRC) to attend. Another is planned in Duxbury for SSRC member towns on May 5, 2012 (http://ssrcoop.info/images/documents/hhp_flier_1-12_spring.pdf). This is a service the DSTP's provides to residents on an annual, rotating basis in partnership with the Town of Duxbury.

Catch Basin Cleaner

The Department of Streets, Trees & Parks (DSTP's) commenced their spring 2011 catchbasin, drainline & water quality structure cleaning with the vactor truck purchased in 2009 and in the 9th permit year cleaned 275 structures, disposed of 961 tons of material and spent \$ 28,800.00 on disposal costs (total tonnage and cost includes street sweepings). While the cleaning of stormwater structures was slightly less than last year, the tonnage of material and cost of disposal constituted a 3-fold increase over the 8th permit term. As part of the enhanced program to clean the town-wide stormwater system, the staff of the DSTP's has generated much valuable data on structure condition for future operation and maintenance needs as well as for ensuring that we meet our good housekeeping goals.

GIS Mapping & Training

During the 9th permit term the Town of Kingston continued work to upgrade its GIS with the help of CAI, as described above (Self-Assessment, p.2, paragraph 5), in addition to:

- The Kingston Conservation Commission applying for upgraded software (ArcGIS 10), technical assistance and training through the Massachusetts Conservation Mapping Assistance Partnership Program (MACMAPP) administered through the Executive Office of

- Energy and Environmental Affairs (EEA);
- The Conservation Commission requesting additional funding in their FY13 budget to create a part-time GIS position; and
- The Planning Board requesting funding through the Capital Planning Committee for continuing GIS upgrades.

The Commission's MACMAPP application was approved and they will shortly be receiving one subsidized ArcGIS 10 software license for use in the Commission office. Training will be available in the coming year for the Conservation Commission and other Town staff desiring training on the new software (Kingston currently has three GIS licenses running ArcGIS 9.3) as well as general GIS training. Unfortunately, neither the Commission request nor the Planning Board request for additional funding for a position and capital investment in GIS were funded. The Town Government Study Committee, in its March 2012 report, includes investment in GIS as a recommendation for improving efficiencies in local government. Town staff will continue to lobby for GIS funding in order to better manage the Town's MS4, among other things.

Collaborating with Neighbors for Water Quality Improvement Projects

In October 2011, the Kingston Conservation Commission wrote a support letter for the Town of Plymouth for a MassBays Research & Planning grant proposal to conduct a cumulative nitrogen loading assessment based on land use data for the Plymouth-Kingston-Duxbury embayment as part of ongoing work to become the 89th estuary in the Massachusetts's Estuaries Project (MEP) to develop a planning model for improved watershed management. The Conservation Commission also supported Duxbury's application to the Coastal Zone Management (CZM) Coastal Pollutant Remediation (CPR) Program to continue their ongoing work to improve water quality by installing best management practices (BMPs) on Bay Road where stormwater discharges to Kingston Bay. The Town of Kingston is committed to continuing collaborations with both Duxbury and Plymouth to enhance our shared coastal resource waters.

Training of Local Officials

In June 2011, two members of the Stormwater Working Group, the Superintendent of DSTP's and Town Planner, attended a workshop entitled, *Putting GIS to Work for Your Community & MS4*. The workshop made clear the benefits of having an active and dynamic GIS for management of the Town's MS4, among other things. In January 2011, the Kingston Conservation Agent commenced discussions with DEP Circuit Rider, Christine O'Diaga, on hosting a DEP-presented stormwater workshop for municipal officials at the Kingston Town Hall. The workshop was held on April 5th (10th permit term) and was a great success, attracting officials from all over the South Shore and beyond.

Jones River Watershed Association (JRWA) Ecology & Education Programs

Throughout 2011, JRWA held many educational events that reached nearly 2500 adults and children, including students from area schools and Scout troops. The ecology programs of the JRWA directly benefits the residents of the town and greatly enhances the efforts of the Town of Kingston in getting the message of environmental stewardship of our wetlands, rivers and bay out to the general public (See JRWA website at <http://www.jonesriver.org/> & 2011 Annual Report at <http://www.jonesriver.org/getfile/reports/JRWAProgressReport2011-012212.pdf> for more information on work with schools). JRWA held its 7th annual herring count in 2011 and involved approximately 60 volunteer counters from the community.

Water Quality Monitoring

The Division of Marine Fisheries (DMF) continued to conduct sanitary surveys for the shellfish beds in the bay and the Kingston Board of Health conducted regular sampling of water quality at swimming beaches. This monitoring data helps to inform the Town of Kingston as to potential stormwater pollutants and target areas of concern.

Planned Activities 2012-2013

Existing funding from the 2011 ATM appropriation as well as remaining funds from the Education & Outreach account should provide for a very productive year in the first permit term under the new General Permit.

Planned activities for the 2012-2013 permit term include:

1. Submit NOI & SWMP under the new General Permit once issued;
2. Complete development and approval of stormwater by-law;
3. Continue work to conduct water quality assessments to prioritize targets for pollutant remediation and work to implement BMPs by seeking further grant funding opportunities;
4. Should the Kingston 604(b) proposal be funded, conduct stormwater sampling in Town center area & complete project deliverables by deadline;
5. Develop stormwater webpage on Town of Kingston website in conjunction with the stormwater by-law and overall NPDES program;
6. Develop maintenance record database for enhanced management of the MS4 and for use in GIS;
7. Launch public online mapping website to increase awareness of the Town's MS4, among other things;
8. Continue advocating for GIS funding for enhancing the Town's GIS for the benefit of MS4 management, among other things;
9. Continuing to improve annual DSTP activities including a snow & ice policy;
10. Work with DEP Division of Watershed Management to source track bacterial hotspot in Tussock Brook within the Lower Jones;
11. Oversee construction of Gray's Beach Stormwater Retrofit Project;
12. Continuing to expand use of LID in Kingston and on town-owned properties/projects;
13. Continuing Water Department support of the Greenscapes Program and working with Greenscapes on public education efforts;
14. Conducting workshops for single family homeowners such as Stormwater Management for the Home, Healthy Lawns & Landscapes, Landscaping in the Coastal Zone, etc. to educate residents about various ways to reduce stormwater pollution;

15. Continue mailing stormwater brochures and conducting stormdrain stenciling to complete goals under existing General Permit;
16. Communicating with MassDOT to learn how and when they will be remediating impacts from Route 3 and 3A on wetlands and waterways of Kingston. Also, work on getting access to their GIS data for stormwater infrastructure information;
17. Continuing collaboration with JRWA on grant applications for stormwater/resource area improvements, protection of open space, community clean-up days, educational programs, restoration projects, dam removals, etc.;
18. Continuing partnership with KIS, SLRHS Conservation & Horticulture, as well as other community groups (Boy Scouts, Girl Scouts, etc.) for Town of Kingston stormwater and resource area improvement projects;
19. Continuing partnerships with other agencies and non-profits; and
20. Continuing partnerships with neighboring towns on grant proposals to improve water quality of the bay.

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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
# 1.1	Partnership with local watershed association	Conservation, DSTP's, Planning, BOS, Water Dept., Harbormaster, etc.	Collaborate on storm water management, water quality monitoring, herring count, educational programs, clean-ups, etc.	Supported JRWA grant applications that result in much public education and outreach with SLRHS, KIS & other schools (stream & habitat restoration & stormwater) (MET, Greenscapes)	Continue cooperative efforts with JRWA for MET & Greenscapes projects and other grants in 2012 (MET, Greenscapes, 604b(?))
Revised				Herring count at Water Dept. (JRWA & public)	Continue JRWA herring count in spring 2012 organized with Water Dept. and community – keep eye on sediment from Elm Street bridge reconstruction project
				River & CoastSweep clean-up (JRWA, other partners & public)	Do collaborative clean – ups in 2012 (Coastsweep)
				Some media coverage of JRWA & Town collaboration	Work to publicize collaborative efforts
# 1.2	Storm drain stenciling	DSTP, Conservation, KIS, Stormwater Working Group	Re-start and finish town-wide stenciling with educational doorhangers & newspaper articles	Conducted some stormdrain stenciling in 2011 in MassBays water quality sampling area (Intern)	Continue work with Scouts to expand stenciling effort to increase stormwater education efforts. DSTP's to assist on major roads.
Revised					May re-evaluate technique/methods – explore use of metal markers
					Write more newspaper articles on project, use website

# 1.3	Distribution of educational materials and offer of free workshops for residents/officials through Greenscapes Program	Kingston Water Dept., ConCom	Display and use these materials at Kingston Town Hall to encourage greenscapes in Kingston Install a Greenscape on town property Use town website for educational stormwater messages	Greenscapes Program (MassBay & other sponsors) ConCom regularly uses Greenscapes concepts to educate folks & ask them to Greenscape and use LID – Town installed raingardens on one municipal property and permitted another in 2011 (MassBays, JRWA)	Continue support of Greenscapes Program Raingarden retrofits at Gray's Beach in 2012 adds to Greenscapes demonstration landscapes on town-owned parcels for educational purposes & conduct a local raingarden tour
Revised				Used town website to post educational stormwater messages ConCom continued mailings to new residents living near wetlands and waterways Held forums on protection of Plymouth-Carver Aquifer in 2011 with cable broadcast & DVD production (PCAAC) Regular articles on river and watershed (JRWA)	Create stormwater webpage to increase public education Mail stormwater brochure in 2012 tax bills Planning more forums on aquifer protection to include land use impacts Forums distributed via cable and DVD's Use newspaper (Kingston Reporter) more to educate public about stormwater
# 1.4	Pet waste station installation at local conservation lands	Conservation, E.B. Sampson Fund (town grant program)		Maintained Pet Waste Stations installed on 5 conservation land parcels (Senior volunteer) & donated another to a new park off of Main Street	Install new pet waste station at Maple Ave. School Memorial park and other public places
Revised					
# 1.5	Educational seminars for employees, residents, local engineers, developers, real estate agents on water quality, stormwater, conservation issues	Stormwater Working Group	Plan contents of workshops and set dates Put schedule of seminars in tax bills, in paper, on website	Planned hosting of DEP stormwater workshop at town hall for local officials (DEP) Continued advocating stormwater pollution prevention with various town departments and public Completed review of by-laws & regs. in July 2011 for drafting stormwater by-law	Held DEP stormwater workshop for local officials in April 2012 Hold more erosion control workshops for local officials, inspectors & contractors Complete drafting of stormwater by-law & get approved at ATM 2013
Revised					
# 1.6	Annual clean-up of town properties/streets	Conservation, DSTP	Hold annual clean-up days	Various Boy/Girl Scout groups cleaned up conservation land parcels & DSTP's disposed of rubbish (Boy/Girl Scouts & public) River and roadway clean-up near 2 conservation lands in 2011 (JRWA & public)	Work on coordinating more large scale clean-up days on town lands/streets with various town groups (Open Space, ConCom, etc.) River clean-up in April 2012 & Fall Coastsweep

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
# 2.1	Partnership with local schools	Recreation	Gray's Beach Bio-retention Demonstration & Maintenance	Permitted retrofits of & new bio-retention areas to increase infiltration/reduce runoff	Construct retrofits & new raingardens (contractor)
		ConCom, DSTP's	KIS Raingarden Demonstration & Maintenance	ConCom & DSTP's did not maintain raingardens in 2011	Conduct maintenance in 2012 with volunteer effort (volunteers)
		Conservation Land Review Committee, ConCom	Involve SLRHS Cons. & Hort. students in Pine Brook project	SLRHS Cons. & Hort. students will assist with restoration plantings on Pine Brook (JRWA)	Commence Pine Brook restoration planting (JRWA)
Revised		Water Dept.	Greescapes Program participation	<i>Water All Around You</i> program for KIS 5 th graders (MassBays & JRWA)	<i>Water All Around You</i> program for KIS 5 th graders (MassBays & JRWA)
# 2.2	Partnership with watershed association	Planning, DSTPs, Harbormaster, Conservation	Continue collection of water quality data	Completed stormwater assessment & prelim. designs for MassBays project (JRWA & MassBays)	Seek grant funds to implement preliminary BMP design (MassBays & JRWA)
		DSTPs, Conservation, Planning, Water, Health, Building	Stormwater Working Group	Collaborated with DEP & MIT on water quality sampling (JRWA)	Continue follow-up sampling of hot spots around Tussock Brook (JRWA & DEP)
		Water Dept.	Hold annual Herring counts & Greenscapes	Continued working with Environmental Partners to complete contract under CWSRF loan (JRWA)	Execute new contract for NOI, SWMP, By-Law, etc. (JRWA)
Revised				60 volunteers trained & participating in herring count in 2011 (JRWA)	Continue herring count despite upstream construction & work with Greenscapes in new permit term (JRWA)

# 2.3	Storm drain stenciling	Highway, Conservation, KIS, Stormwater Working Group	Organizing neighborhoods/volunteers to stencil storm drains	Worked with Girl Scout interested in doing stormdrain stenciling for Gold Award (Girl Scouts)	Support Scout stenciling project and attempt to complete in 2012 with help of DSTP's (Girl Scouts)
Revised				Worked with intern to conduct stenciling & brochure distribution in 2011	Seek other volunteers for stenciling in summer 2012
# 2.4	Establishing formal Storm Water Management Task Force with citizen involvement	Selectmen and all other applicable boards	Establish Storm Water Management Task Force with regularly scheduled meetings and activities	Still informal Stormwater Working Group meetings with appropriate town officials (JRWA & occasionally other agencies)	Establish formal Stormwater Management Task Force to work toward Stormwater By-Law with expanded involvement to include more town boards and citizens at large (Env. Partners Group, JRWA, advice from other towns)
Revised					
# 2.5	Household Hazardous Waste Collection and Recycling Day	DSTP's and Town of Duxbury	Hold annual collection days Collect mercury-containing thermometer/thermostats throughout year	Successful collection day in Kingston held in spring 2011 that was well attended by Kingston residents (SSRC) DSTP's cont'd collecting mercury thermometers, thermostats and handing out non-mercury thermometers	Spring 2012 collection day in Duxbury for Kingston as well (SSRC) Town to continue program – posted on town website
# 2.6	Educational seminars and mailings for residents, local engineers, developers, real estate agents on water quality, stormwater, conservation issues	Stormwater Working Group	Plan contents of workshops and set dates Put schedule of seminars in tax bills, in paper, on website	Worked with DEP in planning Stormwater Workshop for local officials Advocated for stormwater pollution prevention with various town departments & public through public hearings & conservation related mailings to new residents	Hosted DEP Stormwater Workshop in April 2012 at Town Hall for local officials from S.Shore & beyond Hold more workshops for engineers, designers, builders, developers & residents Complete stormwater by-law with input from public
# 2.7	Annual clean-up days on town properties	Conservation, DSTP	Hold annual clean-up day	Various Boy/Girl Scout groups cleaned up conservation land parcels and DSTP's disposed of rubbish (Boy/Girl Scouts & public) River clean-up (JRWA & public)	Work on coordinating more large scale clean-up days on town lands with various town groups (Open Space, Recreation, ConCom, etc.) River clean-up in April 2012 & Coastsweep (?) in Fall (JRWA & Public)

# 2.8	Form "Friends of Conservation Land" group	Conservation, Open Space Committee & DSTP's	Hold regular clean-up days and watch group to reduce vandalism, theft and littering of town conservation land where there are many wetlands and streams	Senior volunteer for conservation land maintenance Some volunteer groups helped clean-up public lands (JRWA, Boy/Girl Scouts, public)	Advertise in newspaper, on website, at cons. land parcels for more volunteers and to start a Volunteer Land Stewardship Group
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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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
# 3.1	Catch basin/outfall and sewer mapping to receiving waters	Planning, DSTP, Conservation	Mapping hotspots that are suspected to carry high pollutant loads	Discussed contract with EPG to update maps with new data, submit NOI, SWMP, complete stormwater/IDDE by-law	Execute new contract & complete work in early 2013 including stormwater/IDDE by-law
Revised				Continued catchbasin/structure cleaning in 2011 – no illicit discharges (ID's) detected or removed	Continue structure cleaning throughout town, create maintenance database for keeping track of details/ID's
# 3.2	Sewering of densely developed areas and environmentally sensitive areas of town to reduce septic influence on water quality	Sewer Commission	Expand sewer capacity	Continued planning for sewer expansion with MEPA filing	Sewer Commission new leaching field area approved at ATM 2012 – will continue with sewer plant expansion plans
Revised					
# 3.3	Regulatory Review & Permit Enforcement	Selectmen, Planning, Building, Zoning, Conservation, DSTP's, BOH		Env. Partners completed regulatory review & discussed drafting of stormwater by-law	Complete stormwater by-law with associated fine schedule for illicit discharges for approval at ATM 2013
Revised					
# 3.4	Storm drain stenciling	DSTP, Conservation, Stormwater Working Group	Adopt a Storm Drain	Discussion of including this in storm drain stenciling efforts, but no progress made	Neighborhood representatives to monitor storm drains for illicit discharges – pursue this with stormdrain stenciling efforts
Revised					
# 3.5	Water Quality Monitoring	Planning, Conservation, Highway, Water, Harbormaster, Stormwater Working Group	Expand WQ monitoring to include surveying for illicit discharge detection	Completed MassBays stormwater assessment project & found no illicit connections (MassBays Program, ATP, JRWA, Duxbury) Submitted 604b proposal for expanding stormwater assessments to another subwatershed of 303d Jones – will include IDDE (DEP, ATP, JRWA) Worked with DEP & MIT to sample in river – found hotspot and will follow-up with more sampling (DEP, JRWA)	Seek funding for implementing BMPs & removing any illicit discharges found during construction Pursue removal of any ID's found during sampling Reconnoitre in May 2012 for follow-up sampling to track bacteria to source (Illicit ?) ¹⁰ (DEP, JRWA)

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
# 4.1	Regulatory Mechanisms	Selectmen, Planning, Building, Conservation, DSTP, Stormwater Working Group	Establish and implement local stormwater management by-laws and/or stormwater authority to increase construction runoff controls in design criteria	EPG completed review of existing by-laws related to stormwater management in prep for drafting by-law (Environmental Partners, JRWA) Kingston Wetland Protection Regulations adopted 1/2012	Complete stormwater/IDDE by-law draft and adopt new stormwater by-law at ATM 2013 (EPG, JRWA, public) Continue implementing new regs. with increased setbacks for stormwater structures
Revised				Planning Subdivision Rules & Regs. implemented in 6/2011	Continue implementing & encouraging LID
# 4.2	Site Plan Review	Planning, Conservation, Building, Zoning, BOH, Stormwater Working Group	Establish Phase II specific stormwater guidelines for review of site plans	Regularly require developers to obtain NPDES CGP for disturbance of 1 acre or more of land (Building, Planning & Conservation)	Stormwater by-law will identify the reviewing/approving authority for construction site runoff control. Currently based on jurisdiction of project (EPG)
Revised					
# 4.3	Enforcement	Building, Planning, Zoning, BOH, DSTP, Conservation, Stormwater Working Group	Establish new site inspection forms, new procedures and fee/fine schedules for incorporating requirements of Phase II	Jurisdictional enforcement depending on location/permits of project – interdepartmental communication Drafting stormwater by-law	Stormwater by-law will identify the enforcing authority for all projects (CPESC & CPSWQ Cert.?) Stormwater by-law approved at ATM 2013 Develop guide on priority areas of town where further pollutant loading may threaten water supply or further degrade 303d's
Revised			TMDLs on 303d waters		Work with Plymouth, Duxbury, MEP & DEP to develop TMDL for bay

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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
# 5.1	Regulatory Mechanisms	Selectmen, Town Administrator, Planning, Building, Conservation, DSTP	Establish and implement local stormwater management by-laws	Completed review of existing by-laws for drafting stormwater by-law (Environmental Partners, JRWA) Planning Subdivision Rules & Regs. with enhanced stormwater regs. implemented 6/2011	Complete stormwater by-law for approval at ATM 2013 (Environmental Partners, JRWA) Implementing new regs.
Revised				Kingston Wetland Protection Regs. approved 1/2012	Implementing new regs.
# 5.2	Site Plan Review/As-Built Review	Planning, Conservation, Building, Zoning, BOH, DSTP	Establish Phase II - specific stormwater guidelines and low impact development guidelines for review of site plans	Drafting stormwater by-law that will specify reviewing authority GIS mapping will improve electronic reviews	Adopt stormwater by-law ATM 2013 Continue work on town-wide GIS enhancements
Revised					
# 5.3	Enforcement	Building, Planning, Zoning, BOH, DSTP, Conservation	Establish new site inspection forms, new procedures and fee/fine schedules for incorporating requirements of Phase II	Drafting stormwater by-law that will specify enforcing authority Continue to attach Operations & Maintenance Plans to Conservation Orders of Conditions and refer directly to the O & M Plan with specific conditions into perpetuity (as now required under new DEP stormwater policy) Continue requiring annual reports submitted to ConCom for stormwater maintenance post-construction	Adopt stormwater by-law ATM 2013 Establish cash (instead of bond) surety with developers to create binding obligation to keep stormwater runoff onsite

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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
# 6.1	Employee Training	Selectmen, DSTP, Water, Building, Planning, Conservation, Stormwater Working Group	Establish pollution prevention plan and good housekeeping procedures & schedules	Worked with DEP to host a Stormwater Workshop at Kingston Town Hall for municipal officials Continue seeking training opportunities – live & webinar	Held Stormwater Workshop in April 2012 and plan to go to UNH Stormwater Center in 2012 with Supt. of Streets, Trees & Parks and Supt. of Water Dept./member(s) of Water Quality Review Committee
Revised					
# 6.2	Improved Maintenance	DSTP, Water, Building	Increase frequency of maintenance and implement better storage practices	Vacuum truck in use in 2011 Annual street sweeping Annual cleaning of all town-owned water quality inlets	Vacuum truck cleaned 275 structures in 2011-2012 permit term & 960 tons disposed of (including street sweepings) Continue & enhance annual street sweeping practices WQI's, catch basins & infiltration galley cleanings will be greatly improved with vacuum truck
Revised					
# 6.3	Improved stormwater treatment	DSTP, Water, Conservation, Planning	Upgrade current systems in sensitive areas	Worked with MassDOT to improve stormwater discharges to Jones River at Elm Street Bridge Project (JRWA) Completed MassBays stormwater assessment of subwatershed of Jones River & Kingston Bay & submitted 604b for more assessments (MassBays, ATP, Duxbury, JRWA)	Improvements implemented in 2012 (JRWA) Seek funding to retrofit two town-owned sites to improve stormwater treatment at mouth of Jones River & conduct sampling pending 604b funding (DEP, ATP, JRWA)
Revised					
#6.4	Inter-department education	Conservation, Building, Water, DSTP, Sewer, Zoning	Continue informal education	Succeeded in communicating the importance of stormdrain protection during road work for water, sewer, drainline work performed by the town and the use of enhanced erosion controls	Continue to be vigilant with informal inter-departmental education of stormwater impacts to waterways Seek formal training sessions for all dept's.
#6.5	Improved Recycling	BOS, DSTP's, Recycling Committee	New BMP	DSTP's, BOS, Recycling Committee planning for transfer station redesign to improve recycling DSTP's received more compost bins in early 2012	ATM 2012 approved redesign and will complete in 2012 Continue to encourage composting

#6.6	Stormdrain Stenciling	Stormwater Working Group, DSTP's	Start and finish town-wide stenciling with educational doorhangers & newspaper articles	Continued stormdrain stenciling project in 2011 with intern and continuing discussion with Girl Scout	Working with Girl Scout & volunteer to continue stenciling project in 2012 Write more newspaper articles on project, use website
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7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
7.1	Target 303d waterbodies for Water Quality Monitoring	Stormwater Working Group	Focus sampling on 303d impaired waterbodies to work toward removing them from 303d list	Conducted stormwater assessment of Lower Jones & portion of Kingston Bay (MassBays, ATP, JRWA) Worked with DEP DWM to sample Lower Jones and found few hotspots (JRWA)	Seek grant funds to implement BMP retrofits (ATP & others) Conduct follow-up sampling with DEP around hotspots (JRWA)
Revised				Submitted 604b proposal for another subwatershed assessment project (DEP, ATP, JRWA)	Pending funding conduct sampling and assessment work

7.2	GIS Mapping	Stormwater Working Group	Complete mapping of stormdrain system and outfalls	Enhanced GIS capabilities achieved in 2011 – continued working to upgrade GIS (Volunteer, CAI, MassGIS MACMAPP)	Continuing to fix parcel data discrepancies, GIS platform/capabilities, online mapping website, etc. (CAI & others)
Revised				Worked on updating parcel data to Level 3, open space datalayer, text edits, geo-rectification with orthophotos and online mapping website (CAI) Sought funding for GIS position and capital plan	Seek funding for staff through MACMAPP grant to Conservation Commission GIS position and capital request not funded at ATM12

7.3	Stormwater Modeling	Stormwater Working Group	Focus modeling on 303d impaired waterbodies to work toward removing them from 303d list as well as bay needing TMDL	Some modeling as part of MassBays Project completed in 2011 Planning for more stormwater modeling in 303d bay & Jones River with 604b –pending funding	Seeking grant funds in 2012 for modeling of more subwatersheds of 303d bay and lower Jones
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Part IV. Summary of Information Collected and Analyzed

The following assessments were conducted in the year 2011-2012:

1. MassBays Jones River and Kingston Bay Stormwater Assessment Project (13 town outfalls and 2 MassDOT outfalls);
2. DEP/MIT/JRWA/Town of Kingston collaborative dry weather sampling of 15 sites in lower Jones River;
3. Board of Health beach sampling summer swim season 2011; and
4. DMF/Harbormaster sanitary survey sampling of Kingston Bay.

Part V. Program Outputs & Accomplishments (OPTIONAL) * (Please see note below this section)

Programmatic

Stormwater management position created/staffed	(y/n)	n
Annual program budget/expenditures	(\$)	ATM2011 – \$ 25,000.00 Remaining budget for stormdrain stenciling project = \$ 2,227

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	-Many (website) -30 (Conservation mailings) -All (Mass Recycles) -Many more (JRWA Programs)
Stormwater management committee established	(y/n)	Y - Informal
Stream teams established or supported	(# or y/n)	JRWA
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	2 miles
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	11 (in SSRC – 1 in Kingst./Dux)
▪ community participation	(#)	1,716 (in SSRC)
▪ material collected	(tons or gal)	Cardboard – 183 tons (Kingston) Latex Paint – 1,000gal.(SSRC) Textiles – 200 tons (SSRC) Books – 224 tons (SSRC)
School curricula implemented	(y/n)	N (eliminated due to budget cuts)

Legal/Regulatory

In Place
Prior to
Phase II Under
Review Drafted

Regulatory Mechanism Status (indicate with "X")			
▪ Illicit Discharge Detection & Elimination		x	
▪ Erosion & Sediment Control		x	
▪ Post-Development Stormwater Management		x	
Accompanying Regulation Status (indicate with "X")			
▪ Illicit Discharge Detection & Elimination		x	
▪ Erosion & Sediment Control		x	
▪ Post-Development Stormwater Management		x	

Mapping and Illicit Discharges

Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	253
System-Wide mapping complete	(%)	100%
Mapping method(s)		
▪ Paper/Mylar	(%)	100%
▪ CADD	(%)	0
▪ GIS	(%)	100%
Outfalls inspected/screened	(# or %)	17%
Illicit discharges identified	(#)	0
Illicit connections removed	(#) (est. gpd)	0
% of population on sewer	(%)	26.0%
% of population on septic systems	(%)	74.0%

Construction

Number of construction starts (>1-acre)	(#)	1
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	95%
Site inspections completed	(# or %)	60
Tickets/Stop work orders issued	(# or %)	0
Fines collected	(# and \$)	0
Complaints/concerns received from public	(#)	10

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	95%
Site inspections completed	(# or %)	30
Estimated volume of stormwater recharged	(gpy)	75%

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	Once/year
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	Once/year
Total number of structures cleaned	(#)	275
Storm drain cleaned	(LF or mi.)	2,000 LF
Qty. of screenings/debris removed from storm sewer <i>infrastructure (includes street sweepings)</i>	(lbs. or tons)	960 tons
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Bourne landfill
Cost of screenings disposal (<i>includes street sweepings</i>)	(\$)	\$ 28,819.00 @ \$30/ton

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	1/year
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	1/year
Qty. of sand/debris collected by sweeping (<i>includes storm sewer screenings</i>)	(lbs. or tons)	960 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Bourne landfill
Cost of sweepings disposal (<i>includes storm sewer screenings</i>)	(\$)	\$ 28,819.00
Vacuum street sweepers purchased/leased	(#)	1 purchased
Vacuum street sweepers specified in contracts	(y/n)	N, but will be for porous pavements

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	?
▪ Herbicides	(lbs. or %)	?
▪ Pesticides	(lbs. or %)	?

Anti-/De-Icing products and ratios (50% NaCl or CaCl ₂ with 50% sand, depending on temperature)	% NaCl	50%
	% CaCl ₂	50%
	% MgCl ₂	0
	% CMA	0
	% Kac	0
	% KCl	0
	% Sand	50%
Pre-wetting techniques utilized	(y/n)	Y
Manual control spreaders used	(y/n)	Y
Automatic or Zero-velocity spreaders used	(y/n)	N
Estimated net reduction in typical year salt application	(lbs. or %)	0% (50% reduction made in 2007)
Salt pile(s) covered in storage shed(s)	(y/n)	Y
Storage shed(s) in design or under construction	(y/n)	N