

Municipality/Organization: MassDOT - Highway Division

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**Annual Report Number
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NPDES Phase II Small MS4 General Permit Annual Report

Part I. General Information

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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: Thomas Tinlin

Title: Acting Highway Administrator – MassDOT, Highway Division

Date: 05/01/2015

Part II. Self-Assessment

MassDOT – Highway Division has completed the required self-assessment and determines that the Municipal Separate Storm Sewer Systems (MS4) continues to be in full compliance with the permit conditions. MassDOT has spent significant time, effort and funds focusing on the potential impacts of stormwater from its roads and properties this year. MassDOT has advanced its stormwater program in Permit Year 12 through implementing the Impaired Waters Program, educating its staff and presenting at numerous seminars, and identifying and removing illicit connections.

The MassDOT Environmental Services Stormwater Unit recently hired an additional staff member to increase overall work capacity. Subsequently, MassDOT now has more time and expertise to focus on identifying programmed projects that would benefit from structural stormwater BMPs and ensuring proposed BMPs are feasible, effective, and maintainable. The Stormwater Unit is now responsible for reviewing the drainage/stormwater management system for all programmed projects. Additionally, the added work capacity has allowed the stormwater unit to begin enhancing BMP and drainage inventory, inspection, and maintenance practices.

MassDOT, with our consultants support, has continued to implement the “Impaired Waters Program” (IWP) to address discharges to impaired waters from the highway stormwater system as part of compliance with the MS4 general permit, and has completed a significant number of specific water quality treatment projects. MassDOT expended a significant amount of external and internal resources to implement this aggressive program. MassDOT’s program includes two components: the Retrofit Initiative and the Programmed Projects Initiative. Through the Retrofit Initiative MassDOT identifies locations which warrant adding stormwater Best Management Practices (BMPs) along existing roadways, and through the Programmed Projects Initiative MassDOT incorporates stormwater BMPs in to programmed (planned) roadway construction projects.

During Permit Year 12, MassDOT completed IWP assessments of 205 water bodies. MassDOT included 76 impaired water bodies in its semi-annual submittal on June 6, 2014 to EPA and another 87 water bodies in its semi-annual submittal on December 8, 2014, all of which count toward the water bodies included on the list of impaired waters potentially receiving MassHighway stormwater runoff which were listed in MassHighway’s 2010 commitment to the court and EPA’s enforcement as Appendix L-1. Since 2010, MassDOT assessed 100% of Appendix L-1 water bodies with TMDLs thereby completing our commitment to review approximately 20% of impaired waters in watersheds with TMDLs each year. Also, MassDOT has completed assessment of 97% of Appendix L-1 water bodies without TMDLs. MassDOT plans to submit our final semi-annual submittal to EPA on June 8, 2015 which will include assessments for the remaining Appendix L-1 water bodies. MassDOT also assessed 42 water bodies that were not required for the court/ EPA enforcement order but that MassDOT assessed based on the IWP goals including use of updated urban area delineations, 303(d) lists, and TMDLs. These additional assessments illustrate MassDOT’s commitment to improving stormwater runoff quality from its highways.

MassDOT worked diligently this year to move forward with the many assessments where design of BMPs are warranted through design contracts with five design consultants. There are currently 78 projects in various stages of the design process to construct stormwater BMPs. These projects, in addition to on-going projects from Permit Years 8 through 10, currently include the design of a broad

range of vegetated and subsurface stormwater infiltration BMPs. BMPs included in final design in Permit Year 12 are estimated to remove 159 acres of effective impervious cover (IC) and 107 lbs/yr of phosphorus. Eleven projects have reached 100% Design and are awaiting construction advertisement. Fifteen projects are currently under construction and 26 have been completed since the program began. A summary of the Impaired Waters Program is included in BMPs 7R and 7U, along with Appendix D of this report.

In order to alert designers working on projects that potentially impact impaired waters, and to capture information regarding stormwater improvements incorporated into designs to address MassDOT stormwater, MassDOT developed a water quality data form (WQDF) which is submitted by design consultants at the 25% and 75% design stage. This past year, the updated WQDF was used by designers to document BMPs implemented in impaired waters contributing areas, leading to more comprehensive and accurate data collection regarding stormwater BMPs. MassDOT conducted two webinars for designers during Permit Year 12 on how to fill out the new WQDF and use the interactive web-map developed to assist designers in identifying water resources associated with their projects.

This year, MassDOT has received 128 water quality data forms; 79 at the 25% design phase and 49 forms at the 75% design phase. Of the 25% forms, 164 receiving waterbodies were identified, 64 affected an impaired water body without a TMDL, 100 were in a watershed covered by a TMDL, and 76 receiving waterbodies with a TMDL were identified. The 75% forms documented a total of 99 stormwater BMPs (existing and proposed) and at least 1,148 proposed deep sump catch basins. Additionally, non-structural BMPs implemented for these projects were documented and included measures such as street sweeping, protecting sensitive areas, inspection and cleaning of stormwater structures, catch basin cleaning, snow removal and deicing controls, and use of sediment and erosion controls during construction. Information collected in WQDFs during Permit Year 12 are included in Appendix E.

MassDOT has developed the IWP geospatial database to track the many structural BMPs being designed and constructed by its design consultants and the status of water body assessments. This IWP geospatial database is a powerful tool in the analysis of MassDOT's program and future planning/ water quality analysis. The updated WQDF also allows MassDOT to compile the information provided by designers of programmed projects on proposed stormwater BMPs into the IWP geospatial database. Compiling stormwater BMP information in the IWP database will allow for streamlined tracking and maintenance of BMPs moving forward.

MassDOT conducted a robust training and outreach effort in Permit Year 12 including presentations on MassDOT's stormwater program at various conferences, participation in national research studies and workshops, and internal staff training. MassDOT's stormwater program continues to be at the cutting edge of stormwater management for regional state DOTs and presentations from MassDOT are sought out by conference organizers in the area.

MassDOT continues to follow up on potential illicit connections identified in its drainage systems while working on a more targeted and efficient Illicit Discharge Detection and Elimination (IDDE) program as the linear, controlled nature of MassDOT's roadway network results in few illicit connections. The program is in draft stages and considers IDDE required program elements in the draft NPDES Massachusetts Small MS4 General permit.

MassDOT continued the review of Appendix A (IDDE Status Permit) and Appendix B (Status of Drainage Tie-In Permits) tables that have been submitted in previous Annual Reports. This included revising the tables and including more specific information on the Property Owner and Action Items. Additionally, this critical review included contacting each District to determine if any of the Illicit Discharges were permitted; and therefore removed from the IDDE Tables.

During this Permit Year, MassDOT continued to identify and confirm stormwater flows into the MassDOT system that are not currently permitted and to contact property owners. Notice of Violation (NOV) letters were sent to various property owners in Permit Year 12 to notify them of the tie-in requirements in place and initiate the tie-in permit process. A generic NOV letter is included in Appendix C.

The Drainage Tie-In Standard Operating Procedure (SOP), issued in 2012, has been utilized this past year to confirm that property owners with stormwater discharges that want to tie into the system are in compliance with the NPDES general permit and that non-stormwater discharges are not allowed. Additionally, when existing connections to the drainage system are identified, the Drainage Tie-In SOP is later referenced in letters to property owners so that property owners can either permit their stormwater connections to the drainage system or remove the connection. This process helps implement the IDDE program and is a way to remove illicit connections that have intermittent flow that would not necessarily be identified in the field.

Part III. Summary of Minimum Control Measures

The BMPs included in MassDOT's Stormwater Management Plan (SWMP) are summarized in each of the Minimum Control Measure sections below.

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
1A Revised	MassDOT Training Assistance Program (MTAP)	MTAP	Facilitate one training program related to stormwater and /or snow and ice control as a means of reducing source pollution. Document attendance numbers.	Because this training is for MassDOT staff and contractors, this BMP is reported under 6B-1 (Pollution Prevention/Good Housekeeping).	BMP Revised.
1B	Baystate Roads	Baystate Roads	Provide one training program for MassDOT employees and one for municipal DPW snowplow drivers related to snow and ice control as a means of reducing source pollution. Document attendance numbers.	Classes were held throughout the permit year providing training on snow and ice operations and source pollution reduction. Attendees included municipal DPW snowplow drivers and there were 510 attendees in total. Topics covered included: • Anti-icing • Department operations • Salt and environmental considerations • Drainage systems	Provide one training program for municipal DPW snowplow drivers related to snow and ice control as a means of reducing source pollution. Document attendance numbers.
IC-1	MassDOT Web Site	IT/Environmental	Add Environmental Section web page to web site.	Measurable goal completed in Permit Year 1. The MassDOT Environmental Section website was updated and reorganized in the summer of 2014. The updated website is easier to use and more streamlined.	Measurable goal complete. Continue to update the website with the most updated information.
IC-2	MassDOT Web Site	IT/ Environmental	Include link for contacting Highway Department via email. Review emails and direct to appropriate department.	The MassDOT web site includes a link for contacting the Highway Division via email. Emails received are reviewed and directed to the appropriate department.	Measurable goal complete.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
1C-3	MassDOT Web Site	IT/ Environmental	Evaluate web page annually and revise as necessary.	The Environmental web page was reviewed and updated. Annual Report 10 was added this year. The Impaired Waters Assessment Reports were added, one in June and the other in December. The Water Quality Data Form was updated.	Add the PY12 Annual Report. Post the final semi-annual Impaired Waters Assessment Report.
1D-1 Removed	Storm Water Training Workshop	Environmental/ MTAP	Conduct training for MassDOT personnel every two years. Summarize date of meeting, topics covered, and #of attendees in annual report. Also include # of Snow& Ice training classes, and # of “tailgate” meetings.	This BMP is duplicative since stormwater training is addressed through the BMP 1A program above. The BMP 1D-1 is replaced by the additional commitments made in BMP 1A in the January 2008 SWMP.	BMP Removed
1D-2 Removed	Storm Water Training Workshop	Environmental/ Baystate Roads	Conduct stormwater training workshop for municipal DPW personnel every two years. Summarize training programs similarly to above.	This BMP is duplicative since stormwater training is addressed through the BMP 1B program above. The BMP 1D-2 is replaced by the additional commitments made in BMP 1B in the January 2008 SWMP.	BMP Removed
1E	Educational Seminars for CIM members	Construction Section	Provide educational seminars for CIM members on CGP Permit coverage and environmental compliance in Permit Year 1.	Measurable goal complete in Permit Year 1.	Measurable goal complete.
1F Removed	MassDOT/ Municipal Tie-In Review Process	Environmental/ Districts	Develop communication mechanism re: MassDOT drainage that discharges to a local MS4. Develop review process for addressing those concerns. Notify other MS4s of process.	BMP Revised – see 1F below	BMP Revised

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
1F Revised	Post Contact Names for Municipal Drainage Concerns on MassDOT Web Site	Environmental/ Districts/ GIS	1) Distribute a flyer with contact names to municipalities during May 2007 Baystate Roads NPDES Phase II General Permit seminar. 2) Post DHD contact name for each district on website for municipalities to contact and maintain link. 3) GIS group will develop a program to provide easy to use access and allow the public to identify a selected area and review the MassDOT owned roads and outfalls. MassDOT will then review alternatives for alerting towns and the public to the availability of this information.	1) Completed in Year 5. 2) DHD contact names continue to be updated on the web site. Go to http://www.massdot.state.ma.us/highway/AbouttheDistricts.aspx 3) MassDOT has posted the drainage outfall inventory on the web site at this location: http://www.massdot.state.ma.us/planning/Main/MapsDataandReports/Data/GISData/Outfalls.aspx	1) Completed in Year 5. 2) Continue to maintain contact names. 3) Share drainage inventory information as requested.
1G	River and Stream Signs	Traffic Operations	Maintain signs identifying rivers and streams crossed by MassDOT roads, until crossing of all named rivers and streams are signposted.	MassDOT installed 2 signs identifying river and stream crossings. The locations were identified by the MassRiverways Program and installed by MassDOT personnel. The two signs were installed to identify Monatiquot River in Braintree.	MassDOT will continue to install signs in areas identified by MassRiverways Program.
1H Removed	Anti-litter/ Dumping Messages on Variable Message Boards	Operations	Maintain anti-litter message in the message mix on permanent Variable Message Boards (VMBs).	Messages on permanent Variable Message Boards are restricted to traffic and safety issues.	No further action.
1I Removed	Anti-litter/ Dumping Literature at Visitors Centers	Operations	Work with EOEEA's Think Blue Campaign to identify appropriate brochures for use in Visitor's Centers. Distribute literature to appropriate visitor centers and track number of brochures distributed annually.	It was determined in Permit Year 7, that the Think Blue Campaign was not the right program for providing stormwater literature to the public. The BMP was revised – see 1I below.	BMP Revised.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
11 Revised	Highway Stewardship Literature	Operations / Environment	Educate the public on the Impaired Waters Program, proper stormwater management, and other environmental stewardship measures.	MassDOT presented the MassDOT Impaired Waters Program at various conferences throughout the year. Notably, MassDOT presented on the program at the MassDOT Innovation Exchange conference on March 11, 2015 to an audience of over 100 people including MassDOT staff, consultants, neighboring state DOTs, and the public. <u>Stormwater Program Webpage</u> – MassDOT updated the stormwater program webpage in PY 12 to allow the public to access all related information on the MassDOT stormwater program. .	The storm water program webpage will be updated to reflect current status and most recent documents. Continue to inform others about the Impaired Waters Program through public outreach.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
1J	New England DOT Meetings	Environmental	Coordinate with New England DOTs to discuss on-going issues and programs being faced by the DOTs including wetland mitigation, stormwater, and erosion controls.	MassDOT communicated with other DOTs when the need developed. MassDOT met with representatives from most US DOTs, including those from New England, at the biennial Stormwater Practitioner’s conference, sponsored by AASHTO (American Association of State Highway Transportation Officials), during July 29-31, 2014. MassDOT attended an AASHTO Innovation Initiatives Workshop held in Baltimore, Maryland from October 15th to October 17st, 2014. The event focused on the Watershed Resources Registry- an interactive geospatial tool, as a way to analyze potential benefits of environmental restoration and preservation at a watershed scale. As of November 2014, the MassDOT’s Environmental Services section is participating in a NCHRP 3-year research study titled the “Limitations of the Infiltration Approach to Stormwater Management in the Highway Environment.” The objective of the research is to develop guidance for the state DOTs to determine appropriate siting of stormwater infiltration BMPs based on the limitations, risks, and benefits in the context of the built and natural environments. MassDOT also attended and presented at various conferences which included audience members from neighboring state DOTs. These conferences included the New England Interstate Water Pollution Control Commission (NEIPCC) annual conference, the AASHTO Stormwater Practitioner’s conference, the New England Transportation and Wildlife (NETWC) conference, and the MassDOT Innovation Exchange conference.	MassDOT will continue to communicate with other DOTs as the need develops and opportunities become available.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
1K	Storm Water Coordinator	Environmental	Fund a full-time stormwater coordinator position each year.	The Environmental Section stormwater staff continues to coordinate compliance within the NPDES stormwater program. They have completed many tasks under these roles throughout the year. Stormwater staff members also continue to coordinate the Impaired Waters Program implementation. They work with consultants to perform assessments, select appropriate stormwater BMPS as part of the Retrofit Initiative and Programmed Project Initiative, and is responsible for maintenance contracts in each of the districts to construct the BMPs once designed. During Permit Year 12, MassDOT hired a third staff member to join the Stormwater Unit. This entry level position has allowed MassDOT to expand its stormwater review of all MassDOT programmed projects and develop more stormwater retrofit projects.	Continue to fund a stormwater analyst and an Impaired Waters Program coordinator. Hire a summer intern for the summer of 2015 to provide stormwater related assistance.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
Addn.	Environmental Site Data Form	Environmental	Develop an environmental site data form for review by designers with Environmental staff at 25% Design. Implement on all projects.	The Water Quality Data Form (WQDF) is being used for submittal at 25% Design and 75% Design stage to MassDOT by internal designers and consultants. In PY 11 an updated WQDF was launched, which includes additional features such as data verification, to facilitate more accurate data reporting. MassDOT conducted two webinars for designers during Permit Year 12 on how to fill out the new WQDF and use the interactive web-map developed to assist designers in identifying water resources associated with their projects. In the past year MassDOT also launched an in-house database and uploaded historic assessment and project data into the database in order to more accurately track impaired waters assessment and BMP design data. MassDOT has received more than 128 water quality data forms; 79 at the 25% design phase and 49 forms at the 75% design phase. Of the 25% forms, 164 receiving waterbodies were identified, 64 affected an impaired water body without a TMDL, 100 were in a watershed covered by a TMDL, and 76 receiving waterbodies with a TMDL were identified. The 75% forms documented a total of 99 stormwater BMPs (existing and proposed) and at least 1,148 proposed deep sump catch basins. Additionally, non-structural BMPs for these projects were documented. Appendix X provides more information on data collected through the WQDFs in Permit Year 12.	Internal designers and consultants will continue to submit the forms at 25% and 75% Design Submittals. Complete efforts to convert the modified form into an online form, and continue to update MassDOT database to accurately track assessment and BMP design data. Continue to educate designers on how to accurately and comprehensively complete the WQDF.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
Addn	Stormwater Related Presentations	Environmental		MassDOT stormwater staff delivers educational stormwater presentations to interested groups throughout the year. MassDOT met with representatives from most US DOTs, including those from New England, at the biennial Stormwater Practitioner’s conference, sponsored by AASHTO (American Association of State Highway Transportation Officials), during July 29-31, 2014. MassDOT presented at this conference on design of BMPs for easy inspection and maintenance. MassDOT presented at the New England Interstate Water Pollution Control Commission (NEIPCC) annual conference on April 29, 2015 and at New England Transportation and Wildlife (NETWC) conference on September 22, 2015, the on the benefit of trees for stormwater management. MassDOT presented on the program at the MassDOT Innovation Exchange conference on March 11, 2015 to an audience of over 100 people including MassDOT staff, consultants, neighboring state DOTs, and the public. Additionally, MassDOT presented to a graduate seminar at UMass Amherst on March 13, 2015 on planning for, designing, and maintaining stormwater BMPs.	Continue to present relevant topics at conferences. A MassDOT stormwater staff member will present at the April 2015 NEIWPCC conference on the MassDOT IWP geospatial database and its use for watershed planning.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
Addn	TRB NCHRP Committee(s)	Environmental		As of November 2014, the MassDOT's Environmental Services section is participating in a NCHRP 3-year research study titled the "Limitations of the Infiltration Approach to Stormwater Management in the Highway Environment." The objective of the research is to develop guidance for the state DOTs to determine appropriate siting of stormwater infiltration BMPs based on the limitations, risks, and benefits in the context of the built and natural environments. In January 2015, water quality sampling, for a bridge runoff study, started at three different bridge locations. The objective of this study, being performed by the USGS, is to assess the concentrations of phosphorous present in stormwater runoff coming from roadway bridges in the Lower Charles River Basin located between the cities of Boston and Cambridge Massachusetts.	Continue participation in study panels. Continue USGS phosphorus loading study.
Addn	AASHTO Stormwater Mitigation Survey	Environmental		MassDOT staff participated in a survey about watershed-based stormwater management programs conducted by AASHTO on behalf of EPA in December 2014.	No further action anticipated.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
2A	Project Related Public Notification and Public Participation Requirements	Environmental	Continue compliance with federal and state public notification and public participation requirements including but not limited to Wetlands Protection Act, Clean Water Act 401 Water Quality Certification, Army Corps of Engineers 404 Permit, and MEPA/NEPA.	MassDOT continues to comply with federal and state public notification and public participation requirements. MassDOT conducted 165 design public hearings and public information meetings in this permit year. See Appendix F. This does not include the numerous public participation meetings held for various permit processes throughout the year.	MassDOT will continue to comply with federal and state public notification and public participation requirements.
2B	Adopt-a-Highway	Adopt-a-Highway	Continue to support program.	MassDOT maintained, repaired, and replaced program signs as needed. 750 lane miles are covered by the Adopt and Sponsor programs.	MassDOT will continue to support and promote this program.
2C Removed	511 Massachusetts Traveler Information System	Operations	Maintain 511 System	Revised – see 2C below	BMP Removed.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
2C Revised	Call-In Numbers for Roadway Debris	Operations	Maintain Call-In Numbers for Roadway Debris	Each District and Headquarters has a general call-in number for the public to use to alert MassDOT of roadway debris. If Headquarter receives the call, then the information is forwarded to the appropriate District. The information is then forwarded to the Maintenance Department Foreman, who coordinates with the workers to alleviate the situation. Call-in numbers are listed below. • Headquarters: (857) 368-4636 • District 1: (413)-637-5700 • District 2: (413) 582-0599 • District 3: (508) 929-3800 • District 4: (781) 641-8300 • District 5: (508) 824-6633 • District 6: (857) 368-6100 MassDOT provides Highway Assistance Patrol (HAP), an emergency roadway assistance service, along the most highly traveled roadways in Massachusetts. HAP patrols 982,000 miles annually and removes roadway debris when encountered, in addition to other services.	Maintain call-in numbers and providing active responses.
2D-1	MassDOT Web Site	IT/ Environmental	Post Storm Water Management Plan (SWMP) to web site.	The most recent SWMP submitted to EPA (December 2009) is posted on MassDOT's web site.	Post information about individual permit when issued.
2D-2	MassDOT Web Site	IT/ Environmental	Post annual reports to the web site.	Annual Reports for Permit Year 1-11 are posted on the Environmental Section's web page.	Permit Year 12's Annual Report will be posted to the Environmental Section web page for public access within 30 days of submittal to EPA and DEP.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
2E	Complete AASHTO's Center for Environmental Excellence on "Strategies & Approaches to Complying with NPDES Phase II Survey"	Environmental	Complete survey.	Completed survey in Permit Year 3.	Measurable goal complete.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
3A-1	Rest Area Leases	Environmental/ Right-of-Way	Include drainage system submittal requirements in all new rest area leases where the site is to be redeveloped. Summarize in annual reports.	Submission of drainage information is a standard condition on all new rest area leases.	Measurable goal complete.
3A -2	Rest Area Leases	Right-of-Way	Summarize new rest area leases issued each year in the annual report.	No new rest area leases were issued during Permit Year 12.	Any new rest area leases will be summarized in the Annual Report.
3B-1	Drainage Inventory	Environmental/ Construction/ Planning/ IT Section	Develop and implement specification for securing drainage information from future construction and redevelopment projects.	As part of the Impaired Waters Program Retrofit Initiative, MassDOT consultants have continued to improve upon MassDOT's drainage components electronic inventory. MassDOT has developed a geospatial database to inventory the improvements being identified, designed and installed as part of the Impaired Waters Program. This database is updated at milestones within the project design. MassDOT updated the Water Quality Data Form submitted as part of 75% Design for programmed projects to provide geospatial information on existing and proposed stormwater improvements to continue to develop the database.	The database will continue to be updated as projects reach milestones. MassDOT will also continue to refine the Water Quality Data Form to capture information from programmed projects. MassDOT is working towards developing a database structure for collection of all MassDOT drainage infrastructure (i.e. catch basins, pipes, manholes, outfalls, etc.). A pilot project will be completed in Permit Year 13 to collect drainage infrastructure on a stretch of roadway. MassDOT will work towards expanding this effort statewide as part of MassDOT's larger asset management program.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
3B-2	Drainage Inventory	Environmental/ IT/ Districts	Map drainage discharges within urbanized areas. By the end of the permit term complete inventory of urbanized areas and include summary of resource areas with outfalls. Review methods to make outfall inventory available to the public for ease of access.	Outfall inventory was completed in Permit Year 5 and is posted on MassDOT's website at http://www.massdot.state.ma.us/planning/Main/MapsDataandReports/Data/GISData/Outfalls.aspx . MassDOT has received a number of requests for information and have been able to respond relatively quickly.	Continue to maintain outfall inventory on website.
3C-1	Drainage Connection Policy	Environmental	1) Issue Drainage Connection Policy. 2) Post copy of policy on MassDOT web site. 3) Enforce the provision through referrals to the Attorney General office. 4) Summarize actions taken in the annual report.	1) Policy issued on June 26, 2006 by the Chief Engineer \ 2) Policy posted at http://www.massdot.state.ma.us/Portals/8/docs/engineeringDirectives/policy/p-06-002.pdf 3 and 4) See Appendix A for illicit connection/discharge issues and actions during this permit year.	The drainage tie-in policy is now a formal MassDOT Policy and will be implemented when necessary.
3C-2	Drainage Tie-In Standard Operation Procedure (SOP)	Environmental/ Legal	Issue a revised Drainage Tie-In SOP. Annual reports will summarize drainage tie-in permits applications and permits issued.	The Drainage Tie-In SOP has been finalized. It was officially issued on March 19, 2012. The SOP continues to be utilized for tie-in issues and procedures. Appendix B summarizes the status of drainage tie-in permits that have been received or are still in the application process as of this permit year.	The Drainage Tie-In SOP will be utilized for tie-in issues and procedures. MassDOT will also continue to update Appendix B as needed.
3D Removed	Revised Illicit Connection Review	Environmental/ Districts	Review twenty discharges each permit year for potential illicit connections.	BMP Revised	BMP Revised

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
3D Revised	Illicit Connection Review	Environmental/ Districts	Develop prioritized list for IDDE and include in Permit Year 5 Annual Report. Release RFR for development and implementation of IDDE program for watersheds on prioritized list. Field review complaints/ potential IDDEs identified by District personnel, during the drainage inventory, in response to municipal email requesting suspect areas and/ or from public throughout the year.	MassDOT and its consultant spent time following up on legacy potential illicit discharges. Appendix A provides a table listing potential illicit discharges and their current status of follow up. Appendix B provides a table of locations that require MassDOT stormwater permits. MassDOT discussed potential IDDE locations with the appropriate MassDOT Districts to determine if the connections were previously permitted or required stormwater permits.	MassDOT will proactively address complaints/ potential IDDEs identified by District personnel, during the Impaired Waters Program work, in response to municipal email requesting suspect areas and/ or from public throughout the year. We will provide summary of IDDE activity in annual report. MassDOT has reviewed the IDDE requirements within the draft NPDES MS4 permit for Massachusetts and begun to develop a prioritization protocol for focusing IDDE efforts in MassDOT-owned stormwater systems.
3E	Resident Engineer Illicit Connection Training	Construction	Provide training on illicit connection policy, illicit connection identification, and protocol for reporting during annual Resident Engineer training seminars. Summarize # of attendees in annual report.	Action completed in Permit Year 4. MassDOT stormwater staff provided a stormwater management internal presentation to MassDOT District Environmental Engineers state-wide on December 11, 2014. The presentation included discussion of the updated Water Quality Data Forms and web map, anticipated Individual NPDES permit for Stormwater Discharges, BMP tracking and maintenance, drainage tie-in permits, and identification of illicit drainage connections.	No action required.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
3F	Maintenance Staff Illicit Connection Training	Environmental	Provide training on illicit connection policy, illicit connection identification, and protocol for reporting during annual training seminars for maintenance personnel.	Action completed in Permit Year 4.	MassDOT is working on providing training on illicit connection policy, illicit connection identification, and protocol for reporting.
Addn.	Standard IDDE Letter	Environmental/Legal	Create a standardized letter to make the early stage of the IDDE procedure more efficient. The letter will alert property owners of illicit and/or unauthorized discharges and connections from their property that tie-in to MassDOT's drainage system. The letter will also recommend that the property owners apply for a non-vehicular access permit in accordance with the MassDOT Drainage Tie-in SOP (as an alternative to discontinuing the process).	Measurable goal met in Permit Year 11. MassDOT has begun to use the Notice of Violation (NOV) letter for notifying property owners of unpermitted connection violations. Appendix B shows NOV letters which were sent in PY12.	Send the standardized NOV letter to property owners for any new event involving illicit and/or unauthorized discharges and connections that tie-in to MassDOT's drainage system.
Addn.	NOV Letter for Municipalities	Environmental/Legal	Create a standardized NOV letter to specific municipalities that have IDDE's into the MassDOT system.	MassDOT has initiated a draft letter to send to municipalities that were identified to have potential IDDE connections to the MassDOT stormwater system. Appendix A provides an update on status of municipal follow up.	Conduct additional field work, inspection, and sampling to determine if potential IDDE connections are of concern. Finalize municipal letter and send as needed. Track letters sent and responses in annual reports.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
4A	MassDOT Department Project Development & Design Guide	Environmental/ Construction/ Projects	Drainage systems for MassDOT roadways will be designed in accordance with Chapter 8 of the MHD Highway Design Guide and companion manuals.	All MassDOT projects will continue to be designed in compliance with the erosion and sediment control requirements in the design guide.	All MassDOT projects will continue to be designed in compliance with the erosion and sediment control requirements in the design guide.
4B	MA DEP Stormwater Management Policy	Environmental/ Construction/ Projects	New construction and redevelopment activities will comply with Massachusetts DEP's Stormwater Management Policy and Performance Standards under the Wetlands Protection Act (WPA) and Clean Water Act Section 401.	MassDOT designs continue to comply with the Stormwater Management Policy when projects are subject to the WPA or within urbanized areas.	MassDOT designs will continue to comply with the Stormwater Management Policy when projects are subject to the WPA or within urbanized areas.
4C	NPDES Construction General Permit	Construction	1) File NOIs for new projects which disturb more than one acre. 2) Summarize NOIs issued to MassDOT in annual report.	20 MassDOT projects included submittal of NOIs and development of SWPPPs for compliance with NPDES construction general permit during Permit Year 12. The permits are listed in Appendix G.	Continue to file NOIs for new projects which disturb more than an acre.
4D	Other State Environmental Regulations or Policy	Environmental/ Construction/ Projects	Projects will continue to be designed and constructed in accordance with all applicable state and federal environmental regulations or policy (e.g. Wetlands Protection Act, 404).	The Environmental Section reviews all projects at the 25% design stage to determine what environmental permits are required. The District Environmental Engineer or equivalent District construction staff person attends all pre-construction meetings with the selected contractor to review permit requirements for the project.	The process of design review and pre-construction coordination will continue.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
4E	MassDOT Stormwater Handbook	Environmental/ Construction/ Projects	Design projects in urbanized areas in compliance with Handbook	MassDOT requires that all new construction and redevelopment activities undertaken by MassDOT, or by others that are funded in whole or in part by MassDOT, comply with the Handbook. MassDOT made major progress in drafting a complete rewrite of Chapters 1-6 of the MassDOT Stormwater Handbook. Chapters 1-3 have been provided to MassDEP for review. Revision to address policy changes, TMDL requirements, and requirements of the forthcoming TS4 Permit is underway, and MassDOT is working with MassDEP on a timeline for ratification of the revised chapters.	MassDOT will continue to require compliance with the Handbook and will continue the process of revising the Handbook and working with MassDEP on a timeline for ratification of the revised Stormwater Handbook.
4F	Standard Specification for Highways and Bridges	Environmental/ Construction/ Projects	Continue to include erosion and pollution prevention controls in construction contracts	Inclusion of such controls is standard practice for construction contracts issued by MassDOT. A revised contract item/ specification is now included in each contract which requires a detailed Storm Water Pollution Prevention Plan (SWPPP)/ Erosion Control Plan (ECP) for all projects (except minor - such as signage, grass mowing, etc.). Having the contractor develop the SWPPP and ECP (rather than the designer) has been accepted by the Conservation Commissions and DEP on a project by project basis. In addition, the Stormwater Unit ensures that all construction contracts include items for sediment removal and disposal from pipes and drainage structures within the project area.	Such controls will continue to be included in construction contracts issued by MassDOT.
4G Revised	MassDOT Research Needs Program	Environmental/ Construction	Continue funding the MassDOT Research Needs Program	Moved to MCM 6 since the focus of the research program is no longer construction controls.	

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
4H	Pre-Construction Meeting Review of NPDES Construction GP requirements	District Environmental Staff/ Construction	District Environmental Staff Review NPDES requirements at the applicable pre-construction meetings. These meetings include outlining the requirements of the Construction General Permit and identify the roles and responsibilities of MassDOT and the Contractor.	MassDOT reviews the NPDES Construction GP requirements (i.e. SWPPP) with Contractors at the pre-construction meeting. MassDOT Environmental Engineers attend all pre-construction meetings which involve environmental permits, not limited to NPDES. Therefore, erosion control is discussed at all pre-con meetings.	MassDOT will continue to review the NPDES Construction GP requirements with Contractors at the pre-construction meeting.
4I	Contract Bid Item and Special Provision for Storm Water Pollution Prevention Plans (SWPPPs)	Construction Section/ Contracts	Prepare a Contract Bid Item and Special Provision for inclusion in construction contracts to be advertised for bids which exceed the one-acre disturbance threshold.	Measurable goal complete.	Measurable goal complete.
4J	Field Guide on Erosion Prevention and Sediment Control	Construction Section/ Chief Engineer	Prepare field guide and issue to Resident Engineers	The guide was issued to resident engineers at winter training and was posted online at the Field Operations page in December 2013 found here: http://www.mhd.state.ma.us/fieldops/downloads/ErosionSedimentFieldGuide2013.pdf Printed Field Guides were handed out at 2014/2015 Winter Seminars.	Measurable goal is now complete.
4K	Storm Water Pollution Prevention Plan (SWPPP) Guidance Manual for Contractors	Construction Section/ Districts	Prepare a SWPPP Guidance for Contractors document on MassDOT construction projects. Implement use of the document on all appropriate MassDOT projects. Once contractors begin to use the document, it may be revised if necessary to address input received internally and from agencies. Ultimately the document will be converted into a computer program.	Measurable goal complete in Permit Year 4. SWPPP bid item which includes an Erosion Control Plan is now included in all contracts.	Continue use by Contractors on MassDOT projects.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
4L-1	Training	Construction Section	Conduct annual Erosion Prevention and Sediment Control Training for MassDOT Construction Personnel. Summarize # of attendees and topics covered.	Winter seminars were performed and topics covered NPDES permitting, erosion and sediment control, dust, noise, landscape, HazMat and Diesel Retrofit Program. District 1 – March 5, 2015 with approximately 48 attendees. District 2 – March 26, 2015 with approximately 52 attendees. District 3 - To be scheduled this Spring. District 4 – March 23, 2015 with approximately 60 attendees. District 5 – To be scheduled this Spring. District 6 – To be held on April 7, 2015. Additionally, staff from MassDOT’s Environmental Section, Construction Environmental Section, and Landscape Design Section completed the Forester University Sediment and Erosion Control for Construction Sites Master Class Webinar Series in December 2014.	MassDOT will continue training on topics similar to those discussed in the past. Upcoming trainings include: District 3 – Spring 2015 District 5 – Spring 2015 District 6 – Spring 2015
4L-2	Non-Traditional Erosion Control Specifications	Landscaping Section	Develop specifications for non-traditional erosion controls and evaluate research being conducted by other state DOTs that can be accepted by MassDOT Research and Materials Section. As new technologies are developed, review and develop specifications for additional erosion controls.	MassDOT continues to use compost amended topsoil and compost filler tubes for many of its projects. There is variability in the reliability of the material available. MassDOT continues to expand its use of compost topsoil in lieu of conventional loam placement, as well as compost filter tubes in lieu of hay bales.	MassDOT intends to fund research for field testing of compost benefits in 2015.
4M Removed	Erosion and Sediment Control Field Tests	Construction Section/ Districts/ Landscaping	Perform field tests of new erosion and sediment control materials on MassDOT projects. Prepare and circulate an internal memo on the effectiveness of the new measure.	MassDOT does not perform its own field tests any longer but instead relies upon guidance developed by others.	BMP Removed.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
4N	Construction Bulletins	Construction Section	Issue annual construction bulletins to each District regarding stormwater issues.	Issued annual construction bulletins to all Districts in the Spring of 2014 and Fall of 2014 regarding erosion control, dust, cofferdams, and stabilization.	Issue bulletin in the Fall of 2015 regarding stormwater issues.
4O	Solicit Construction Activity Feedback from Public	Construction Section/ IT	Maintain MassDOT web site to include contact information for ongoing construction activities. Respond to concerns submitted in a timely manner.	MassDOT maintained their website to include contact information for ongoing construction activities. MassDOT responded to concerns submitted in a timely manner.	MassDOT will continue to maintain their website to include contact information for ongoing construction activities. MassDOT will respond to concerns submitted in a timely manner.
4P	Construction Runoff Control Enforcement	Construction Section/ Districts	Non-compliance with the CGP and SWPPP as well as non-compliance with any applicable environmental permits will be addressed through the District Construction personnel and District Highway Director and can include monetary penalties, where included in contracts, and deductions or delays in payment, when warranted.	The District Construction Office and District Highway Director addressed noncompliance with Environmental Permits on the Whittier Bridge and Crosby Corner. Both Contractors were required to fix erosion/sedimentation projects / permit issues immediately. Fall River Rt. 79 had erosions controls that needed to be maintained and were fixed. MassDOT field staff and Consultant Environmental Monitors are assigned to these projects for environmental protection.	MassDOT will continue to address non-compliance through monetary penalties or deductions or delays in payment, when warranted.
4Q	Standard Practices Memo	Construction Section	MassDOT will prepare and issue a Standard Practices memo to Construction Engineers on the protocol for Illicit Discharge Detection and Elimination during construction projects.	A separate SOP for construction was not developed. During Permit Year 4, the District Construction offices were provided with the procedures to follow on discovery of any illicit discharges during construction and provided training to the Residential Engineers (REs). MassDOT determined a separate SOP was not warranted.	No further action warranted.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
4R	Contractor Inspector Training	Construction Section	Modify NPDES SWPPP item to include half day training requirement. Provide training programs.	The new SWPPP Item 756 has been revised by the working group and added online training, and will be in new contracts with SWPPP Item. The training will be done online with a certification sent to MassDOT. Details will be worked out through the established working group. Finding appropriate online training, hopefully endorsed by or provided by EPA, will be more useful than establishing a separate training.	MassDOT will continue to add this item to contracts.
Addn.	Drainage Structure Sediment Removal	Environmental/Design	Include removal of sediments from drainage structures as a standard item on all construction projects	MassDOT bid items 227.3 (removal of drainage structure sediments) and 227.31 (removal of drainage pipe sediments) have been included in all MassDOT bid estimates so as to ensure drainage structures within the project limits are cleaned if necessary.	Continue to include drainage structure sediment removal bid items in all construction projects.

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 12	Planned Activities – 2015/ 2016
5A-1	MassDOT Stormwater Handbook	Environmental	Secure DEP ratification for MassDOT Stormwater Handbook.	Measurable goal complete for original Handbook. MassDOT is currently revising the Stormwater Handbook to address policy changes, TMDL requirements, and the requirements of the forthcoming TS4 permit and is working with MassDEP on a timeline for ratification of the revised chapters. MassDOT Completed draft revisions of Chapters 1-6 in PY12 and is working towards finalizing all chapters by Fall/Winter 2015.	MassDOT will confirm a timeline with MassDEP for review and ratification of the revised Stormwater Handbook. MassDOT has secured a MassDEP liaison to coordinate MassDEP's review of revisions.
5A-2	Revise Ch. 4 of the MassDOT Storm Water Handbook	Environmental	Revise Chapter 4 (selection methodologies) within 9 months of DEP's SW Policy Handbook update being released. Reissue MassDOT Handbook to Designers within 1 year of DEP's document being released.	MassDOT is revising the Stormwater Handbook. MassDOT determined that a rewrite of the entire Handbook was more appropriate to address the changes in the DEP Policy, the MassDOT experience gained in implementing the guidelines, and the requirements of the forthcoming TS4 permit. Therefore, the update has been more extensive and the schedule extended.	MassDOT will confirm a timeline with MassDEP for review and ratification of the revised Stormwater Handbook.
5A-3	Revise Ch. 5 of the MassDOT Storm Water Handbook	Environmental	Revise Chapter 5 (BMP toolbox) within 9 months of DEP's SW Policy Handbook update being released. Reissue MassDOT Handbook to Designers within 1 year of DEP's document being released.	MassDOT is revising the Storm Water Handbook. MassDOT determined that a rewrite of the entire Handbook was more appropriate to address the changes in the DEP Policy and the MassDOT experience gained in implementing the guidelines. Therefore, the update has been more extensive and the schedule extended.	MassDOT will confirm a timeline with MassDEP for review and ratification of the revised Stormwater Handbook.
5B	MassDOT Roadway Maintenance Program	Maintenance	Continue to implement MassDOT maintenance program as outlined in the maintenance schedule and in accordance with TMDL watersheds specific agreements.	MassDOT maintained their roads in compliance with the maintenance schedule included in the SWMP and TMDL watershed specific agreements. A summary of this year's maintenance for each district is included in Appendix H.	MassDOT will continue to conduct maintenance on its roadways as outlined in the maintenance schedule and in accordance with TMDL watersheds specific agreements.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
5C Removed	Technology Acceptance and Reciprocity Partnership (TARP)	TARP	Continue to work with DEP to develop review protocol for innovative stormwater BMPs. Summarize meeting(s) attended and agenda in annual report.	BMP Revised – see 5C Revised below.	BMP Revised.
5C Revised	Identify Innovative Stormwater BMPs Appropriate for MassDOT Projects	Environmental	Introduce innovative stormwater BMPs for MassDOT highway projects	MassDOT has been drafting Chapters 5&6 of the MassDOT Stormwater Handbook. These chapters identify highway-specific BMPs that are designed and implemented on a site specific basis. New and innovative BMPs are being evaluated for inclusion in these chapters.	Ratify & publish the MassDOT Stormwater Handbook.
5D	Southeast Expressway BMP Effectiveness Project	Environmental	Conduct a study of the effectiveness of water quality inlets (WQIs) and catch basins at removing suspended sediments from highway runoff.	Study completed previously. The 14-month sediment removal efficiency was 35% for one WQI and 28% for the second WQI. The efficiency for individual storms for deep sump hooded catch basins was 39%.	No further action planned.
5E	Highway Runoff Contaminant Model	Env. Div. Consultant	Develop and calibrate contaminant loading model.	MassDOT continues to use its long-term continuous simulation model for loading and BMP performances for pollutant accounting for portions of its program. USGS published the BMP treatment report: http://pubs.usgs.gov/sir/2014/5037/ MassDOT continues to work with USGS in the development and use of SELDM.	MassDOT plans on developing look-up values for pollutant loading and BMP performances which will be developed using published data from EPA, and results from SELDM and MassDOT's long-term continuous simulation model. MassDOT will use the values to estimate loading and pollutant treatment for all of its inventoried BMPs where data is available.
5F Removed	BMP Maintenance Manual	Environmental/ Maintenance	Develop BMP Maintenance Manual to be used as a field guide by maintenance personnel Provide training on the BMP Maintenance Manual.	Changes to BMP 5B narrative now include the manual used as guidance by maintenance staff while performing drainage system maintenance.	No further action.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
5G	Right of Way Parcel Evaluation	Environmental	Develop and implement a program of evaluating parcels which are candidates for disposal by MassDOT for their potential in siting stormwater BMPs.	Environmental reviewed 23 right of way canvasses. All sales, transfers, and leases of MassDOT properties were approved. Conditions were developed for parcels that were determined to potentially impact existing stormwater facilities or wetlands. These conditions were made standard for all future right-of-way canvass agreements.	The Environmental Section will continue to review canvasses as they are presented. The emphasis will remain on keeping parcels of land that are highly suitable for stormwater treatment (as well as wetland replication).
5H-1	Post Construction Runoff Enforcement- Illicit Discharge Prohibition Policy	Commissioner/ Legal/ Environmental	1) Develop policy for addressing unauthorized connections to the MassDOT's drainage system. 2) Enforce the provisions through referrals to the Attorney General. 3) Summarize actions taken in annual report.	Illicit Discharge Policy was issued in June 2006. Failure to comply with the Dept. request will necessitate further action by the Department either through the State Attorney General's office or the District. There were no referrals to the Attorney General's office during Permit Year 12. The standard Notice of Violation (NOV) Letter has been revised. The IDDE Table in Appendix A has been updated to reflect the current status for each case.	MassDOT's Environmental Services Section will continue to communicate (where possible) with the property owners and move toward resolution of the issues. The improved Notice of Violation (NOV) Letter will now be used any new event involving illicit and/or unauthorized discharges and connections that tie-in to MassDOT's drainage system.
5H-2	Post Construction Runoff Enforcement- Drainage Tie-In Policy	Commissioner/ Legal/ Environmental/ Districts	Develop permitting process for adjacent properties which would like to tie into MassDOT drainage system. Implement program and summarize actions taken under program in annual report.	The Drainage Tie-In SOP is being implemented when necessary. Appendix B summarizes the status of drainage tie-in permits that have been received or are still in the application process as of this permit year.	The Drainage Tie-In SOP will continue to be implemented for tie-in issues and procedures. MassDOT will also continue to update Appendix B as needed.
5H-3	Post Construction Runoff Enforcement- Offsite Pollution to MassDOT Drainage System	Commissioner/ Legal/ Environmental	Runoff not meeting the NPDES MS4 requirements which is reaching the MassDOT MS4 and is not covered under 5H-1 or 5H-2 may be considered trespassing and referred to the AG's office by MassDOT counsel at the DHD's discretion.	No enforcement action was needed in any of the districts.	MassDOT will continue to take action when these requirements are not met.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
5I	Rest Area Redevelopment to Meet Stormwater Management Handbook Standards	Environmental/ Right of Way	Add language to new lease agreements requiring lessees, who redevelop or build new buildings on rest area property leased from MassDOT, to meet the standards within the Storm Water Management Handbook and the SWMP requirements.	Measurable goal complete.	No action required.
5J	Transportation Evaluation Criteria	Planning/ MPOs	Continue to include environmental considerations in the funding prioritization evaluation.	MPOs continued to include the environmental component in their evaluation procedures.	Continue to include environmental component in evaluation procedure.
5K	Federal Enhancement Funding	Planning	Explore opportunities for using Federal enhancement funding for environmental restoration and pollution abatement projects. Participate in quarterly committee meetings.	MassDOT no longer utilizes TAP funding for the Impaired Waters Program. Instead, funding for structural stormwater improvements is received now through the FHWA Surface Transportation Program (STP) under Transportation Enhancements. MassDOT has continued to secure funding for the Impaired Waters Program. MassDOT constructed stormwater improvements in PY12 through the existing SEP-14 funding through FHWA and additionally advertised over \$2 million in stormwater retrofit projects.	Continue to utilize funding from the STP for the Impaired Waters Program. Under Federal Fiscal Year 2015 (October 2014-September 2015), MassDOT will advertise approximately \$11 million in stormwater improvements projects.

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 12	Planned Activities – 2015/2016
6A-1 Removed	Source Control - 511 Massachusetts Traveler Information System	Project Clean/Operations	Maintain the existing 511 System.	Revised – see 6A-1 below.	BMP removed.
6A-1 Revised	Source Control - Call-In Numbers for Roadway Debris	Operations	Maintain Call-In Numbers for Roadway Debris	Each District and Headquarters has a general call-in number for the public to use to alert MassDOT of roadway debris. If Headquarter receives the call, then the information is forwarded to the appropriate District. The information is then forwarded to the Maintenance Department Foreman, who coordinates with the workers to alleviate the situation. Call-in numbers are listed below. • <i>Headquarters: (857) 368-4636</i> • <i>District 1: (413)-637-5700</i> • <i>District 2: (413) 582-0599</i> • <i>District 3: (508) 929-3800</i> • <i>District 4: (781) 641-8300</i> • <i>District 5: (508) 824-6633</i> • <i>District 6: (857) 368-6100</i> MassDOT provides Highway Assistance Patrol (HAP), an emergency roadway assistance service, along the most highly traveled roadways in Massachusetts. HAP patrols 982,000 miles annually and removes roadway debris when encountered, in addition to other services.	The call-in numbers will continue to be utilized for the public to call in about roadway debris.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6A-2	Source Control – Adopt-a-Highway	Adopt-a-Highway/ Operations	Continue to support this program by maintaining signs in areas where the program is active. Summarize number of road miles cleaned.	MassDOT continues to support this program. Approximately 566 miles were cleaned for litter pick-up by Sponsor-A-Highway. MassDOT continues to maintain, repair, and replace program signs as needed.	MassDOT will maintain or increase the current level of sponsors and increase volunteer participation.
6A-3	Source Control - Deicing Programs and Reduced Salt Areas	Environmental/ Districts	Continue to support De-icing and Reduced Salt Areas Programs.	MassDOT continues to support the De-icing and Reduced Salt Areas Programs. The Salt Material Usage Committee was reconvened on July 24, 2014 and March 26, 2015. The committee discussed the ESPR Annual Report, the training program trial Reduced Salt Zones (RSZ) study for using 3:1 ratio of salt brine facility to sand. The Committee also reviewed the Snow and Ice Control Program Annual Report, data collection, new areas of concern, salt storage management and technological advances and salt storage upgrades.	The next meeting will be held in the summer/spring of 2015. The committee will review results from RSZ study, new areas of concern, and the Snow and Ice Control Program Annual update.
6A-4	Source Control – Motorist Assistance Program (formerly HELP)	MAP Program/ Operations	Continue to provide 22 Highway Emergency Locator Program (HELP) vans and/or tow trucks.	MassDOT provided 35 Highway Assistance Program (HAP) vans and/or tow trucks. The HAP vehicles cover 25 patrol routes on Massachusetts' most highly traveled roads and patrols approximately 982,000 miles annually.	MassDOT will continue to maintain this program.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6A-5	Source Control - VMP	Environmental	1) Develop a generic Vegetation Management Plan (VMP) which outlines methods of minimizing the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers. 2) Prepare a Yearly Operational Plan (YOP) by April of each year. 3) Post YOP on web site within 30 days. 4) Summarize actions taken in previous year in annual report.	A VMP was not issued for Districts 2-5 this year, therefore no herbicide spraying occurred this year in those districts. District 1 still has an active VMP, which only allows herbicide spraying beneath the guardrail along I-90. The 2014-2018 VMP is posted on MassDOT's website along with the 2015 YOP for District 1 at http://www.massdot.state.ma.us/highway/DoingBusinessWithUs/ManualsPublicationsForms.aspx	MassDOT anticipates very limited spraying statewide- mostly for treatment of invasive plants.
6A-6	Source Control - HOV	Planning	Continue participation in ridesharing activities through the duration of the permit term.	MassDOT continues to support this program.	MassDOT will continue to support this program.
6A-7	Source Control - Alternative Transportation	Planning	Provide technical assistance and funding for bicycling and walking, including on-road and off-road improvements, at the local level.	MassDOT continues to utilize Transportation Enhancement funding to fund bicycle and walking infrastructure improvements as part of the Safe Route to School Program and other transportation improvement projects.	MassDOT will continue to fund pedestrian and cyclist transportation projects including Safe Routes to Schools projects and multi-use path projects.
6A-8	Source Control- Highway Safety	Highway Design	1) Incorporate safety measures into all new highway designs. 2) Provide signage to warn of vehicle hazards including tipping hazards and steep grades. 3) Install variable message boards (VMBs) on selected roadways to improve driver awareness. 4) Include evolving safety technologies as part of future highway design projects as they are developed.	Safety measures are included in all new highway designs including appropriate signage and evolving technologies. MassDOT installs and maintains VMBs on select roads to improve driver awareness to potential safety hazards.	MassDOT will continue to support this program.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6A-9 Revised	Source Control - GreenDOT	Environmental	1) Maintain an active Pollution Prevention Task Force (PPTF) throughout the permit term. 2) Provide summary of actions taken on each pollution prevention initiative included in the SWMP in the annual report.	The Department's TUR/P2 Program has been superseded by the department's GreenDOT and Climate Control Initiatives. MassDOT continued use of water-based, lead-free and chrome-free traffic marking paints; indoor storage of raw materials (oils, chemicals, salt). HPLV (2-4 gpm) pressure washers used for vehicle cleaning and degreasing vs. standard hose (20-25 gpm). MassDOT continued enforcement of the indoor-only vehicle washing policy.	MassDOT will continue to support the principles of the previous TUR/P2 Program, which has now been superseded by GreenDOT. MassDOT will continue monitoring for proper handling and management of stormwater polluting materials, solid wastes, and industrial waste water.
6B-1	Employee Training	MTAP/ Baystate Roads	Facilitate one training program related to stormwater and /or snow and ice control as a means of reducing source pollution. Document attendance numbers.	Twelve snow and ice control classes were conducted in 2014 with a total of 421 attendees. Trainings dates were October through November 2014. Topics covered included: • Anti-icing • Department operations • Salt and environmental considerations	Provide one training program for MassDOT employees (provided by MTAP) and one for municipal DPW snowplow drivers (provided by MTAP/Baystate Roads) related to snow and ice control as a means of reducing source pollution. Document attendance numbers.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6B-2	Employee Training	Environmental	Provide annual training to at least 300 maintenance facility personnel regarding good housekeeping/ spill prevention.	Trainings were provided during the winter of 2013/2014 for 440 maintenance facility personnel. Training included discussion of the following topics: • Environmental Awareness Training • Multi-media compliance • Waste and raw materials management relative to stormwater pollution prevention • Reporting of oil/hazmat to stormwater systems • Asbestos containing materials • Solid waste • Roadside issues • Storage tanks • Wetlands protection and compliance • Recordkeeping • Inspections • Water quality (including stormwater issues) • Natural resources • Spill management • Hazardous materials management • Hazardous waste management • Universal waste management • Stage II vapor recovery system inspection	MassDOT will again provide annual training to maintenance facility personnel regarding good housekeeping practices and spill prevention.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6B-2 (cont'd)				District 1: On May 13th, 14th, 15th, and 16th, 2014, training sessions were provided for 7 district maintenance personnel. District 2: On January 14th, 15th, and 21st, training sessions were provided for 90 district maintenance personnel. District 3: On November 4th, 14th, 18th, and 25th, 2014, training sessions were provided for 105 district maintenance personnel. District 4: On December 3rd, 4th, 9th, 10th, and 11th, 2014, trainings sessions were provided for 89 district maintenance personnel. District 5: On November 5th and 6th, 2014, training sessions were provided for 69 maintenance personnel. District 6: On November 5th, 2014 and March 12th, 2015, training sessions were provided for 13 district maintenance personnel.	
6B-3	Employee Training	Highway Operations	Provide annual training to at least 200 supervisors and drivers annually on the latest on snow and ice removal.	25 Snow and Ice Trainings were held from October 1 st through December 20 th , 2014 for approximately 900 state personnel and over 500 vendors attended. Topics covered included: anti-icing versus de-icing, Department Operations and Salt Environmental considerations.	MassDOT will continue to provide training and focus on operational efficiency and effectiveness. Topics to discuss will include results of pilot studies conducted as well as material usage, technology, and cause and effect.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6B-4	Employee Training	Highway Operations	Ensure all equipment and vehicle operators have received training on the proper operation of the equipment and vehicles they operate.	• Training was provided for the following equipment in PY12: • Tractor Trailer Training Eager Beaver Transport Trailer D#-1, 2, & 3. Sept. 23rd 2014 • Ray-co Wood Chipper Training D#-5 April 8th 2014 • Caterpillar Front End Loader 930K Training—April 2014 D#-1,2,4,6 & HOV Lane • Elgin 3-Wheel Pelican and 4-Wheel Eagle Sweeper Training-April 2nd 2014 D#-2, 5 & 6 • John Deere Tractor Mower/w side & rear Flails, 10' and 15' Bat Wings, and Over the Guard Rail Mowers-May 2015 D#-5. • Terex LT-38' Aerial Bucket Lift-Training, April 9th 2014 D#-2	MassDOT will provide operational, safety, and maintenance training on sweeper training, mower training, and snow and ice equipment training. Training is based on the District's needs and requests. Plans for PY12 include sweeper training, mower training, S & I equipment training, includes the New TP-26 tow plows. All trainings consist of operational, safety, and maintenance.
6C-1	Maintenance	Districts	Continue to implement maintenance schedule outlined in Appendix E of the SWMP.	MassDOT continued to maintain the highway system through catch basin cleaning contracts and performed street sweeping and regular drainage system maintenance. See Appendix H of the annual report for a summary of compliance.	MassDOT will continue to maintain the highway system through catch basin cleaning contracts, street sweeping, and regular drainage system maintenance in compliance with Appendix E of the SWMP.
6C-2	Maintenance	Districts	1) MassDOT reviewed each of the maintenance and material storage yards and creates a site specific facility handbook that provides information on necessary steps to environmental compliance. 2) Post EMS Manual on MassDOT website for public information. 3) Post generic Facility Handbook on website for public information.	Site specific facility handbooks were created in 1995. This year no updates were necessary for the EMS Manual. The manual is posted on the internal MassDOT web site. The public website is currently being updated.	Planned routine updates are scheduled for Permit Year 13 MassDOT will continue to post updated materials to the public website. EMS materials including the Manual and the Handbook will be uploaded once the website has been updated.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6C-3	Maintenance Record and Data Management Work Management System	Environmental	1) Develop work management system. 2) Populate program with infrastructure information as available. 3) Implement system and begin to record maintenance activities in these watersheds.	The Maximo Asset and Maintenance Management System is being used in each of MassDOT's Districts as a maintenance work order program. Drainage-related work orders are tracked in the system. Most of the work involves ongoing catch basin cleaning, unplugging and repair. Other documented activities include waterway digging and clearing, drainage structure maintenance, drop inlet cleaning, and culvert cleaning. The system is still in its early stages and is not yet at a point where information can be easily pulled from for reporting purposes. MassDOT is actively developing an Asset Management System to optimize the information collected.	Continue to optimize the data collection in the Maximo Asset and Maintenance Management System through the Asset Management initiative. Begin developing drainage infrastructure data collection system and collect data. Pilot stormwater BMP inspection program by developing inspection and maintenance logs and schedules. Begin to collect BMP inspection data.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6D	Waste Disposal	Districts	1) Street sweeping waste will be reused in appropriate slope stabilization and road work projects in compliance with SOP, when appropriate. 2) Street Sweeping material which cannot be reused will be disposed of at landfills as daily cover. 3) Waste material from drainage structures and stormwater BMPs removed during maintenance will be disposed of according to “Reuse and Disposal of Contaminated Soil at Massachusetts Landfills” DEP Policy #COMM-97-001.	MassDOT and its contractors continue to properly dispose of waste. MassDOT did not have an appropriate opportunity to reuse street sweeping waste. MassDOT removed an estimated 13,817 C.Y. of sweeping material and 38,328 C.Y. of drainage structure material this year. Material removed is summarized in the table below. • District 1 had 2,924 C.Y. of sweeping materials removed and 81 C.Y. of drainage structure waste removed. • District 2 had 3,200 C.Y. of sweeping materials removed and 72 C.Y. of drainage structure waste removed. • District 3 had 794 C.Y. of sweeping materials removed and 100 C.Y. of drainage structure waste removed. (note: additional work completed under a contract that only reported hours worked with a vacuum truck. 344 hours cleaning catch basins and pipes were reported in addition to the quantities). • District 4 had 4,268 C.Y. of sweeping materials removed and 136 C.Y. of drainage structure waste removed. • District 5 had 1,857 C.Y. of sweeping materials removed and 32,300 C.Y. of drainage structure waste removed. • District 6 had 2,883 C.Y. of sweeping materials removed and 427 C.Y. of drainage structure waste removed.	MassDOT and its contractors will continue to properly dispose of waste and ensure disposal of street sweepings and catch basin cleanings are in accordance with DEP policy.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6E – Removed	Good Housekeeping/ Pollution Prevention Program Evaluation	Environmental	Evaluate existing Maintenance Programs to determine additional or revised activities, which would increase effectiveness and usefulness of the programs.	BMP 6E Good Housekeeping/ Pollution Prevention Program Evaluation has been removed (and the subsequent BMPs renumbered) since the addition of BMP 6F through 6O provide a better use of resources with an increased impact on meeting the good housekeeping and pollution prevention minimum control measure.	No further action recommended.
6E Revised	Catch Basin Accumulation Project	Environmental/ Maintenance/ Districts	1) Provide annual report on progress each December and include summary in annual report. 2) Complete a study of debris accumulation in catch basins. 3) Based on the results of the study, revise the existing cleaning schedule and SOP for catch basin cleaning.	Measurable goal is complete. The findings of the Catch Basin Accumulation Project do not support the need for revising the existing cleaning schedule and SOP for catch basin cleaning.	MassDOT plans to conduct a catch basin study along I-95 in Needham and Wellesley following the completion of the Add-a-Lane project. The study will involve inspecting a representative set of catch basins four times per year for one year. This will inform MassDOT and MassDEP on the appropriate, effective, and efficient cleaning schedule required for catch basins along this corridor and potentially inform programs statewide.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6F	Policy and Program Review	Environmental	MassDOT will continue to at least biannually evaluate its snow and ice control policies and operational programs in order to make adjustments based on data and experience, and to respond to changing conditions.	The program is evaluated each year and took place during the winter season of 2014-2015. MassDOT established a program so that all material spreaders will have Closed Loop Ground Speed Controller Systems by the beginning Snow & Ice season of 2015-2016, which was met this year. A truck operator with an automatic controller based on ground speed is able to maintain a constant application rate of material on the road without having to adjust the valve opening to conform to the changing speed of the truck. The closed-loop system monitors both truck speed and belt or auger speed and adjusts the control valve until a predetermined ratio value of belt or auger speed and truck speed is obtained. This provides a more efficient application of material.	The program will be evaluated spring 2015.
6G	Salt Remediation Program	Environmental. Maintenance/ Districts	Continue to provide the Salt Remediation Program with a funding level appropriate to quickly address salt related complaints.	Funding provided through Interdepartmental Service Agreement (ISA) - \$4.07 million, from July 2012 through June 2015. An updated version of the Public Well Supply Matrix is included as Appendix I of this annual report to summarize the current status of each public well included in the salt remediation program.	Continue Salt Remediation Program. New ISA in the amount of \$4,501,095 anticipated for July 2015-June 30, 2018.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6H	Clean Well Initiative	Environmental	Provide a continued level of funding that will allow MassDOT to complete up to 20 replacement wells per year.	MassDOT remediated nine (9) wells including: • Sandoval in Palmer • Flebotte in Palmer • Scarpati in Pepperell • Toomey in Rutland • Skolnick in Ashby • J. Neri in Barre • M. Nerri in Barre • Cooke in Russell • Carven in Uxbridge An updated version of the Public Well Supply Matrix is included as Appendix I of this annual report to summarize the current status of each public well included in the Clean Well Initiative Program.	Continue sampling and analysis of private water supply wells and where applicable well rehabilitation, replacement well, water treatment activities and drainage modifications.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6I	Salt/Sand Management and Storage	Operations	MassDOT will continue to replace or repair inadequate salt storage sheds, as well as cover sand piles and/or move them out of wetland buffer zones. Review sheds: Increased capacity of some sheds may be justified because salt storage needs have grown over time and/or because the shed is in a sensitive area and the salt loading operations call for better containment. In sensitive areas, consideration should be given to the use of Gambrel style sheds that provide for the entire operation to be conducted under cover to minimize salt spillage outside of the shed. MassDOT will continue to prioritize the identification and selection of parcels being considered for new salt storage facilities, considering operational needs and the environmental setting. Review Sand Piles: MassDOT will strive to locate sand piles outside wetland buffer zones whenever space allows. However, when this is not possible the department will work towards storing sand piles under cover, especially during the non-winter months. This could be accomplished by storing sand within sheds or, more likely, using a heavy-gauge polyethylene tarp. (Continued on next page)	MassDOT replaced the Andover salt shed, moving it out of Haggett’s Pond watershed and the Braintree salt shed was moved to a location outside the wetland buffer zone. MassDOT continues to staff the position of Director of Snow and Ice Operations. In PY12, the standing Director retired after many years of service and a new Director was instated. The new Director of Snow and Ice Operations is a long standing MassDOT employee who formerly served in the maintenance division of District 4 and brings with him a great understanding of MassDOT highway maintenance and operations.	Continue to train our personnel to be aware of wetlands in and around our facilities. MassDOT will repair or replace many damaged sheds. Locations include: Hopkinton, Manchester, Stoughton, Sturbridge and Charlton. Increase capacity needs in Braintree and Yarmouth. Construction design considered in environmental sensitive areas. Work with area supervisors to manage sand supply in all areas.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6I (cont'd)			The tarp could be peeled back once, before winter operations, and then covered again at the end of the season. Personnel: In October 2006, MassDOT hired a Director of Snow & Ice Operations, with over 20 years of experience in winter operations, to improve salt management and supervision of deicing operations.		
6J	Salt Storage Best Management Practices/ Pollution Prevention	Environmental	Continue to implement salt storage in compliance with DEP Guidelines on Deicing Chemical Storage. Continue to follow MassDOT SOP for the Management of Sand and Deicing Chemicals at MassDOT Facilities. Continue to follow Facility Environmental Handbook guidelines at maintenance facilities.	MassDOT continued to include environmental stewardship in our winter operations classes. We emphasized the needs to follow the current SOP's on salt management and proper material handling.	Continue to inform personnel of the cause and effects of winter operations on the environment.
6K	Equipment Improvements	Environmental	MassDOT will continue to expand the use of anti-icing as a standard tool for snow and ice control.	The anti-icing program expanded with the opening of a salt brine production facility in Sagamore in December 2012. The use of anti-icing has increased. MassDOT increased the number of anti-icing equipment and the hours the equipment is utilized. Most of the depots across the Commonwealth have access to direct liquid truck. Interstates are the primary roads targeted followed by all others.	MassDOT will work on method of quantifying anti-icing activities versus pre-wetting activities. Each District will acquire additional liquid tank trucks to increase roadway pretreatment prior to winter storm events.
6L	Enhanced Weather Forecasting Information	Environmental	Continue to provide sufficient funding to use weather forecasting contractor to provide up-to-date and local weather information during snow and ice season.	MassDOT-Highway Division is in the fourth year of a multi-year agreement with Telvent, our weather provider approximately 50k (5-Year Contract Signed). MassDOT worked with the National Weather Services and NOAA to improve our Snow and Ice Operations.	MassDOT will continue to investigate pavement temperature forecasting. Additionally, MassDOT will install 16 non-invasive pavement-temperature and friction monitors statewide.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6M	Road Weather Information System (RWIS)	Environmental	MassDOT will ensure that these stations will be maintained so as to remain fully functional.	MassDOT has developed an agreement with NH, ME, VT, RI and CT to expand the data sharing of RWIS station data, significantly expanding the RWIS network.	MassDOT will work to expand the use of RWIS data across the Commonwealth.
6N	Alternative Technologies	Environmental	MassDOT will continue to maximize the use of Premix and liquid calcium chloride, as alternative deicers, to reduce the quantity of granular sodium chloride, and should closely monitor reduced salt zones during storms to ensure the proper timing of salt applications and to minimize the potential for overuse of deicing chemicals.	MassDOT – Highway Division has increased the use of liquid anti-icers in an attempt to reduce the amounts of granular sodium chloride. Research is proving that by better timing and proper application rates, MassDOT could reduce the overall chlorides dispensed in the ‘reduce salt zone.’ The uses of anti-icing techniques have significantly reduced the amount of deicer required to keep the roads reasonably safe. Additionally, all MassDOT salt spreader trucks now operate with a closed loop controller system. Furthermore, all MassDOT contractors are required to operate their spreaders using closed loop controllers as well.	MassDOT will continue to maximize the use of Premix and liquid magnesium chloride as alternative deicers, reduce the quantity of granular sodium chloride, and closely monitor reduced salt zones during storms to ensure the proper timing of salt applications and to minimize the potential for overuse of deicing chemicals.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
6O	Research	Operations	MassDOT has joined Clear Roads program and will continue to explore moving forward on other projects. Summarize research performed.	Massachusetts has continued to commit resources towards Clear Roads and MassDOT continues to be an active member in the Clear Roads program. Clear Roads activities are documented on their web-site Clearroads.org. Research continues to assist MassDOT by bringing the most current practices to Operations. New research projects being conducted include: • Snowplow operator and supervisor training • Snow and ice control-environmental management practices • Winter maintenance interchange best practices.	MassDOT will continue to support, participate, and use the research and benefits of collaboration with Clear Roads.
Addn.	MassDOT Research Needs Program (Previously indicated as BMP 4G but focus of research program is now for source control instead of construction)	Environmental/Construction	Continue funding the MassDOT Research Needs Program.	Continued funding the MassDOT Research Needs Program. Participated in NCHRP studies concerning limitations of the infiltration approach to stormwater management in the highway setting. Ratified an agreement with USGS to study phosphorous loading off bridges.	MassDOT will continue to participate in NCHRP studies as well as work with USGS to consult as needed on water quality issues and on the phosphorus loading off bridges.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/2016
Addn.	Open Graded Friction Course	Environmental	Complete Study on Open Graded Friction Course benefits on stormwater treatment	MassDOT, along with USGS, is initiating a study on the use and benefits of Open Graded Friction Course (OGFC). The reason for this study is to obtain stormwater treatment credit from MassDEP for use of this technology along a section of I-95 in Needham and Wellesley. Open-graded-friction-course has stormwater quality benefits, as it reduces “splash” and runoff volumes, and contributes fewer pollutants to runoff than traditional pavement. In the past year, USGS has prepared a draft scope of the study and funding for USGS to complete the work has been evaluated. The study will begin following completion of construction along I-95 which is anticipated to be April 2019.	Continue discussions with MassDEP regarding obtaining stormwater treatment credit for OGFC use. Make preparations for the study to confirm water quality benefits associated with use of this BMP in consultation with MassDEP.

7. Impaired Waters

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
7A	Wetland Protection Act (WPA) Compliance	Environmental	1) All MassDOT projects will comply with the WPA and MESA. 2) When potential impacts are identified, MassDOT will work with the appropriate agencies to design the project to minimize the impacts.	Continued to comply with requirements of MESA and the WPA.	Continued to comply with requirements of MESA and the WPA.
7B	401 Water Quality Certification	Environmental	Massachusetts's 401 Water Quality certification requirements, which include review of the project by MA Natural Heritage program and US Fish and Wildlife if endangered species habitat is mapped in the project vicinity, will be complied with whenever they are applicable.	Continue to comply with MA 401 Water Quality Certification Regulations.	Continue to comply with MA 401 Water Quality Certification Regulations.
7C	CE Checklist	Environmental	Complete a Categorical Exclusion Checklist for all MassDOT projects that utilize federal funds.	76 Categorical Exclusion (CE) checklists were completed and approved for all federally-aided projects advertised for construction by MassDOT during Permit Year 12. All documentation supporting the MassDOT's determination of a project meeting the definition of a Categorical Exclusion is on file with Environmental Services Department at MassDOT Highway Division.	Continue to approve Categorical Exclusion Checklists in support of MassDOT Highway Division's Construction Advertising Program.

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
7D	Environmental Site Data Form (Water Quality Data Form - WQDF)	Environmental/ Construction	Develop an environmental site data form for review by designers with Environmental staff at 25% Design. Implement on all projects.	The WQDF captures information during programmed projects about existing and proposed BMPs identified by design consultants and MassDOT designers. The WQDF is part of 25% (preliminary design) and 75% design (final design) submittals to MassDOT. The form requires the designer to document information about the stormwater system and the receiving water. In PY 12 the updated WQDF was institutionalized and includes additional features such as data verification and BMP location information, to facilitate more accurate data reporting. MassDOT developed a web map viewer to go along with the WQDF which allows designers to easily determine the waterbody their project is discharging to and whether the project area is within a watershed with a TMDL. MassDOT held two webinars in the Summer of 2014 to introduce designer to the updated WQDF and associated web map. (continued on next page)	Continue to require submittal of forms at 25% and 75% design submittals. Report on results in annual report. Continue to educate designers on how to accurately and comprehensively complete the WQDF.

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
7D (cont.)				MassDOT has received more than 128 water quality data forms; 79 at the 25% design phase and 49 forms at the 75% design phase. Of the 25% forms, 164 receiving waterbodies were identified, 64 affected an impaired water body without a TMDL, and 100 were in a watershed covered by a TMDL and 76 receiving waterbodies with a TMDL were identified.. The 75% forms documented a total of 99 stormwater BMPs (existing and proposed) and at least 1148 deep sump catch basins. Additionally, non-structural BMPs implemented for these projects were documented and included measures such as street sweeping, protecting sensitive areas, inspection and cleaning of stormwater structures, catch basin cleaning, snow removal and deicing controls, and use of sediment and erosion controls during construction. For more information on the data collected through the WQDF, please see Appendix E.	

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
7E	TMDL Recommendation Summary Table Update	Environmental	The TMDL Recommendation Summary Table of the annual report will be updated annually to reflect the TMDL reports that have been finalized in the previous permit year and to include update on activities consistent with the recommendations made in the TMDL.	While MassDOT has developed a more detailed program in the Impaired Water Program to address TMDLs, we had historically included a table in the annual report summarizing all Final TMDLs in the state, how they relate to MassDOT and activities which have occurred in the watershed that are consistent with the TMDL suggestions. We have continued to include this table as Appendix J of this annual report for consistency with new data regarding activities that occurred this year and TMDLs that were finalized this permit year. As part of MassDOT's commitment under our Impaired Waters Program and BMP 7R of the SWMP, impaired waters with TMDLs are being assessed for compliance with the TMDL. Additional information is included under BMP 7R of this report and Permit Year 11 progress in Appendix D.	Continue to review draft and final TMDL reports and implement TMDL recommended activities when possible. Continue to review impaired waterbodies with TMDLs as indicated in BMP 7R.
7F – 7Q	TMDL Specific Recommendations	See NOI		Comply with TMDL recommendations in Appendix J.	Comply with TMDL recommendations in Appendix J.

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
7R Revised	TMDL Watershed Review	Environmental	1. Assess all TMDL waters (total of 209 covered by final TMDLs as of April 30, 2010) listed in Appendix L-1 of the SWMP (revised as of July 22, 2010), using the process described in BMP 7R. The assessments will be completed over five years, beginning June 8, 2010, and 20% (or about 41, TMDL waters) will be assessed each year. 2. Assess at least 25 water bodies (both TMDL and non-TMDL waters) within the first quarter of the Impaired Water Program (BMPs 7U and 7R). 3. Submit annual report to EPA containing the documentation described in Step 6 of BMP 7R. 4. Submit quarterly progress report to EPA during the first year of the Impaired Waters Program (BMP 7U and BMP 7R) and semi-annually thereafter.	1. MassDOT completed assessment of 43 waterbodies covered by TMDLs on the Appendix L-1 list for the semi-annual submittal on June 8, 2014 and 14 waterbodies in the semi-annual submittal on December 8, 2014 to EPA. MassDOT has reviewed all waterbodies on the Appendix L-1 list within watersheds with a TMDL and has fulfilled their commitment to the court. 2. Completed in Permit Year 8. 3 & 4. A summary of the TMDL waterbodies reviewed during Permit Year 12 is included in Appendix D. MassDOT's consultants (AECOM, BSC, FST, Tetra Tech and VHB) provided environmental assessment and design services for water quality treatment BMPs within watersheds with TMDLs. MassDOT finalized a refinement to the TMDL methodology to assess water bodies covered by a Nitrogen TMDL located on Cape Cod, the Islands, and other parts of southeastern Massachusetts located in watersheds mainly driven by groundwater instead of surface water. This methodology was included in the June 2014 semi-annual submission and posted on the MassDOT website.	Future activities of the Impaired Waters Program are summarized in Appendix D. MassDOT will continue to assess waterbodies under BMP 7R and provide the final semi-annual report to EPA on June 8, 2015. MassDOT will continue to be an active participant in developing TMDLs that impact MassDOT with EPA and DEP. MassDOT will provide public comment on draft TMDLs as appropriate. As new TMDLs are finalized, they will be reviewed during future designs of programmed projects.

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
7R Revised (cont'd)	TMDL Watershed Review			MassDOT continues to be an active participant in developing TMDLs with EPA and DEP. Appendix J includes a review of final TMDLs and the implementation requirements which are relevant to MassDOT. Similarly, MassDOT worked with the Cape Cod Commission this year to assist them in preparing the Cape Cod Section 208 report.	
7S	Salt Remediation Program	Environmental	Continue to provide the Salt Remediation Program with a funding level appropriate to quickly address salt related complaints.	Overall ISA 56565 Salt Remediation Program budget is \$4.07 million through ISA from July 2012 through June 2015.	Continue to address new and existing salt complaints.
7T Added	Review of Specific Sites for Water Quality Exceedances in Response to Conservation Law Foundation (CLF) et al. Lawsuit	Environmental	- Analyze each of the three sites identified in the CLF lawsuit (Charles River crossings in Bellingham and Milford; and North Nashua River crossing in Lancaster). Develop summary report with modeling methodology and summary of results. - For the sites which are determined to contribute to the exceedance of water quality at the stream crossing, construct BMPs to address MassDOT related exceedances. - Submit a remedial plan to the court.	- Task completed in Permit Year 8. - Task completed in Permit Year 8. - Task completed in Permit Year 8.	All required actions have been completed.

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
7U Revised	Water Quality Impaired Waters Assessment and Mitigation Plan	Environmental	1) Assess all water listed in Appendix L-1 of the SWMP (revised as of July 22, 2010) using the process described in this BMP. 2) Assess at least 25 water bodies (both TMDL and non-TMDL waters) within the first quarter of the Impaired Water Program (BMPs 7U and 7R). 3) Submit quarterly progress reports to EPA during the first year of the Impaired Waters Program and semi-annually thereafter. 4) Provide documentation described in step 6 of BMP 7U in annual reports to the EPA.	1) MassDOT has submitted 661 assessments to EPA as part of its semi-annual submittals. MassDOT is on track to complete assessment of all water bodies in Appendix L-1 by June 2015. 2) Completed in Permit Year 8. 3) MassDOT submitted its semi-annual reports on June 8, 2014 and December 8, 2014. 4) A summary of the water bodies reviewed during Permit Year 12 is included in Appendix D. MassDOT’s consultants (AECOM, BSC, FST, TetraTech and VHB) provided environmental assessment and design services for retrofit water quality treatment BMPs within watersheds both with and without TMDLs. In PY12, MassDOT finalized a refinement to the TMDL methodology to assess water bodies on Cape Cod, the Islands, and other parts of southeastern Massachusetts located in watersheds mainly driven by groundwater instead of surface water that are not covered by a Nitrogen TMDL. This methodology was include in the December 2014 semi-annual submission.	Future activities of the Impaired Waters Program are summarized in Appendix D. MassDOT will continue to assess waterbodies under BMP 7U and provide the final semi-annual report to EPA on June 8, 2015.

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12	Planned Activities – 2015/ 2016
8A	Cultural Resources Review	Cultural Resources Department	Review all projects for impacts to historic properties at the 25% design phase. If a potential impact is found, the Department works with the designer (MassDOT or consultant) and Massachusetts Historical Commission to alter the design to mitigate or prevent adverse effects.	All projects listed in the Construction Advertisement Program for the reporting year were reviewed for impacts to historic properties or archaeological resources. None of the projects reviewed had stormwater impacts to significant archaeological or historic resources. Thus, none of these projects required any stormwater BMP design alterations based on cultural resources concerns.	The Cultural Resources Unit will continue to review projects for any stormwater impacts to historic resources at the 25% design stage.
Addn.	V-Pass Pollutant Assessment Simulation for SWMM	Environmental/ Consultant		MassDOT used the supplemental approach on multiple Retrofit Initiative designs in PY 12. MassDOT, their consultant and EPA have met multiple times to discuss the calibration of the model to loading values in draft NPDES permits.	MassDOT will continue to use the supplemental approach on select Retrofit Initiative designs and explore expanding its use to additional designs and ongoing discussions with calibration efforts with EPA.
Addn.	Programmed Projects Initiative	Environmental/ Consultant		MassDOT continues to implement stormwater BMPs in programmed projects that drain to an impaired water body. The WQDF documented more than 99 existing and proposed stormwater BMPs this permit year. Refer to Appendix D for more detail on the Programmed Project Initiative and Appendix E for data collected in WQDFs submitted in PY 12.	MassDOT will continue the Programmed Projects Initiative.

Part IV. Summary of Information Collected and Analyzed

All information collected and analyzed this year is summarized in the proceeding tables and narrative.

Part V. Program Outputs & Accomplishments (OPTIONAL)

MassDOT's accomplishments during the twelfth permit year are summarized in Part 1- 4 of this annual report. Additional BMPs that have been added this year have been added to the matrix above with new "Additional" row, rather than summarized below. Additional accomplishments are described below.

The MassDOT Environmental Services Stormwater Management Section recently hired an additional staff member to increase overall work capacity. Subsequently, MassDOT now has more time and expertise to focus on identifying programmed projects that would benefit from structural stormwater BMP implementation, as well as ensuring effective BMPs are proposed.

The Stormwater Unit is now responsible for reviewing the drainage/stormwater management system for all programmed projects. This is systematically completed through the water quality data form and communication directly with designers. This added capacity has resulted in more projects being identified as needing stormwater BMPs. It has also allowed MassDOT to ensure that all proposed BMPs are feasible to install, inspect, and maintain.

Additionally, the added work capacity has allowed the stormwater unit to begin enhancing BMP and drainage inventory, inspection, and maintenance practices. During Permit Year 12, MassDOT made great strides towards being able to collect drainage infrastructure data. MassDOT purchased an iPad and launched its ArcGIS Online program, both will make mobile data collection feasible and efficient.

MassDOT's Stormwater Unit will focus in Permit Year 13 on developing a database format to inventory drainage infrastructure. This drainage infrastructure inventory, once populated, will allow MassDOT to better understand its system, where maintenance efforts should be focused, and where the system is working effectively.

In the summer of 2015, MassDOT plans to hire a summer stormwater intern. The intern will focus on developing a BMP inspection and maintenance data collection system using ArcGIS online. The intern will also work with MassDOT staff to inspect constructed BMPs and compile data using a mobile data collection device.

List of Appendices

- Appendix A: IDDE Status Table**
- Appendix B: Status of Drainage Tie-in Permits**
- Appendix C: Notice of Violation (NOV) Letter**
- Appendix D: Impaired Waters Program – Summary of NPDES Permit Year 12**
- Appendix E: Water Quality Data Forms Submitted in Permit Year 12**
- Appendix F: Design Public Hearings Table**
- Appendix G: Active MassDOT Construction NOIs in Permit Year 12**
- Appendix H: Maintenance Schedule Summary**
- Appendix I: Public Well Supply Matrix and Salt Remediation Program**
- Appendix J: TMDL Review Table**



Appendix A: IDDE Status Table

IDDE Status Table

Date	Location	Flow	Source Justification	Test Results	Current Status of Follow up	Action Item	DOT District Responsibility	Flow Owner Contact Information
2012	626 Bedford Street (Route 18) East Bridgewater	Not Present	Illicit Discharge Survey	Not Tested	A survey was conducted in 2012 on two catch basins and two manholes with suspicious pipes located within them. No dry weather flow was observed. DOT confirmed no knowledge of tie-in.	Flow is unpermitted, therefore a NOV letter will be sent to the property owner	District 5	Joppa Market (508) 378-1313
2012	257 Mansfield Avenue (Route 140) Norton, MA	Not Present	Illicit Discharge Survey	Not Tested	MassDOT conducted two site visits at this location in 2012 and determined the source of this connection is located off of MassDOT property. Property owner was contacted by Mr. George Ayoub in 2012 and was asked to apply for a permit. No record of the permit is known at MA DOT.	Notify the town of Norton of the connection	District 5	Norton Estates (508) 285-2901
2007	209 Main Street (Route 1A) Rowley, MA	Not Present	1" black rubber hose noted from residence to MassDOT catch basin	Not Tested	A letter was sent to the residence of 209 Main Street, Rowley, MA on 10/7/2011. The property owner was given 60 days to respond. A response was not received during this time period. MassDOT Environmental contacted the property owner via telephone and left a detailed message regarding the unpermitted flow. A return phone call was received from the property owner. MassDOT is currently working with the property owner to resolve the issue.	District 4 will follow up with property owner to determine if this is a permitted connection.	District 4	Robert and Kathryn Casaletto (978) 948-2911
2010	Rent-A-Tool 777 North Shore Road (1A), Revere, MA	Trickle	District 4 staff identified flow discharging to a MassDOT catch basin/Follow up Illicit Discharge survey	Not Tested	A permit application was submitted to MassDOT in 2010. Additional information was requested by MassDOT but was not received. In 2013 MassDOT environmental contacted the business owner via telephone and left a detailed message, a return phone call has not been received.	District 4 will follow up with property owner and then send an NOV letter, if necessary.	District 4	Rent-A-Tool (Steve Williams) (781) 829-3900
2011	Dunkin Donuts 888 Main Street Woburn, MA	Not Present	District 4 staff identified a 4" pipe connected to a MassDOT catch basin	Not Tested	In 2011 a letter was sent to the property owner and a phone call was placed in 2013. MassDOT has not received a response from the letter or phone communication.	District 4 will follow up with property owner to determine if this is a permitted connection.	District 4	Dunkin Donuts (781) 932-0548
2011	454 Patriots Road (Route 2A) Templeton, MA	Not Present	District 2 observed a small pipe exiting this property during a maintenance call	Not Tested	In 2012 a letter was sent to the property owner and a phone call was placed in 2013. MassDOT has not received responses to either form of communication. District staff do not think the flow directly ties into the DOT system.	A follow up visit should be conducted to determine the source of this flow, and follow up with the town should be conducted if this is not connected to MA DOT property	District 2	Charlie Perkins (978) 939-1063 (978) 939-8980
2007	Dorrance, Inc. 283 West Main Street (Route 123) Norton, MA	Not Present	Tie-in identified by MassDOT at private residence	Not Tested	A letter and permit application was sent to the homeowner in September of 2011. In March of 2013 MassDOT Environmental left a detailed message with the homeowner regarding the suspect flow. The permit application has yet to be submitted and a return phone call has not been received.	A follow-up visit should be scheduled to confirm tie-in still exists and then follow-up with a NOV letter.	District 5	Carl Dorrance (508) 455-0299

IDDE Status Table

Date	Location	Flow	Source Justification	Test Results	Current Status of Follow up	Action Item	DOT District Responsibility	Flow Owner Contact Information
2012	469 Taunton Avenue (Route 44) Seekonk, MA	Not Present	Impaired Waters Site Visit	Not Tested	This connection was found during an Impaired Waters Site visit in 2012. No flow was present and therefore not tested.	A follow up visit will be conducted to determine the source of this flow. If flow is present a sample will be collected and tested to determine the potential source.	District 5	Mark Chandley (Country Kitchen) (508) 336-9807
2010	I-93/Mystic River, near 32 Shore Drive Somerville, MA	Trickle	MyRWA Water Quality Survey/Illicit Discharge survey	Sanitary Sewer/Washwater	Two site visits have been conducted at this location and samples have been collected and tested. Field surveys have not yielded conclusive information on the source flow.	Follow up to be conducted including CCTV inspection to be completed by June 30, 2015, followed by NOV letters to Somerville, as necessary.	District 4	MassDOT District 4/MyWRA
2010	Mystic Avenue Somerville, MA	Trickle	Illicit Discharge Survey	Sanitary Sewer	Flow originates off of MassDOT property onto town of Somerville property	Follow up to be conducted including CCTV inspection to be completed by June 30, 2015, followed by NOV letters to Somerville, as necessary.	District 4	City of Somerville (617) 666-3311
2010	Route 3 Billerica	Trickle	Illicit Discharge Survey	Washwater	Original source flow was determined to be originating at a clogged catch basin. MassDOT has since cleaned the clogged catch basin and will revisit this location to determine if flow is still present.	District 4 to revisit this location and determine if unclogged catch basin has resolved during dry weather.	District 4	MassDOT District 4
2010	Route 3 Billerica (Concord Road)	Trickle	Illicit Discharge Survey	Washwater	Flow originates off of MassDOT property onto town of Billerica Property	Follow up to be conducted including CCTV inspection to be completed by June 30, 2015, followed by NOV letters to Billerica, as necessary.	District 4	Town of Billerica (978) 671-0924
2010	Route 2/Spy Pond, Belmont/Arlington, MA	Not Present	MyRWA water quality survey/Illicit Discharge survey	Wastewater	NOV Letters to both Arlington and Belmont have been drafted.	Follow-up field work and sampling to be conducted in summer 2015, followed by NOV letters to Belmont and Arlington, as necessary.	District 4	Town of Arlington (781) 316-3000 Town of Belmont (617) 993-2650

Appendix B: Status of Drainage Tie-in Permits

Status of Drainage Tie-In Permits

Permit	Date	Location	Flow	Source Justification	Test Results	Current Status of Follow up	2015 Action Item	DOT District Respons	Flow Owner Contact Information
Unpermitted	2007	615 Northampton St. (Route 5), Holyoke, MA	Intermittent	Sediment carried in stormwater during rain events is clogging MassDOT catch basin	Not tested	In December 2011 a letter was sent to the property owner by MassDOT. In March 2013 an attempt to locate the property owners phone number was made but rendered unsuccessful. MassDOT has not had any further contact with the property owner. District 2 confirmed that flow is not permitted.	MassDOT will conduct a follow-up site visit to confirm flow is still present and then continue to work with the property owner to obtain a tie-in permit	District 2	Tracey Barclay
Unpermitted	2012	25 Upton Street (Route 140) Grafton, MA	Not Present	District 3 observed a 2" PVC pipe exiting a residential home	Not Tested	A follow up visit was conducted again in 2012 and the 2" PVC pipe was still present	District 3 will follow up with the property owner to determine if this is a permitted connection	District 3	Ross Sciarro (508) 839 - 7098
Unpermitted	2012	69 South Main Street (Route 114) Middleton, MA	Intermittent	Illicit Discharge Survey	Natural Water/Tap/Irrigation	MassDOT collected and tested the flow located on this property.	District 4 will work with the Middleton Golf Course to obtain a tie-in permit- waiting for DOT response	District 4	Middleton Golf Course (978) 774-4075
Unpermitted	2014	Route 127 (Summer Street) Kings Way, Manchester, MA	Connection	11/28/2014 - 6-inch SDR 35 Private Storm Sewer connection to a MassDOT Drain Manhole	Not permitted	NOV letter sent to property owner on 12/8/2014	District 4 will work with the Owner to obtain a tie-in permit or removal of tie-in	District 4	Martin Nally & Co. 5 University Lane, Manchester, MA
Unpermitted	2013	Oak Street Barnstable, MA	Intermittent	Oak Street drainage is connected to MassDOT drainage. Reconstruction of the roadway is in the design phase and the town of Barnstable will remove the drainage tie-in during reconstruction (2013-2014)	Not tested	Construction began in August of 2013, follow up with the town of Barnstable and request new drainage plans.	MassDOT to follow up with town of Barnstable on the status of the roadway construction and either conduct a site visit to determine that drainage tie in has been removed or request plans	District 5	Town of Barnstable (508) 862-4000
Unpermitted	2012	500 Bedford Street (Route 18) East Bridgewater, MA	Intermittent	4" clay pipe coming from the property, discharging water during dry weather	Natural Source	MassDOT determined this flow is unpermitted.	MassDOT will send a letter to the property owner	District 5	Albert Medeiros (508) 378-7539

Status of Drainage Tie-In Permits

Permit	Date	Location	Flow	Source Justification	Test Results	Current Status of Follow up	2015 Action Item	DOT District Respons	Flow Owner Contact Information
Unpermitted	2013	Abington Fire Station #1040 Bedford Street Abington, MA	Not Present	An 18" reinforced concrete pipe leading from the property's drainage system and connecting to a drain manhole on Route 18 (Bedford Street) was discovered by MassDOT personnel while conducting site investigations as part of a project to widen a section of that roadway.	Not Tested	A <i>Notice of Violation</i> letter was sent to the property owner on January 29, 2014.	District 5 to determine if a permit is in place for this connection. If no permit is located, then they will follow up with the property owner.	District 5	Rick LaFond (Town Manager) 781-982-2100
Unpermitted	2013	McPhail Realty Trust #1200 Bedford Street Abington, MA	Not Present	A 12" PVC pipe leading from a detention pond on the property and connecting to a MassDOT catch basin on Route 18 (Bedford Street) was discovered by MassDOT personnel while conducting site investigations as part of a project to widen a section of that roadway. In addition to that, a 6" HDPE pipe leading from the detention pond to a different MassDOT catch basin further north on Route 18 was also discovered.	Not Tested	A <i>Notice of Violation</i> letter was sent to the property owner on January 28, 2014.	District 5 to determine if a permit is in place for these connections. If no permit is located, then they will follow up with the property owner.	District 5	Matthew and Diana McPhail 781-878-2875
Unpermitted	2013	Travi Realty Trust #1400 Bedford Street Abington, MA	Not Present	A small drainage system leading from a pond within a wooded area on the property and connecting to a drain manhole on Route 18 (Bedford Street) was discovered by MassDOT personnel while conducting site investigations as part of a project to widen a section of that roadway. In addition to that, several upstream connections and runoff spots were also discovered.	Not Tested	A <i>Notice of Violation</i> letter was sent to the property owner on January 24, 2014.	District 5 to determine if a permit is in place for these connections/discharges. If no permit is located, then they will follow up with the property owner.	District 5	Vincent Travi 781-871-1469
Permitted	2014	CVS- 8E Washington Street, North Attleborough, MA	Connection	A small drainage system within the CVS parking lot connected to MassDOT drainage system	Not tested	A <i>Notice of Violation</i> letter was sent to the property owner on September 29, 2014.	Permitted connection-remove from 2016 Annual Report	District 5	Inland Western No Attle Crossrds LLC, PO Box 9273, Oak Brook, IL 60522

Status of Drainage Tie-In Permits

Permit	Date	Location	Flow	Source Justification	Test Results	Current Status of Follow up	2015 Action Item	DOT District Respons	Flow Owner Contact Information
Unpermitted	2014	9 Hoppin Hill Ave. North Attleborough, MA	Connection	10" RCP and 10" corrugated metal pipe from residential house connected to MassDOT drainage	Not permitted	A <i>Notice of Violation</i> letter was sent to the property owner on September 29, 2014.	District 5 to investigate and work with the Owner to determine if a connection to the DOT system exists.	District 5	Bruce Collard 62 Manchester St Nashua, NH 03064
Unpermitted	2014	Blockbuster 465 S. Washington St. North Attleborough, MA	Connection	18" RCP connected to MassDOT drainage	Not permitted	A <i>Notice of Violation</i> letter was sent to the property owner on September 29, 2014.	District 5 to investigate and work with the Owner to determine if a connection to the DOT system exists.	District 5	Skye Enterprises LLC 9 Cedar Ridge Rd. North Attleborough, MA 02760
Unpermitted	2014	518 South Washington Street North Attleborough, MA	Connection	Infiltration system connection to MassDOT drainage	Not permitted	A <i>Notice of Violation</i> letter was sent to the property owner on September 29, 2014.	Permitted connection-remove from 2016 Annual Report	District 5	518 South Washington Street, North Attleborough, MA - South Attleboro Marine

Appendix C: Notice of Violation (NOV) Letter

[Letterhead]

[Date]

CERTIFIED MAIL – RETURN RECEIPT REQUESTED # _____

[Contact's Name]

[City/Town or Business Name, If Applicable]

[Address]

[Town/City, State, Zip Code]

Notice of Violation

Re: Illicit and/or Unauthorized Drainage Connection or Discharge to MassDOT Drainage System
Located at _____

Dear _____:

The purpose of this Notice of Violation (NOV) is to inform you, as owner of the above-referenced property, of a suspected connection or discharge to the Massachusetts Department of Transportation's Highway Division (MassDOT) drainage system without a properly issued Non-vehicular Access Permit (tie-in permit).

[Description of the site (several sentences), along with details of the suspect connection.]

This is in violation of G.L. c. 81, § 21, regulations found at 720 CMR 13.00, and Standard Operating Procedure No. HMD-02-2-000 (a copy of which is enclosed). Be aware that MassDOT strictly prohibits illicit and/or unauthorized drainage connections and discharges. Any such connection or discharge must be either permitted by MassDOT or immediately disconnected/sealed.

You have ninety (90) days from the receipt of this notification to contact the person listed below to indicate whether: (1) you will apply for a tie-in permit; (2) you will propose a schedule for the removal of the discharge; or (3) you hold a pre-existing drainage tie-in permitⁱ. Should no response be received, a follow-up site investigation will be performed. At that time, should an illicit and/or unauthorized connection or discharge be confirmed, the matter will be forwarded to MassDOT's Chief Legal Counsel for enforcement in conjunction with the Attorney General's Office. This may include fines or penalties of up to \$1,000 per day.

Please be aware, however, that applying for a tie-in permit does not guarantee being granted one and an internal review will be performed in order to determine if the connection or discharge should be permitted.

Thank you for your anticipated cooperation in resolving this matter. Please contact the District __ Permits Engineer, _____, at _____ at your earliest convenience within the 90-day period.

Sincerely,

[District Highway Director's Signature]

[District Highway Director's Name]

District __ Highway Director

Attachment: Standard Operating Procedure No. HMD-02-02-2-000 (dated 3/19/2012)

cc: Tracy W. Klay, MassDOT Environmental Counsel
Robert Bennett (w/o attachment), MassDOT Environmental Services Section

ⁱ In the case of a pre-existing permit, MassDOT will consider rescinding the NOV.

Appendix D: Impaired Waters Program – Summary of NPDES Permit Year 12

Appendix D

Impaired Waters Program

Summary of NPDES Permit Year 12



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Retrofit Project Summary Sheets

Dark Brook (MA51-16)

Charles River (MA72-07)

Cheese Cake Brook (MA72-29)

Charles River (MA72-36)

Newfield Pond (MA84046)

Programmed Project Summary Sheets

Project No. 602984—Roadway Reconstruction and Related Work (Including 2 Bridges and 14 Retaining Walls) Along a Section of Route 2 (Crosby's Corner Interchange) in Concord and Lincoln

Project No. 603711—I-95 (Route 128)/Bridge V Add-a-Lane Project in Needham, Dedham, and Wellesley

Project No. 604729—Lake Quinsigamond (MA51125)—Burns Bridge (Route 9) Rehabilitation in Shrewsbury and Worcester

Project No. 605343—Cole River (MA61-04)—Superstructure Replacement of I-195 Bridge in Swansea

Project No. 605591—Rumford River (MA62-39)—Interstate Maintenance and Related Work on I-495 in Mansfield

Project No. 605596—Robinson Brook (MA62-14)—Interstate Maintenance and Related Work on I-95 in Foxborough

Project No. 605637—Alewife Brook (MA71-04)—Improvements at Route 2 and Route 16 in Cambridge

Project No. 606704—Quaboag River (MA36-16)—Resurfacing and Stormwater Improvements on I-90 in Palmer

Project No. 607179—Mine Brook (MA72-14)—Interstate Maintenance and Related Work on I-495 in Franklin and Bellingham

Project No. 607181—Assabet River (MA82B-04)—Interstate Maintenance and Related Work on I-290 in Hudson and Marlborough

Project No. 607731—Connecticut River (MA34-05)—Viaduct and Deck Replacement of I-91 Bridge in Springfield

1.0 Introduction

The Massachusetts Department of Transportation (MassDOT) is committed to improving the quality of stormwater runoff from its highways. Through the MassDOT Impaired Waters Program (IWP), MassDOT has instituted a robust program to address roadway stormwater runoff draining to impaired waters. The program is part of compliance with our NPDES Phase II Small MS4 General Permit and commitments in the EPA enforcement letter dated April 22, 2010. “Impaired” water bodies are those listed as Category 4a or 5 in MassDEP’s Integrated List of Waters (referred to as the 303(d) list).

MassDOT committed to assess all impaired water body segments that receive (or potentially receive) stormwater runoff from MassDOT roadways located in urban areas within an aggressive 5-year time frame starting in June 2010. This program initially included approximately 684 water bodies across the State based on a water body estimate submitted as part of the EPA enforcement and referred to as Appendix L-1. The IWP program has since been expanded to encompass the expanded urban area identified in the latest census, impaired waters listed on the latest (2012) finalized 303(d) list, and newly acquired MassDOT property including the MassPike. The water body assessment includes identifying whether stormwater is contributing to the impairment, if runoff from the roadways drains to the water body, and whether existing Best Management Practices (BMPs) effectively treat runoff from the roadways. The assessment then sets a treatment target. When the target is not met, MassDOT will design and construct additional water quality BMPs where site conditions allow. To most effectively utilize tax dollars, MassDOT is implementing this program through two initiatives: Retrofit and Programmed Projects.

The Retrofit Initiative is designed to identify locations where adding BMPs along existing roadways is warranted and will lead to a significant reduction in water quality impacts. This effort is aimed at reducing the impacts of MassDOT’s runoff on impaired water bodies through the implementation of structural BMP retrofits. Since these BMPs are fitted into the existing rights of way (ROWs) and drainage patterns, the opportunity for constructing treatment can be constrained but allows for proactive construction of treatment in locations that would not be addressed by programmed projects in the near future. MassDOT plans to complete assessment of all the identified impaired waters by June 2015. BMP design and construction is underway and MassDOT plans to continue the design and construction expeditiously until complete. Significant funding has been allocated for retrofit construction to meet this goal.

Programmed (planned) projects are those projects where significant improvements are planned for a roadway or intersection (e.g. intersection improvement, highway widening) and MassDOT can include stormwater treatment upgrades. MassDOT’s Programmed Projects Initiative is implemented for construction projects where roadways drain to impaired waters and may also include municipal projects undertaken by MassDOT for local municipalities. MassDOT performs an evaluation of the project area draining to the impaired water body and installs additional structural stormwater BMPs to the maximum extent practicable as part of the roadway construction. Incorporating structural BMPs into construction projects has proven to be much more cost-effective than retrofitting structural BMPs due to the greater flexibility in design and scope of the project. Beginning in 2012, MassDOT proactively included stormwater improvements to resurfacing projects as a portion of the program to increase the areas reached. Furthermore, MassDOT has initiated a substantial water quality data form/database project to capture information regarding the improvements included in the programmed projects so they can be evaluated as part of the overall program.

As of MassDOT’s December 8, 2014 semi-annual submittal to the EPA, MassDOT had assessed 730 water bodies. Of the 730 assessments, 119 have moved forward into design as retrofit projects, programmed projects, or both. In some cases, BMPs to a single receiving water body are constructed under separate projects, pulling from retrofit and/or from programmed-project funding based on timing, the locations of

contributing roadways, and on the work that MassDOT already has planned. To date, 15 instances have occurred in which water bodies have or will have BMPs constructed under multiple IWP projects, bringing the total number of IWP water body projects from 119 to 134. Of the 134 IWP water body projects:

- 4 were dropped from the design phase since Year 11 because construction of BMPs was determined to be unfeasible.
- 78 are in the pre-design or design phases,
- 11 have completed designs and are awaiting construction,
- 15 sites are under construction, and
- 26 are completed, 10 of which were completed in Year 12.

MassDOT continues to use five different consulting design firms to assist with meeting the aggressive goals pertaining to assessment, design, and construction oversight of IWP projects.

All of the newly constructed BMPs will have a beneficial impact on the runoff from MassDOT roads. An estimated 159 acres of impervious cover (IC) will be treated by the BMPs currently in final design or under construction and 107 lbs of phosphorus removed in phosphorus Total Maximum Daily Load (TMDL) watersheds.

In addition to structural BMPs, MassDOT has taken many steps to further strengthen the IWP this year. MassDOT has continued to maintain and update the IWP geospatial database to track the many structural BMPs being designed and constructed by its design consultants and the status of water body assessments. This IWP geospatial database is a powerful tool in the analysis of MassDOT's program and future planning/ water quality analysis.

2.0 Retrofit Initiative Stormwater BMPs

2.1 Overview of Progress in Permit Year 12

MassDOT has expended significant resources and made commendable progress on performing assessments, designing water quality BMPs that will provide pollutant treatment, and advancing effective construction of the designs during the past year of the IWP.

2.1.1 Assessments

MassDOT completed assessments of 205 water bodies. Assessments are performed using one of two methodologies developed by MassDOT. In watersheds with a TMDL, BMP 7R is followed. Receiving waters without a TMDL are assessed using the IC methodology developed as part of BMP 7U. Assessments have generally fallen into the categories discussed below.

- No BMP design needed since:
 - the impairments are unrelated to stormwater runoff;
 - existing BMPs provide enough mitigation to meet the effective IC or pollutant loading target;
 - the water body's subwatershed and total watershed are less than 9% IC and the water body is not covered by a TMDL;
 - the water body receives no direct discharges from MassDOT roadway;

- No BMP design possible since site constraints prevent a retrofit from being technically feasible (i.e. where MassDOT owns a bridge and no adjacent roadway); or
- The assessment will move on to design of BMPs because further mitigation is required to meet the pollutant reduction target and MassDOT has identified potential locations for proposed BMPs. Following the selection of BMPs, MassDOT will include a summary of the final designs of proposed BMPs in future annual reports.

Table 1 shows a breakdown of the water bodies assessed this permit year, the assessment method used, and a count of how many of these impaired water bodies are covered by a TMDL. Assessments are submitted to EPA biannually in June and December in compliance with the EPA enforcement.

Table 1 Permit Year 12 Assessments¹

EPA Submittal	June 2014	December 2014	Permit Year 12
# of Water Bodies Assessed	89	116	205
BMP 7U - IC Method	33	61	94
BMP 7R - TMDL Method	53	34	87
BMP 7U & 7R Method ²	3	21	24
# of Water Bodies Covered by TMDLs ³	56	55	111

¹ The counts in this table include all water bodies that were assessed in Year 12, regardless of whether or not they were part of an EPA enforcement list of potential receiving waters (Appendix L-1).

² Water bodies with TMDLs were typically assessed using the TMDL Method (BMP 7R). Some water bodies with TMDLs were impaired for additional pollutants that the TMDL did not address. These water bodies were also assessed using the IC Method (BMP 7U) to address those particular pollutants. Additionally, some water bodies may have a pathogen TMDL, so for these water bodies the IC Method was applied for setting a reduction target.

³ Water bodies with a final TMDL at the time of EPA submittal.

As a part of a 2010 EPA enforcement, MassDOT identified impaired waters potentially receiving stormwater from MassHighway roads. The 684 waterbodies for review were listed in Appendix L-1 of the enforcement. MassDOT also committed to reviewing 20% of the potential receiving waters that were covered by a TMDL each year and completing review of all 684 water bodies within five years, starting in June 2010. MassDOT is on track to meet their 5-year commitment of reviewing the impaired waters and has exceeded the 20% of waters with TMDLs annually. Table 2 shows MassDOT's progress through this permit year. The assessments will be completed by June 2015.

Table 2 Assessments of Appendix L-1 Water Bodies for Overall Program

EPA Submittal	# Waterbodies	% of Total Waterbodies	# TMDL Waterbodies ¹	% of Total TMDL Waterbodies
Prior Permit Years	498	73%	152	73%
Permit Year 12	163	24%	57	27%
Total	661	97%	209	100%

¹ TMDL listing as included in Appendix L-1

MassDOT assessed a total of 205 water bodies (Table 1) this year, although only 163 water bodies (Table 2) were included in the original Appendix L-1 list. As indicated in Table 1, MassDOT also assessed water

bodies that were not on the Appendix L-1 list. These water bodies were added for assessment under the IWP for a variety of reasons, which include:

- Changes to a water body's impairments between the 2008 and 2012 impaired waters listings;
- Reclassification of roadways as urban area based on the 2010 census results; or
- MassDOT assuming ownership of roadways next to a water body since the EPA enforcement.

These additional water bodies are being assessed by MassDOT in good faith as part of MassDOT's commitment to improving stormwater runoff quality from its highways. In total, MassDOT has assessed 730 water bodies.

2.1.1.1 TMDL Watershed Assessments

Of the 205 assessments completed in the past year, 111 were performed using BMP 7R, TMDL Watershed Review Methodology. The TMDL Method, officially titled *Description of MassDOT's TMDL Method in BMP 7R*,¹ was developed exclusively for assessing discharges to impaired water bodies with TMDLs that address pollutants typically found in highway stormwater runoff. All water bodies covered by a TMDL for a pollutant related to stormwater runoff were assessed using this method. Stormwater related pollutants include, but are not limited to, total nitrogen (TN), total phosphorus (TP), total suspended solids (TSS), pathogens, and zinc (Zn). The TMDL Method uses the pollutant target identified in the TMDL for the land use most closely related to highway (usually commercial/industrial) to define an aerial waste load allocation and compares it to the pollutant loading from MassDOT roadways to assess if MassDOT meets the pollutant target. If the water body is impaired for additional pollutants not addressed by the TMDL, then the IC Method is also used in the assessment to define the target IC reduction. See Table 6 for more details on the individual assessments.

MassDOT finalized a methodology to assess impaired water bodies with an established nitrogen TMDL in groundwater-controlled watersheds. "MassDOT's Nitrogen TMDL Method" relies on research performed by the United States Geological Survey (USGS) for the Massachusetts Estuaries Program and conservatively assumes that the entire nitrogen load from runoff that infiltrates into the USGS determined groundwater watershed contributes to the target water body without a load reduction.² The methodology has been used in numerous nitrogen TMDL water bodies on Cape Cod assessments submitted this year.

Assessments completed under BMP 7R during Permit Year 12 fall into various categories. Table 3 outlines the different assessment categories and the number of assessment that fall under each.

¹ MassDOT, June 2012. Description of MassDOT's TMDL Method in BMP 7R. Available at:
<http://www.massdot.state.ma.us/Portals/8/docs/environmental/impairedWaters/Year2/Attachment6.pdf>

² MassDOT, June 2014. Description of MassDOT's Application of TMDL Method to Nitrogen in Groundwater-Controlled Massachusetts Watersheds. Available at: http://www.massdot.state.ma.us/Portals/8/docs/environmental/impairedWaters/Year4/Attachment_5.pdf

Table 3 TMDL Assessments Outcome Summary

Assessment Outcome	# of Water Bodies Assessed
Target pollutant reduction set – Moving forward with BMP design	2
Target pollutant reduction set – Site constraints prevent construction of BMPs	4
No target pollutant reduction set – No MassDOT discharges to segment	15
No target pollutant reduction set – Water body impaired for pathogens, impairments unrelated to stormwater, and/or chloride only	50
No target pollutant reduction set – Watershed less than 9% impervious	3
No target pollutant reduction set – MassDOT's load to the water body is negligible	37
Total	111

Note: This table includes assessments where both the TMDL and IC Methods were used. In some cases, the TMDL may be for pathogens, so for these water bodies the IC Method was applied for setting a reduction target.

2.1.1.2 Impervious Cover Assessments

MassDOT assessed 94 of the 205 assessments completed this permit year using BMP 7U, Water Quality Impaired Waters Assessment and Mitigation Plan. BMP 7U utilizes the IC Method (MassDOT's Application of Impervious Cover Method in BMP 7U, 2011), which has been developed from the EPA's IC Method.³ MassDOT's application of the IC Method uses the percent of IC in a watershed as a surrogate for stormwater pollutant loading. The method can be applied to determine whether a water body is likely to be impaired due to stormwater or if other sources of pollutants are more likely to be the cause of the impairment. MassDOT further evaluates subwatersheds of impaired waters that are greater than 9% IC, as these waters are more likely to be impaired due to stormwater runoff. For special circumstances, MassDOT will assess an impaired water body even if its subwatershed is less than 9% IC if, for example, a MassDOT roadway runs adjacent to a water body for an extended distance. See a listing of the assessments in Table 7.

MassDOT developed a methodology to assess water bodies located on Cape Cod, the Islands, and other parts of southeastern Massachusetts that do not have a TMDL and are located in watersheds mainly driven by groundwater instead of surface water. The "MassDOT's Nitrogen 7U Method" relies on research performed by the USGS for the Massachusetts Estuaries Program and Buzzards Bay National Estuaries Program and conservatively assumes that the entire nitrogen load from MassDOT property runoff that infiltrates in the USGS determined groundwatershed contributes to the target water body without a load reduction.⁴ The methodology was used for numerous assessment submitted this permit year.

Assessments completed using the IC Method during Permit Year 12 fall into various categories. Table 4 outlines the different assessment categories and the number of assessment that fall under each.

³ MassDOT, April 2011. Description of MassDOT's Application of Impervious Cover Method in BMP 7U. Available at: http://www.massdot.state.ma.us/Portals/8/docs/environmental/npdes/IC_MethodApplication2011Apr6.pdf

⁴ MassDOT, December 2014. Description of MassDOT's Application of Nitrogen Groundwater Method in BMP 7U. Available at: <http://www.massdot.state.ma.us/Portals/8/docs/environmental/impairedWaters/Year5/Attachment7.pdf>

Table 4 IC Method Outcome Summary

Assessment Outcome	# of Water Bodies Assessed
Target IC reduction set – Moving forward with BMP design	11
Target IC reduction set – Site constraints prevent construction of BMPs	13
Target IC reduction set – Existing conditions meet target	1
No target IC reduction set – No MassDOT discharges to segment	15
No target IC reduction set – Water body impaired for pathogens, impairments unrelated to stormwater, and/or chloride only	42
No target IC reduction set – Watershed less than 9% impervious	4
No target pollutant reduction set – MassDOT's load to the water body is negligible	6
No target IC reduction set – Water body does not appear on 2012 303(d) list	2
Total	94

Note: This table does not include assessments where both the TMDL and IC Methods were used. These are instead included in Table 3.

2.1.2 Design

Once the assessments identify that MassDOT should move ahead with BMP design, MassDOT assigns them to an IWP designer. The designer is then responsible for more detailed review of the MassDOT urban area roads that directly drain to the impaired receiving water, and requesting survey and geotechnical information as needed. The designer identifies site constraints (soils, wetlands, utility conflicts, etc.) that may affect locations where BMPs could be constructed, develops the design of BMPs to meet the target impervious cover or pollutant load reduction, receives permits, and prepares construction plans for the retrofit project.

In order to facilitate an appropriate pace of project design, MassDOT has retained five consultant contracts which are specifically used for the design, survey and permitting of the BMPs. MassDOT awarded each of these firms a \$2.5 million on-call services contract in 2013 and MassDOT has been assigning design tasks under these contracts.

This permit year, 13 assessments identified the need to move ahead with BMP design. Currently, there are 79 projects in a variety of stages of design and 11 projects with completed designs that are awaiting construction. Table 8 summarizes the status of these designs. Summary sheets in Attachment A highlight the projects that have reached final design and/or construction this year that have not previously been included in the annual report summary.

The design of the BMPs allows MassDOT to calculate the additional pollutant load that will be removed by the proposed BMPs and therefore will not reach the impaired waters. BMPs included in final designs this year are estimated to remove 159 acres of effective IC and 107 lbs/yr of phosphorus from the watersheds. Table 10 provides a summary of BMPs which were constructed or reached 100% design within Permit Year 12. The table focuses on the projects where BMP design was finalized and/ or where BMPs were constructed this permit year. Projects completed in previous permit years have not been included for simplicity.

Since Permit Year 11, design consultants have determined that four projects initially expected to move on to design have site constraints that restrict the ability to construct BMPs. The initial stages of design include survey, utility location, soil exploration, and more detailed site reconnaissance. The constraints derailing those projects are summarized in Table 5.

Table 5 Year 11 Design Projects Determined to be Unfeasible

Waterbody ID	Waterbody Name	Project Name	Constraints
MA35101	Whitney Pond	Rt. 12 at Whitney Pond	Limited ROW and high groundwater.
MA51120	Pondville Pond	Rt. 20 at Pondville Pond	Limited ROW, steep slopes from the road to the pond, Zone II wellhead protection areas, and 100-year floodplain.
MA51188	Flint Pond	Rt. 20 Flint Pond	Poor soils and the infeasibility of connecting existing drainage infrastructure to the proposed location (based on test pits and survey).
MA74-16	Accord Brook	Rt. 53 at Accord Brook	Limited ROW abutted closely by dense commercial and residential development.

2.1.3 Construction

Once the designs are completed, the projects are advertised and await construction. Twenty-six projects are either awaiting construction advertisement or are currently under construction. Table 9 provides details on the projects currently being constructed or awaiting advertisement. More than one Impaired Waters Program project may occur to address a water body since MassDOT includes BMPs in resurfacing projects that will cover a portion of the directly discharging area to the receiving water. In order to showcase some of the many improvements that have progressed to construction or have been completed this year as part of the Retrofit Initiative, Attachment A includes detailed summary sheets including pictures, pollutant removal estimates, and costs for projects that have reached final design and/or construction this year and had not been highlighted in annual reports previously. The retrofit projects include:

1. Dark Brook (MA51-16) in Auburn,
2. Charles River (MA72-07) in Weston,
3. Cheese Cake Brook (MA72-29) in Boston,
4. Charles River (MA72-36) in Boston, and
5. Newfield Pond (MA84046) in Chelmsford.

To date, construction of twenty-six projects has been completed as part of the overall IWP.

Previously, BMPs had been constructed as part of federally funded district maintenance contracts or bundled into regional BMP construction contracts. These contracts allowed for the construction of the stand-alone stormwater BMPs (not affiliated with other road improvement activities). In Permit Year 12, MassDOT completed allocating construction tasks under the \$9 million maintenance contract funding. Additionally, MassDOT advertised approximately \$2 million in stormwater improvements in federal fiscal year (FFY) 2014 (October 1, 2013 to September 31, 2014).

MassDOT plans to advertise \$11 million in stormwater improvements by the end of FFY 2015 (October 1, 2014 to September 31, 2015). The \$11 million will go toward stand-alone retrofit projects and programmed

resurfacing projects coupled with the IWP. Funding has been provided through the Federal Highway Administration (FHWA) transportation improvements program.

2.2 Planned Activities for Permit Year 13

MassDOT will continue to implement the IWP in Permit Year 13 and to improve upon its procedures and reporting. MassDOT plans to continue the assessment, design and construction of projects under the Retrofit Initiative. MassDOT will complete the remaining assessments required under the EPA enforcement and will continue to move the many projects identified with potential and need for BMPs through the design stages and develop bundled construction projects for advertisement. In addition to the BMPs constructed as part of the Retrofit Projects Initiative, MassDOT will continue to develop the robust impaired waters database.

2.2.1 Assessments

In upcoming Permit Year 13, MassDOT will provide a semi-annual report to EPA on June 8, 2015. Within that submittal, MassDOT plans to assess the 23 water bodies that remain of the original 684 water bodies included in Appendix L-1 of the EPA enforcement. MassDOT will also include assessments for additional water bodies that now fall under the IWP but were not included in Appendix L-1. The June 8, 2015 submittal will complete the 5-year time frame set forth in the enforcement.

With MassDOT's December 8, 2014 semi-annual submittal to the EPA, MassDOT completed assessments for all water bodies covered by finalized TMDLs in Appendix L-1, thereby meeting a requirement of the EPA enforcement. MassDOT's estimates that 51 impaired waters will be assessed using the TMDL methodology in Permit Year 13.

MassDOT will continue to be an active participant, with EPA and MADEP, in developing TMDLs that may impact MassDOT's Impaired Waters Program. Additionally, MassDOT will provide public comment on draft TMDLs as appropriate.

MassDOT will continue to assess water bodies using the IC method where a TMDL has not been finalized. MassDOT aims to assess 66 water bodies using the IC Method in Permit Year 13.

2.2.2 Design

MassDOT will continue to work with the five firms under contract to assist with design of stormwater BMPs. MassDOT has multiple assessments that have indicated that BMP design is required and land is available where BMPs could potentially be sited. MassDOT will continue to assign these designs to the design consultants throughout the year. In Permit Year 13, MassDOT plans to move at least five water bodies into the design stage under the Retrofit Initiative. They are listed as "Pre-Design" in Table 8 with estimated dates for advertising in 2016.

2.2.3 Construction

MassDOT plans to advertise and construct BMPs as designs are completed. MassDOT has reached the end of the funding allocated as part of maintenance contracts and has moved towards geographically bundling designs and advertising them as single projects.

MassDOT plans to advertise \$11 million in stormwater improvements by the end of FFY 2015 (October 1, 2014 to September 31, 2015). Funding will be provided through the Federal Highway Administration (FHWA) transportation improvements program. The \$11 million will go toward stand-alone retrofit projects and programmed resurfacing projects coupled with the IWP.

3.0 Programmed Projects Initiative Stormwater BMPs

3.1 Overview of Progress in Permit Year 12

Projects included in the Statewide Transportation Improvement Plan (TIP) or otherwise included in MassDOT's program for construction are an excellent method for providing significant water quality improvements, since drainage can be redirected and stormwater can be included in the overall plan for the site. Also programmed projects allow for the possibility of increased right-of-way and potentially moving conflicting utilities. Therefore, MassDOT has included stormwater BMPs in contracts for planned projects that discharge stormwater runoff to impaired waters including municipal projects undertaken by MassDOT for local municipalities and projects outside the permit area.

The Programmed Projects initiative extends beyond roadway and bridge reconstruction projects to include resurfacing projects that have traditionally not included upgrades to stormwater systems. MassDOT worked with federal highway and received buy-in that water quality improvements could be added to the resurfacing contracts and use the federal funds. This has allowed for many additional improvements to be constructed.

In order to showcase some of the many improvements that have progressed to construction or have been completed this year as part of program projects, Attachment B includes summary sheets for the following projects.

1. Project No. 602984—Roadway Reconstruction and Related Work (Including 2 Bridges and 14 Retaining Walls) Along a Section of Route 2 (Crosby's Corner Interchange) in Concord and Lincoln
2. Project No. 603711—I-95 (Route 128)/Bridge V Add-a-Lane Project in Needham, Dedham, and Wellesley
3. Project No. 604729—Lake Quinsigamond (MA51125)—Burns Bridge (Route 9) Rehabilitation in Shrewsbury and Worcester
4. Project No. 605343—Cole River (MA61-04)—Superstructure Replacement of I-195 Bridge in Swansea
5. Project No. 605591—Rumford River (MA62-39)—Interstate Maintenance and Related Work on I-495 in Mansfield
6. Project No. 605596—Robinson Brook (MA62-14)—Interstate Maintenance and Related Work on I-95 in Foxborough
7. Project No. 605637—Alewife Brook (MA71-04)—Improvements at Route 2 and Route 16 in Cambridge
8. Project No. 606704—Quaboag River (MA36-16)—Resurfacing and Stormwater Improvements on I-90 in Palmer
9. Project No. 607179—Mine Brook (MA72-14)—Interstate Maintenance and Related Work on I-495 in Franklin and Bellingham
10. Project No. 607181—Assabet River (MA82B-04)—Interstate Maintenance and Related Work on I-290 in Hudson and Marlborough
11. Project No. 607731—Connecticut River (MA34-05)—Viaduct and Deck Replacement of I-91 Bridge in Springfield

MassDOT's Environmental Department identifies projects discharging to impaired waters through water quality data forms submitted to MassDOT. MassDOT employees and consultants complete a water quality data form for regularly scheduled (programmed) construction projects at the 25% design phase, and then again at the 75% design phase. MassDOT continues to collect water quality data forms in the updated

format established in Permit Year 11. The updated format clarifies and focuses data collected in the form, implements data validation, and provides designers with general guidance for implementing BMPs given project type and receiving water body characteristics. The updated form also solicits specific location information for each proposed BMP, which allows for simple integration in the IWP geospatial database. The accompanying web map application, also developed in Permit Year 11, continues to allow designers to quickly determine which impaired water body their project drains to and whether the project lies in a watershed with a TMDL.

In Permit Year 12, MassDOT conducted an instructional webinar to familiarize designers with the updated form and the associated web application. MassDOT also reaffirmed that the water quality data form is an integral component of the 25% and 75% design submittals.

Through the Programmed Projects initiative this year, MassDOT has received more than 128 water quality data forms; 79 at the 25% design phase and 49 forms at the 75% design phase. Of the 25% forms, 164 receiving waterbodies were identified, 64 of which affected an impaired water body without a TMDL and 100 of which were in a watershed covered by a TMDL. Of the 100 in TMDL watersheds, 76 had receiving waterbodies that were specifically identified in a TMDL report. The 75% forms documented a total of 99 stormwater BMPs (existing and proposed) and at least 1,148 deep sump catch basins. Additionally, non-structural BMPs implemented for these projects were documented and included measures such as street sweeping, protecting sensitive areas, inspection and cleaning of stormwater structures, catch basin cleaning, depot yard sweeping, snow removal and deicing controls, and use of sediment and erosion controls during construction.

3.2 Planned Activities for Permit Year 13

MassDOT will continue to include stormwater improvements to the maximum extent practicable within programmed projects and capture the stormwater control information in the IWP database.

The updated water quality data form and associated web map launched in Permit Year 11 will continue to ensure data collection for programmed projects is captured and documented effectively. The form serves as a tracking and prompting tool, effectively alerting project proponents to the need for pollutant-specific upgrades to the stormwater management system for their project. In Permit Year 13, MassDOT will finish developing and implementing a tool to seamlessly integrate information from water quality data forms into the IWP geospatial database, eliminating manual steps and allowing the IWP database to be updated more regularly to include form data.

Table 6 Permit Year 12 Completed Assessments to Impaired Waters with a TMDL

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA34098	Lake Warner	(Non-Native Aquatic Plants*); Excess Algal Growth [112.0]; Oxygen, Dissolved [112.0]; Phosphorus (Total) [112.0]; Turbidity [112.0]	CN 112.0	Phosphorous	No Discharge	No further action	12/8/2014
MA42005	Buffumville Lake	(Non-Native Aquatic Plants*); Excess Algal Growth [110.0]; Mercury in Fish Tissue [376.0]	CN 110.0, CN 376.0	Phosphorous, Mercury	No Discharge	No further action	6/6/2014
MA42014	Dresser Hill Pond	Turbidity [110.0]	CN 110.0	Phosphorous	No Discharge	No further action	6/6/2014
MA42043	Pierpoint Meadow Pond	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes) [110.0]	CN 110.0	Phosphorous	No Discharge	No further action	6/6/2014
MA72078	Mirror Lake	(Non-Native Aquatic Plants*); Nutrient/Eutrophication Biological Indicators [272.0]; Phosphorus (Total) [272.0]; Secchi disk transparency [272.0]	CN 272.0	Phosphorous	No Discharge	No further action	12/8/2014
MA95-16	Pocasset River	Fecal Coliform [251.1]	CN 251.1	Pathogens	No Discharge	No further action	6/6/2014
MA95-17	Pocasset Harbor	Estuarine Bioassessments; Fecal Coliform [251.1]	CN 251.1	Pathogens	No Discharge	No further action	12/8/2014
MA95-23	Great Sippewisset Creek	Fecal Coliform [251.1]	CN 251.1	Pathogens	No Discharge	No further action	12/8/2014
MA95-24	Little Sippewisset Marsh	Fecal Coliform [251.1]	CN 251.1	Pathogens	No Discharge	No further action	6/6/2014
MA95-47	Back River	Fecal Coliform [251.1]	CN 251.1	Pathogens	No Discharge	No further action	6/6/2014
MA95-48	Eel Pond	Fecal Coliform [251.1]	CN 251.1	Pathogens	No Discharge	No further action	6/6/2014
MA96-02	Bumps River	Fecal Coliform [252.0]	CN 252.0	Pathogens	No Discharge	No further action	6/6/2014
MA96-04	Centerville River	Estuarine Bioassessments [248.0]; Fecal Coliform [252.0]; Nitrogen (Total) [248.0]	CN 248.0, CN 252.0	Pathogens, Nitrogen	No Discharge	No further action	6/6/2014
MA96-35	Chase Garden Creek	Fecal Coliform [252.0]	CN 252.0	Pathogens	No Discharge	No further action	12/8/2014
MA96-64	Seapuit River	Fecal Coliform [309.0]	CN 309.0	Pathogens	No Discharge	No further action	12/8/2014
MA62-02	Taunton River	Fecal Coliform [256.0]	CN 256.0	Pathogens	Pathogen Only	No further action	6/6/2014
MA62-49	Wading River	Fecal Coliform [256.0]	CN 256.0	Pathogens	Pathogen Only	No further action	12/8/2014
MA93-01	Waters River	Fecal Coliform	CN 155.0	Pathogens	Pathogen Only	No further action	12/8/2014
MA93-04	Porter River	Fecal Coliform	CN 155.0	Pathogens	Pathogen Only	No further action	12/8/2014
MA93-09	Danvers River	Fecal Coliform	CN 155.0	Pathogens	Pathogen Only	No further action	12/8/2014
MA93-12	Annisquam River	Fecal Coliform	CN 155.0	Pathogens	Pathogen Only	No further action	12/8/2014
MA93-15	Pines River	Fecal Coliform	CN 155.0	Pathogens	Pathogen Only	No further action	12/8/2014
MA93-19	Manchester Harbor	Fecal Coliform	CN 155.0	Pathogens	Pathogen Only	No further action	12/8/2014
MA93-20	Beverly Harbor	Fecal Coliform	CN 155.0	Pathogens	Pathogen Only	No further action	12/8/2014
MA95-07	Sippican River	Fecal Coliform [251.1]	CN 251.1	Pathogens	Pathogen Only	No further action	6/6/2014

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA95-13	Buttonwood Brook	Fecal Coliform [251.1]	CN 251.1	Pathogens	Pathogen Only	No further action	6/6/2014
MA95-14	Cape Cod Canal	Fecal Coliform [251.1]	CN 251.1	Pathogens	Pathogen Only	No further action	6/6/2014
MA95-18	Red Brook Harbor	Fecal Coliform [251.1]	CN 251.1	Pathogens	Pathogen Only	No further action	6/6/2014
MA95-20	Wild Harbor	Fecal Coliform [251.1]	CN 251.1	Pathogens	Pathogen Only	No further action	6/6/2014
MA95-25	Quissett Harbor	Fecal Coliform [251.1]	CN 251.1	Pathogens	Pathogen Only	No further action	6/6/2014
MA95-40	East Branch Westport River	Fecal Coliform [251.1]	CN 251.1	Pathogens	Pathogen Only	No further action	6/6/2014
MA95-49	Broad Marsh River	Fecal Coliform [251.1]	CN 251.1	Pathogens	Pathogen Only	No further action	6/6/2014
MA95-50	Wankinco River	Fecal Coliform [251.1]	CN 251.1	Pathogens	Pathogen Only	No further action	6/6/2014
MA95-51	Crooked River	Fecal Coliform [251.1]	CN 251.1	Pathogens	Pathogen Only	No further action	6/6/2014
MA95-52	Cedar Island Creek	Fecal Coliform [251.1]	CN 251.1	Pathogens	Pathogen Only	No further action	6/6/2014
MA95-58	Bread and Cheese Brook	Fecal Coliform [251.1]	CN 251.1	Pathogens	Pathogen Only	No further action	6/6/2014
MA95-60	Mattapoissett River	Fecal Coliform [251.1]	CN 251.1	Pathogens	Pathogen Only	No further action	6/6/2014
MA96-05	Hyannis Harbor	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	6/6/2014
MA96-06	Maraspin Creek	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	6/6/2014
MA96-09	Quivett Creek	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	6/6/2014
MA96-13	Sesuit Creek	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	6/6/2014
MA96-16	Rock Harbor Creek	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	6/6/2014
MA96-18	Great Harbor	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	12/8/2014
MA96-19	Little Harbor	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	6/6/2014
MA96-22	Herring River	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	6/6/2014
MA96-23	Saquatucket Harbor	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	6/6/2014
MA96-26	Little Namskaket Creek	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	6/6/2014
MA96-27	Namskaket Creek	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	12/8/2014
MA96-30	Scorton Creek	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	6/6/2014
MA96-32	Duck Creek	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	12/8/2014
MA96-37	Mill Creek	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	12/8/2014
MA96-38	Parkers River	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	6/6/2014
MA96-41	Mill Creek	Fecal Coliform [252.0]	CN 252.0	Pathogens	Pathogen Only	No further action	6/6/2014
MA96-79	Cockle Cove Creek	Enterococcus [252.5]; Fecal Coliform [252.5]	CN 252.5	Pathogens	Pathogen Only	No further action	12/8/2014
MA96-81	Snows Creek	Fecal Coliform [252.5]	CN 252.5	Pathogens	Pathogen Only	No further action	12/8/2014
MA96-84	Old Harbor Creek	Fecal Coliform [252.5]	CN 252.5	Pathogens	Pathogen Only	No further action	12/8/2014
MA96-85	Mill Creek	Fecal Coliform [252.5]	CN 252.5	Pathogens	Pathogen Only	No further action	12/8/2014
MA96-86	Dock Creek	Fecal Coliform [252.5]	CN 252.5	Pathogens	Pathogen Only	No further action	12/8/2014

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA96-87	Springhill Creek	Fecal Coliform [252.5]	CN 252.5	Pathogens	Pathogen Only	No further action	12/8/2014
MA96-92	Santuit River	Fecal Coliform [252.5]	CN 252.5	Pathogens	Pathogen Only	No further action	12/8/2014
MA96-93	Halls Creek	Fecal Coliform [252.5]	CN 252.5	Pathogens	Pathogen Only	No further action	12/8/2014
MA96-94	Stewarts Creek	Fecal Coliform [252.5]	CN 252.5	Pathogens	Pathogen Only	No further action	12/8/2014
MA83-15	Unnamed Tributary	Chloride; Fecal Coliform [122.0]	CN 122.0	Pathogens	Pathogens and Chloride	No further action	6/6/2014
MA73062	Willet Pond	Mercury in Fish Tissue [376.0]	CN 376.0	Mercury	Impairments Unrelated to Stormwater	No further action	6/6/2014
MA73-13	Unnamed Tributary	Mercury in Fish Tissue [376.0]	CN 376.0	Mercury	Impairments Unrelated to Stormwater	No further action	6/6/2014
MA53-04	Palmer River	(Low flow alterations*); Fecal Coliform [182.0]; Nutrient/Eutrophication Biological Indicators	CN 182.0	Pathogens	<9% IC	No further action	12/8/2014
MA62-03	Taunton River	Fecal Coliform [256.0]; Oxygen, Dissolved	CN 256.0	Pathogens	<9% IC	No further action	12/8/2014
MA93-29	Cat Brook	Fecal Coliform; pH, Low	CN 155.0	Pathogens	<9% IC	No further action	12/8/2014
MA95927	Oyster Pond	Estuarine Bioassessments [243.0]; Oxygen, Dissolved [243.0]	CN 243.0	Nitrogen	Nitrogen TMDL in Groundwatersheds	Site constraints- No further action	12/8/2014
MA95-15	Phinneys Harbor	Fecal Coliform [251.1]; Nitrogen (Total) [247.0]	CN 251.1, CN 247.0	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA95-46	Harbor Head	Estuarine Bioassessments [243.0]; Fecal Coliform [251.1]	CN 243.0, CN 251.1	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-07	Prince Cove	Estuarine Bioassessments [242.0]; Fecal Coliform [309.0]	CN 242.0, CN 309.0	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-08	Shoestring Bay	Estuarine Bioassessments [217.0]; Fecal Coliform [252.0]	CN 217.0, CN 252.0	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-20	Quashnet River	Fecal Coliform [252.0]; Nitrogen (Total) [218.0]; Oxygen, Dissolved [218.0]	CN 181.0, CN 252.0	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	12/8/2014
MA96-24	Mashpee River	Estuarine Bioassessments [217.0]; Fecal Coliform [252.0]	CN 217.0, CN 252.0	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-42	Taylor's Pond	Fecal Coliform [252.0]; Nitrogen (Total) [206.1]	CN 252.0, CN 206.1	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-43	Harding Beach Pond	Fecal Coliform [252.0]; Nitrogen (Total) [206.1]	CN 252.0, CN 206.1	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-44	Bucks Creek	Enterococcus [252.0]; Fecal Coliform [252.0]; Nitrogen (Total) [206.1]	CN 252.0, CN 206.1	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-45	Oyster Pond	Estuarine Bioassessments [206.1]; Fecal Coliform [252.0]; Nitrogen (Total) [206.1]	CN 252.0, CN 206.1	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-46	Oyster Pond River	Estuarine Bioassessments [206.1]; Fecal Coliform [252.0]; Nitrogen (Total) [206.1]	CN 252.0, CN 206.1	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-53	Perch Pond	Nitrogen (Total) [181.0]	CN 181.0	Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA96-54	Great Pond	Estuarine Bioassessments [181.0]; Nitrogen (Total) [181.0]	CN 181.0	Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-55	Green Pond	Estuarine Bioassessments [181.0]; Fecal Coliform [252.0]; Nitrogen (Total) [181.0]	CN 181.0, CN 252.0	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-56	Little Pond	Estuarine Bioassessments [246.0]; Fecal Coliform [252.5]	CN 246.0, CN 252.5	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-57	Bournes Pond	Estuarine Bioassessments [181.0]; Fecal Coliform [252.0]; Nitrogen (Total) [181.0]	CN 181.0, CN 252.0	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-62	Oyster Pond	Estuarine Bioassessments [245.0]; Fecal Coliform [252.0]; Oxygen, Dissolved [245.0]	CN 245.0, CN 252.0	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	12/8/2014
MA96-63	Cotuit Bay	Fecal Coliform [309.0]; Nitrogen (Total) [242.0]	CN 309.0, CN 242.0	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	12/8/2014
MA96-65	West Bay	Estuarine Bioassessments [242.0]	CN 242.0	Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	12/8/2014
MA96-66	North Bay	Estuarine Bioassessments [242.0]; Fecal Coliform [309.0]	CN 242.0, CN 309.0	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	12/8/2014
MA96-70	Areys Pond	Estuarine Bioassessments [244.0]; Nitrogen (Total) [244.0]	CN 244.0	Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	6/6/2014
MA96-76	The River	Estuarine Bioassessments [244.0]; Fecal Coliform [252.5]; Nitrogen (Total) [244.0]	CN 244.0, CN 252.5	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	12/8/2014
MA96-78	Little Pleasant Bay	Fecal Coliform [252.5]; Nitrogen (Total) [244.0]	CN 252.5, CN 244.0	Pathogens, Nitrogen	Nitrogen TMDL in Groundwatersheds	Load negligible- No further action	12/8/2014
MA95-01	Buttermilk Bay	Estuarine Bioassessments; Fecal Coliform [251.1]	CN 251.1	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA95-02	Onset Bay	Estuarine Bioassessments; Fecal Coliform [251.1]	CN 251.1	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA95-03	Wareham River	Estuarine Bioassessments; Fecal Coliform [251.1]; Nitrogen (Total)	CN 251.1	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA95-05	Weweantic River	Estuarine Bioassessments; Fecal Coliform [251.1]; Nitrogen (Total)	CN 251.1	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA95-21	Herring Brook	Chlorophyll-a; Fecal Coliform [251.1]; Nitrogen (Total)	CN 251.1	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA95-29	Agawam River	Ammonia (Un-ionized); Excess Algal Growth; Fecal Coliform [251.1]; Nitrogen (Total); Whole Effluent Toxicity (WET)	CN 251.1	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA95-53	Beaverdam Creek	Estuarine Bioassessments; Fecal Coliform [251.1]; Nitrogen (Total)	CN 251.1	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA95-68	Wild Harbor River	Fecal Coliform [251.1]; Nutrient/Eutrophication Biological Indicators	CN 251.1	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA96-12	Bass River	Estuarine Bioassessments; Fecal Coliform [252.0]	CN 252.0	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA96-14	Swan Pond River	Estuarine Bioassessments; Fecal Coliform [252.0]	CN 252.0	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA96-36	Lewis Bay	Estuarine Bioassessments; Fecal Coliform [252.0]	CN 252.0	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA96-68	Town Cove	Estuarine Bioassessments; Fecal Coliform [252.0]	CN 252.0	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA96-80	Mill Creek	Fecal Coliform [252.5]; Nitrogen (Total)	CN 252.5	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA96-82	Hyannis Inner Harbor	Fecal Coliform [252.5]; Nitrogen (Total)	CN 252.5	Pathogens	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA83-18	Shawsheen River	Fecal Coliform [122.0]; Mercury in Fish Tissue; Oxygen, Dissolved	CN 122.0	Pathogens	TMDL and IC Methods	BMP potential- Assign to design contractor	6/6/2014
MA93-42	North River	Ammonia (Un-ionized); Dissolved oxygen saturation; Fecal Coliform	CN 155.0	Pathogens	TMDL and IC Methods	BMP potential- Assign to design contractor	6/6/2014
MA95-56	Hammett Cove	Estuarine Bioassessments; Fecal Coliform [251.1]; Nitrogen (Total)	CN 251.1	Pathogens	TMDL and IC Methods	Site constraints- No further action	12/8/2014
MA95-61	Eel Pond	Fecal Coliform [251.1]; Nutrient/Eutrophication Biological Indicators	CN 251.1	Pathogens	TMDL and IC Methods	Site constraints- No further action	12/8/2014
MA95-70	"Inner" Sippican Harbor	Fecal Coliform [251.1]; Nitrogen (Total); Nutrient/Eutrophication Biological Indicators	CN 251.1	Pathogens	TMDL and IC Methods	Site constraints- No further action	12/8/2014

Notes: Assessments are based on the impairments listed in the final Year 2012 303d list. For full Impaired Waters submittals, refer to <http://www.massdot.state.ma.us/highway/Departments/EnvironmentalServices/StormwaterManagementUnit/NationalPollutantDischargeEliminationSystem/ImpairedWatersProgram.aspx>

Table 7 Permit Year 12 Completed Assessments to Impaired Waters Using IC Method

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	Assessment Type	Notes	Semi-Annual Submission Date
MA34005	Arcadia Lake	(Non-Native Aquatic Plants*); Nutrient/Eutrophication Biological Indicators	No Discharge	No further action	6/6/2014
MA34051	Metacomet Lake	(Non-Native Aquatic Plants*); Oxygen, Dissolved	No Discharge	No further action	6/6/2014
MA52013	Falls Pond, North Basin	Excess Algal Growth; Nutrient/Eutrophication Biological Indicators; Oxygen, Dissolved; Phosphorus (Total)	No Discharge	No further action	12/8/2014
MA52032	Plain Street Pond	(Non-Native Aquatic Plants*); Excess Algal Growth	No Discharge	No further action	12/8/2014
MA70-10	Winthrop Bay	Enterococcus; Fecal Coliform; Other; PCB in Fish Tissue	No Discharge	No further action	12/8/2014
MA73009	Cobbs Pond	(Non-Native Aquatic Plants*); Nutrient/Eutrophication Biological Indicators; Oxygen, Dissolved; Secchi disk transparency	No Discharge	No further action	12/8/2014
MA81103	Plow Shop Pond	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes); Arsenic; Chromium (total); Mercury in Fish Tissue; Polycyclic Aromatic Hydrocarbons (PAHs) (Aquatic Ecosystems); Sediment Bioassays -- Chronic Toxicity Freshwater	No Discharge	No further action	6/6/2014
MA83005	Fosters Pond	(Non-Native Aquatic Plants*); Mercury in Fish Tissue; Oxygen, Dissolved	No Discharge	No further action	6/6/2014
MA94037	Forge Pond	(Debris/Floatables/Trash*); (Non-Native Aquatic Plants*); Chlorophyll-a; Dissolved oxygen saturation; Excess Algal Growth; Fecal Coliform; Phosphorus (Total); Secchi disk transparency	No Discharge	No further action	12/8/2014
MA94113	Old Oaken Bucket Pond	(Non-Native Aquatic Plants*); Phosphorus (Total)	No Discharge	No further action	12/8/2014
MA96185	Lovells Pond	Chlorophyll-a; Excess Algal Growth; Oxygen, Dissolved; Phosphorus (Total); Secchi disk transparency	No Discharge	No further action	12/8/2014
MA96186	Lovers Lake	Secchi disk transparency	No Discharge	No further action	12/8/2014
MA96198	Middle Pond	Oxygen, Dissolved	No Discharge	No further action	12/8/2014
MA96218	Mystic Lake	(Non-Native Aquatic Plants*); Oxygen, Dissolved	No Discharge	No further action	12/8/2014
MA96309	Stillwater Pond	Secchi disk transparency	No Discharge	No further action	12/8/2014
MA34-11	Manhan River	Escherichia coli	Pathogen Only	No further action	12/8/2014
MA34-27	Fort River	Escherichia coli	Pathogen Only	No further action	12/8/2014
MA34-28	Mill River	Escherichia coli	Pathogen Only	No further action	12/8/2014
MA34-29	Mill River	Escherichia coli	Pathogen Only	No further action	12/8/2014
MA36-17	Quaboag River	Escherichia coli	Pathogen Only	No further action	12/8/2014
MA36-24	Chicopee River	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA36-25	Chicopee River	Escherichia coli	Pathogen Only	No further action	12/8/2014
MA41-04	Quinebaug River	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA52-08	Sevenmile River	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA74-03	Old Swamp River	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA81-01	North Nashua River	Escherichia coli	Pathogen Only	No further action	12/8/2014
MA81-03	North Nashua River	Escherichia coli	Pathogen Only	No further action	12/8/2014

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	Assessment Type	Notes	Semi-Annual Submission Date
MA81-24	Gates Brook	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA84A- 08	Powwow River	Escherichia coli	Pathogen Only	No further action	6/6/2014
MA84B-01	Unnamed Tributary	Fecal Coliform	Pathogen Only	No further action	6/6/2014
MA91-09	Mill River	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA91-12	Plum Island Sound	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA91-15	Plum Island River	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA92-02	Ipswich River	Fecal Coliform	Pathogen Only	No further action	6/6/2014
MA92-12	Unnamed Tributary	Fecal Coliform	Pathogen Only	No further action	6/6/2014
MA94-06	North River	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA94-07	Herring River	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA94-09	South River	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA94-14	Jones River	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA94-15	Duxbury Bay	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA94151	Studleys Pond	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA94-24	Iron Mine Brook	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA94-27	Third Herring Brook	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA94-30	Bluefish River	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA94-34	Ellisville Harbor	Fecal Coliform	Pathogen Only	No further action	12/8/2014
MA21-02	East Branch Housatonic River	Fecal Coliform; PCB in Fish Tissue	Pathogens and Impairments Unrelated to Stormwater	No further action	6/6/2014
MA34-04	Connecticut River	Escherichia coli; PCB in Fish Tissue	Pathogens and Impairments Unrelated to Stormwater	No further action	6/6/2014
MA71-07	Mill Brook	(Physical substrate habitat alterations*); Escherichia coli	Pathogens and Impairments Unrelated to Stormwater	No further action	12/8/2014
MA82A-10	River Meadow Brook	(Debris/Floatables/Trash*); (Non-Native Aquatic Plants*); Fecal Coliform	Pathogens and Impairments Unrelated to Stormwater	No further action	6/6/2014
MA84A-01	Merrimack River	Fecal Coliform; Mercury in Fish Tissue	Pathogens and Impairments Unrelated to Stormwater	No further action	6/6/2014
MA84A-05	Merrimack River	Enterococcus; PCB in Fish Tissue	Pathogens and Impairments Unrelated to Stormwater	No further action	6/6/2014
MA84A-06	Merrimack River	Enterococcus; Fecal Coliform; PCB in Fish Tissue	Pathogens and Impairments Unrelated to Stormwater	No further action	6/6/2014
MA84A-09	Little River	(Debris/Floatables/Trash*); (Habitat Assessment (Streams)*); Escherichia coli	Pathogens and Impairments Unrelated to Stormwater	No further action	6/6/2014
MA94-05	North River	Fecal Coliform; Mercury in Fish Tissue	Pathogens and Impairments Unrelated to Stormwater	No further action	6/6/2014
MA84A-40	Fish Brook	Chloride and Pathogens	Pathogens and Chloride	No further action	6/6/2014

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	Assessment Type	Notes	Semi-Annual Submission Date
MA83-20	Unnamed Tributary	Chloride	Chloride	No further action	6/6/2014
MA92-26	Unnamed Tributary (Martin's Brook)	Chloride	Chloride	No further action	6/6/2014
MA96-34	Wellfleet Harbor	N/A	Removed from 303(d) list	No further action	6/6/2014
MA96-69	Coonamessett River	N/A	Removed from 303(d) list	No further action	6/6/2014
MA21-17	Southwest Branch Housatonic River	Fecal Coliform; Sedimentation/Siltation	<9% IC	No further action	12/8/2014
MA35-08	Otter River	(Total Dissolved Solids*); Aquatic Macroinvertebrate Bioassessments; Fecal Coliform; Fishes Bioassessments; Nutrient/Eutrophication Biological Indicators; PCB in Fish Tissue; Taste and Odor; Turbidity	<9% IC	No further action	12/8/2014
MA36003	Alden Pond	Nutrient/Eutrophication Biological Indicators	<9% IC	No further action	6/6/2014
MA51-11	West River	(Non-Native Aquatic Plants*); pH, Low	<9% IC	No further action	12/8/2014
MA95-55	Squeteague Harbor	Nutrient/Eutrophication Biological Indicators	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA95-76	Little Buttermilk Bay	Estuarine Bioassessments	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA95-77	Butler Cove	Estuarine Bioassessments	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA95-78	Rands Harbor	Nutrient/Eutrophication Biological Indicators	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA95-79	Fiddlers Cove	Nutrient/Eutrophication Biological Indicators	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA96-21	Waquoit Bay	Estuarine Bioassessments; Oxygen, Dissolved	Nitrogen in Groundwatersheds	Load negligible- No further action	12/8/2014
MA51-31	Singletary Brook	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes)	IC Method	BMP potential- Assign to design contractor	6/6/2014
MA52010	Lake Como	(Non-Native Aquatic Plants*); Excess Algal Growth; Turbidity	IC Method	Site constraints- No further action	12/8/2014
MA52-02	Ten Mile River	Excess Algal Growth; Fecal Coliform; Other; Phosphorus (Total); Turbidity	IC Method	Site constraints- No further action	12/8/2014
MA52-03	Ten Mile River	Aquatic Plants (Macrophytes); Chlordane; Dissolved oxygen saturation; Excess Algal Growth; Fecal Coliform; Organic Enrichment (Sewage) Biological Indicators; Other; Oxygen, Dissolved; Phosphorus (Total)	IC Method	BMP potential- Assign to design contractor	12/8/2014
MA52-10	Fourmile Brook	Sedimentation/Siltation	IC Method	BMP potential- Assign to design contractor	12/8/2014
MA71-14	Belle Isle Inlet	Fecal Coliform; Other; PCB in Fish Tissue	IC Method	Site constraints- No further action	12/8/2014
MA73-33	Unnamed Tributary	Color; Escherichia coli; Phosphorus (Total); Taste and Odor	IC Method	Site constraints- No further action	12/8/2014

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	Assessment Type	Notes	Semi-Annual Submission Date
MA74-10	Furnace Brook	Oxygen, Dissolved	IC Method	Site constraints- No further action	6/6/2014
MA74-11	Weir River	Fecal Coliform; Other; PCB in Fish Tissue	IC Method	Site constraints- No further action	12/8/2014
MA74-13	Weymouth Back River	Fecal Coliform; Other; PCB in Fish Tissue	IC Method	Site constraints- No further action	12/8/2014
MA74-14	Weymouth Fore River	Fecal Coliform; Other; PCB in Fish Tissue	IC Method	Site constraints- No further action	12/8/2014
MA81-04	North Nashua River	Escherichia coli; Taste and Odor	IC Method	Existing BMPs meet target reduction	12/8/2014
MA81053	Grove Pond	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes); Arsenic; DEHP (Di-sec-octyl phthalate); Mercury in Fish Tissue; Polycyclic Aromatic Hydrocarbons (PAHs) (Aquatic Ecosystems); Sediment Bioassays -- Chronic Toxicity Freshwater	IC Method	BMP potential- Assign to design contractor	6/6/2014
MA81-17	Nonacoicus Brook	Oxygen, Dissolved	IC Method	Site constraints- No further action	6/6/2014
MA82020	Lake Cochituate	(Eurasian Water Milfoil, Myriophyllum spicatum*); Oxygen, Dissolved; PCB in Fish Tissue	IC Method	BMP potential- Assign to design contractor	6/6/2014
MA82097	Saxonville Pond	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes); Mercury in Fish Tissue	IC Method	BMP potential- Assign to design contractor	6/6/2014
MA82112	Waushakum Pond	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes); Oxygen, Dissolved; Phosphorus (Total); Turbidity	IC Method	Site constraints- No further action	6/6/2014
MA82125	Lake Cochituate	(Eurasian Water Milfoil, Myriophyllum spicatum*); (Non- Native Aquatic Plants*); Enterococcus; Oxygen, Dissolved; PCB in Fish Tissue	IC Method	BMP potential- Assign to design contractor	6/6/2014
MA82127	Lake Cochituate	(Eurasian Water Milfoil, Myriophyllum spicatum*); (Non- Native Aquatic Plants*); Oxygen, Dissolved; PCB in Fish Tissue	IC Method	BMP potential- Assign to design contractor	6/6/2014
MA82A-22	Unnamed Tributary	Aquatic Macroinvertebrate Bioassessments; Nutrient/Eutrophication Biological Indicators	IC Method	BMP potential- Assign to design contractor	6/6/2014
MA82A-26	Sudbury River	Aquatic Macroinvertebrate Bioassessments; Mercury in Fish Tissue	IC Method	BMP potential- Assign to design contractor	6/6/2014
MA94-03	French Stream	Fecal Coliform; Fishes Bioassessments; Oxygen, Dissolved; Phosphorus (Total); Whole Effluent Toxicity (WET)	IC Method	Site constraints- No further action	12/8/2014
MA94-21	Drinkwater River	Excess Algal Growth; Fecal Coliform; Mercury in Fish Tissue; Oxygen, Dissolved; Phosphorus (Total); Secchi disk transparency	IC Method	Site constraints- No further action	12/8/2014
MA95-63	Outer New Bedford Harbor	Estuarine Bioassessments; Fecal Coliform [251.1]; Nitrogen (Total); Other; Oxygen, Dissolved; PCB in Fish Tissue	IC Method	Site constraints- No further action	12/8/2014
MA95-67	Nasketucket River	Nitrogen (Total)	IC Method	BMP potential- Assign to design contractor	12/8/2014

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Table 8 Status of Impaired Waters Program Assessments in Design or Pre-Design

Water Body ID	Water Body Name	Project Name	Project Type	District	Year 12 % Design Complete	Estimated Ad Date	Year 11 % Design Complete
MA71043	Upper Mystic Lake	Rt. 3 at Upper Mystic Lake	Retrofit	4	Pre-Design	TBD	--
MA73-26	Unquity Brook	I-93, Randolph Ave at Unquity Brook	Retrofit	6	Pre-Design	TBD	Pre-Design
MA73-30	Gulliver Creek	I-93 at Gulliver Creek	Retrofit	6	Pre-Design	TBD	--
MA73-33	Unnamed Tributary	Rt. 1 at Unnamed Tributary	Retrofit	5	Pre-Design	TBD	--
MA82020	Lake Cochituate	I-90 at Lake Cochituate North Basin	Retrofit	3	Pre-Design	TBD	--
MA82097	Saxonville Pond	I-90 at Saxonville Pond	Retrofit	3	Pre-Design	TBD	--
MA82125	Lake Cochituate	Rt. 9 at Lake Cochituate Middle Basin	Retrofit	3	Pre-Design	TBD	--
MA82125	Lake Cochituate	I-90 at Lake Cochituate Middle Basin	Retrofit	3	Pre-Design	TBD	--
MA82127	Lake Cochituate	Rt. 9 at Lake Cochituate South Basin	Retrofit	3	Pre-Design	TBD	--
MA82A-22	Unnamed Tributary	I-90 at Cochituate Brook	Retrofit	3	Pre-Design	TBD	--
MA82A-26	Sudbury River	Route 9 at Sudbury River	Retrofit	4	Pre-Design	TBD	--
MA83-18	Shawsheen River	I-93 at Shawsheen River	Retrofit	4	Pre-Design	TBD	--
MA92-06	Ipswich River	I-95/I-93 at Ipswich River	Retrofit	4	Pre-Design	TBD	Pre-Design
MA95-67	Nasketucket River	Rt. 6, 240 at Nasketucket River	Retrofit	5	Pre-Design	TBD	--
MA61-06	Mount Hope Bay	I-195 at Mount Hope Bay	Retrofit	5	Pre-Design	10/1/18	Pre-Design
MA62-04	Taunton River	I-195, Rt. 79, 24, 103, 138 at Taunton River	Retrofit	5	Pre-Design	10/1/18	Pre-Design
MA73-01	Neponset River	I-95 at Neponset River	Retrofit	5	Pre-Design	10/1/18	Pre-Design
MA82A-26	Sudbury River	I-90 at Sudbury River	Resurfacing	3	Pre-Design	1/20/18	--
MA84A-03	Merrimack River	Rt. 110, I-93, and 113 at Merrimack River	Retrofit	4	Pre-Design	12/2/17	Pre-Design
MA84A-10	Spicket River	Andover-Methuen Interstate Maintenance	Resurfacing	3	Pre-Design	12/2/17	--
MA95115	Parker Mills Pond	Wareham Rochester Milledboro Interstate Maintenance	Resurfacing	5	Pre-Design	11/4/17	--
MA82055	Grist Mill Pond	Rt. 20 at Grist Mill Pond	Retrofit	3	Pre-Design	10/1/17	--
MA82A-07	Concord River	Rt. 3 at Concord River	Retrofit	4	Pre-Design	10/1/17	--
MA82A-08	Concord River	Rt. 3A, I-495 at Concord River	Retrofit	4	Pre-Design	10/1/17	Pre-Design
MA82A-16	Unnamed Tributary	Rt. 20 at Hager Road	Retrofit	3	Pre-Design	10/1/17	--
MA82B-14	Nashoba Brook	I-495 at Nashoba Brook	Resurfacing	3	Pre-Design	10/1/17	--
MA83-04	Rogers Brook	Rt. 28 at Rogers	Retrofit	4	Pre-Design	10/1/17	Pre-Design
MA83-17	Shawsheen River	Rt. 3, 3A at Shawsheen River	Retrofit	4	Pre-Design	10/1/17	--
MA34-36	Bloody Brook	Whately Deerfield Greenfield Maintenance	Resurfacing	2	Pre-Design	12/3/16	--

Water Body ID	Water Body Name	Project Name	Project Type	District	Year 12 % Design Complete	Estimated Ad Date	Year 11 % Design Complete
MA35-01	Millers River	Winchendon Resurfacing	Resurfacing	2	Pre-Design	12/3/16	--
MA81-04	North Nashua River	I-190 at North Nashua River	Retrofit	3	Pre-Design	11/12/16	--
MA96-14	Swan Pond River	Dennis Harwich Brewster Orleans Resurfacing	Resurfacing	5	Pre-Design	10/5/16	--
MA96-51	Muddy Creek	Dennis Harwich Brewster Orleans Resurfacing	Resurfacing	5	Pre-Design	10/5/16	--
MA96-70	Areys Pond	Dennis Harwich Brewster Orleans Resurfacing	Resurfacing	5	Pre-Design	10/5/16	--
MA96-77	Pleasant Bay	Dennis Harwich Brewster Orleans Resurfacing	Resurfacing	5	Pre-Design	10/5/16	--
MA96-88	Cedar Pond	Dennis Harwich Brewster Orleans Resurfacing	Resurfacing	5	Pre-Design	10/5/16	--
MA81-02	North Nashua River	Rt. 2 at North Nashua River	Retrofit	3	Pre-Design	10/1/16	Pre-Design
MA81053	Grove Pond	Rt. 2A, 110, 111 at Grove Pond	Retrofit	3	Pre-Design	10/1/16	--
MA82B-07	Assabet River	Rt. 2, 2A at Assabet River	Retrofit	4	Pre-Design	10/1/16	--
MA93-39	Proctor Brook	Rt. 128 at Proctor Brook	Retrofit	4	Pre-Design	10/1/16	--
MA74-02	Weir River	Rt. 3A at Weir River	Retrofit	5	Pre-Design	1/1/16	Pre-Design
MA94-16	Plymouth Harbor	Plymouth Resurfacing work	Resurfacing	5	Pre-Design	11/7/15	--
MA51-08	Unnamed Tributary	I-290, I-90, Rt. 146, Rt. 12 at Unnamed Tributary	Retrofit	3	Pre-25/75%	10/1/18	--
MA72-14	Mine Brook	I-495 at Mine Brook, Phase II	Resurfacing	3	Pre-25/75%	11/11/17	Pre-Design
MA34-05	Connecticut River	Chicopee Holyoke Interstate Maintenance	Resurfacing	2	Pre-25/75%	11/4/17	--
MA53-01	Runnins River	I-195 at Runnins River	Resurfacing	5	Pre-25/75%	11/4/17	--
MA53-01	Runnins River	Rt. 44 at Runnins River	Retrofit	5	Pre-25/75%	10/1/17	Pre-25-75%
MA72-28	Beaver Brook	Rt. 2, 20 at Beaver Brook	Retrofit	4	Pre-25/75%	10/1/17	Pre-Design
MA51105	Mill Pond	Shrewsbury/Boylston/Northborough Maintenance	Resurfacing	3	Pre-25/75%	12/3/16	--
MA51125	Lake Quinsigamond	I-290, Rt. 9 at Lake Quinsigamond	Resurfacing	3	Pre-25/75%	12/3/16	Pre-25-75%
MA51196	Shirley Street Pond	I-290 at Shirley Street Pond	Resurfacing	3	Pre-25/75%	12/3/16	Pre-25-75%
MA82B-03	Assabet River	Shrewsbury/Boylston/Northborough Maintenance	Resurfacing	3	Pre-25/75%	12/3/16	--
MA34-05	Connecticut River	I-91, I-90 at Connecticut River (Subbasins A & B)	Resurfacing	2	Pre-25/75%	10/1/16	--
MA51-02	Middle River	I-290, Rt. 146 at Middle River	Retrofit	3	Pre-25/75%	10/1/16	Pre-Design
MA51-05	Blackstone River	Rt. 146, Rt. 122 at Blackstone River	Retrofit	3	Pre-25/75%	10/1/16	Pre-25-75%
MA84A-17	Black Brook	Rt. 3/3A at Black Brook	Retrofit	4	Pre-25/75%	10/1/16	Pre-Design
MA51-10	Mill River	Rt. 140 at Mill River	Retrofit	3	Pre-25/75%	3/3/16	Pre-Design
MA51073	Indian Lake	Rte 122A at Indian Lake	Retrofit	3	Pre-25/75%	1/1/16	Pre-Design
MA62-06	Salisbury Plain River	Rt. 28 at Salisbury Plain River	Retrofit	5	Pre-25/75%	1/1/16	Pre-Design
MA93-42	North River	Rt. 107 at North River	Retrofit	4	Pre-25/75%	1/1/16	--

Water Body ID	Water Body Name	Project Name	Project Type	District	Year 12 % Design Complete	Estimated Ad Date	Year 11 % Design Complete
MA62-47	Wading River	I-495 at Wading River	Resurfacing	5	Pre-25/75%	12/19/15	--
MA72092	Lake Pearl	Foxborough Plainville Wrentham Maintenance	Resurfacing	5	Pre-25/75%	12/19/15	--
MA82B-02	Assabet River	Rt. 9 at Assabet River	Retrofit	3	Pre-25/75%	12/12/15	Pre-Design
MA95-42	New Bedford Inner Harbor	Rt. 6, 18 at New Bedford Inner Harbor	Retrofit	5	Pre-25/75%	10/1/15	--
MA84A-10	Spicket River	I-93 at Spicket River	Resurfacing	4	25/75%	12/3/16	Pre-Design
MA84A-18	Bare Meadow Brook	I-495 at Bare Meadow Brook	Retrofit	4	25/75%	12/3/16	Pre-Design
MA41-05	Cady Brook	I-90 at Cady Brook	Retrofit	3	25/75%	3/3/16	Pre-Design
MA42-03	French River	I-90 at French River	Retrofit	3	25/75%	3/3/16	25-75%
MA51135	Lake Ripple	Rt. 140 at Lake Ripple	Retrofit	3	25/75%	3/3/16	Pre-Design
MA41-02	Quinebaug River	I-84 at Quinebaug River	Resurfacing	3	25/75%	10/31/15	25-75%
MA51039	Dorothy Pond	I-90 at Dorothy Pond	Retrofit	3	25/75%	10/10/15	--
MA35056	Parker Pond	Rt. 68 at Parker Pond	Retrofit	3	25/75%	10/1/15	Pre-Design
MA51093	Marble Pond	Rt. 146 at Marble Pond	Retrofit	3	25/75%	10/1/15	Pre-Design
MA51-17	Poor Farm Brook	Rt. 70 at Poor Farm Brook	Retrofit	3	25/75%	10/1/15	Pre-Design
MA93-37	Beaver Brook	I-95 at Beaver Brook	Retrofit	4	25/75%	8/29/15	Pre-Design
MA51-14	Mumford River	Rt. 146 at Mumford River	Retrofit	3	25/75%	5/16/15	Pre-Design
MA51-15	Tatnuck Brook	Rt. 122 at Tatnuck Brook	Retrofit	3	25/75%	5/16/15	25-75%
MA81-05	Nashua River	Rt. 2, 2A at Nashua River	Retrofit	3	25/75%	5/16/15	--
MA34-05	Connecticut River	I-91, Rt. 5 at Connecticut River (Subbasins C & D)	Resurfacing	2	100%	11/4/17	100%
MA34-19	Stony Brook	Rt. 116 at Stony Brook	Retrofit	2	100%	10/1/15	100%
MA61-02	Lee River	I-195 at Lee River	Retrofit	5	100%	8/29/15	100%
MA62-39	Rumford River	I-495 at Rumford River	Retrofit	5	100%	8/29/15	25-75%
MA71-02	Mystic River	I-93 at Mystic River	Retrofit	4	100%	8/29/15	25-75%
MA95-42	New Bedford Inner Harbor	I-195 at New Bedford Inner Harbor	Retrofit	5	100%	8/29/15	100%
MA73-04	Neponset River	I-93 at Neponset River	Retrofit	6	100%	6/13/15	25-75%
MA74-04	Mill River	Rt. 3, 53 at Mill River	Retrofit	6	100%	6/13/15	25-75%
MA74-09	Town Brook	Rt. 3 and I-93 Interchange at Town Brook	Retrofit	6	100%	6/13/15	25-75%
MA32-05	Westfield River	Rt. 20 at Westfield River	Retrofit	2	100%	5/2/15	100%
MA35026	Greenwood Pond	Rt. 2 at Greenwood Pond	Retrofit	2	100%	5/2/15	100%

Table 9 Status of Impaired Waters Program Assessments under Construction in Year 12

Water Body ID	Water Body Name	Project Name	Project Type	District	Year 12 Construction Status	Estimated Construction Start Date	Estimated Construction End Date	Year 11 Status
MA83-19	Shawsheen River	I-495 at Shawsheen River	Resurfacing	4	In Construction	Spring 2015	TBD	In Design
MA84A-04	Merrimack River	I-495 and Merrimack River	Resurfacing	4	In Construction	Spring 2015	TBD	In Design
MA93-07	Bass River	Rt. 128 at Bass River	Resurfacing	4	In Construction	Spring 2015	TBD	--
MA51-08	Unnamed Tributary	I-190 at Indian Lake	Resurfacing	3	In Construction	Summer 2015	TBD	In Design
MA51073	Indian Lake	I-190 at Indian Lake	Resurfacing	3	In Construction	Summer 2015	TBD	In Design
MA82B-04	Assabet River	I-290 at Assabet River	Resurfacing	3	In Construction	Summer 2015	TBD	In Design
MA93-51	Unnamed Tributary	Rt. 60 at Unnamed Tributary	Resurfacing	4	In Construction	Summer 2015	TBD	In Design
MA61-04	Cole River	I-195 at Cole River	Bridge	5	In Construction	Winter 2013/2014	Summer 2015	In Construction
MA62-39	Rumford River	I-495 to Rumford River	Resurfacing	5	In Construction	Winter 2012/2013	Summer 2015	--
MA62-14	Robinson Brook	I-95 to Robinson Brook	Resurfacing	5	In Construction	Spring 2013	Summer 2015	--
MA74-08	Monatiquot River	Rt. 3 at Monatiquot River	Resurfacing	6	In Construction	Summer 2014	Autumn 2015	In Construction
MA71-04	Alewife Brook	Rt. 2 at Alewife Brook	Intersection	4	In Construction	Winter 2014/2015	Spring 2016	In Design
MA72-07	Charles River	I-90, I-95 Tolls	Retrofit	6	In Construction	Spring 2015	Autumn 2016	In Design
MA72-29	Cheese Cake Brook	I-90 at Cheese Cake Brook	Retrofit	6	In Construction	Spring 2015	Autumn 2016	In Design
MA72-36	Charles River	I-90 at Charles River	Retrofit	6	In Construction	Spring 2015	Autumn 2016	In Design
MA92-03	Miles River	Rt. 1A at Miles	Retrofit	4	Constructed	-	1/1/14	In Construction
MA82B-14	Nashoba Brook	Rt. 2, 111 at Nashoba Brook	Resurfacing	3	Constructed	-	4/1/14	--
MA84046	Newfield Pond	Rt. 3 at Newfield Pond	Retrofit	4	Constructed	-	6/1/14	In Design
MA95171	Noquochoke Lake (North Basin)	I-195 at Noquochoke Lake (North Basin)	Retrofit	5	Constructed	-	6/1/14	In Construction
MA36-16	Quaboag River	I-90 at Quabog River	Resurfacing	2	Constructed	-	7/1/14	In Construction
MA51-01	Kettle Brook	I-290 at Kettle Brook	Retrofit	3	Constructed	-	9/1/14	In Construction
MA51087	Leesville Pond	I-290 at Leesville Pond	Retrofit	3	Constructed	-	9/1/14	In Construction
MA51-16	Dark Brook	I-90 at Dark Brook	Retrofit	3	Constructed	-	9/1/14	In Construction
MA51-16	Dark Brook	I-290 at Dark Brook	Retrofit	3	Constructed	-	9/1/14	In Construction
MA72-14	Mine Brook	I-495 at Mine Brook	Resurfacing	3	Constructed	-	10/1/14	In Construction

Table 10 Summary of Retrofit BMPs with Completed Designs or under Construction in Year 12

Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA32-05	Westfield River	24.5	1.6	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Extended Detention Basin	4.0	3.0	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	1	4.0	3.0	N/A
	Remaining Red. to Meet Target:		0.0	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA34-05	Connecticut River	237.8	164.3	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	5.5	5.3	N/A
	Infiltration Basin	0.5	0.5	N/A
	Bioretention Basin	0.4	0.5	N/A
	Bioretention Basin	0.3	0.4	N/A
	Bioretention Basin	0.3	0.2	N/A
	Bioretention Basin	0.0	0.0	N/A
	Bioretention Basin	0.3	0.4	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	7	7.3	7.2	N/A
	Remaining Red. to Meet Target:		157.1	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA34-19	Stony Brook	2.9	0.2	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	0.2	0.2	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	1	0.2	0.2	N/A
	Remaining Red. to Meet Target:		0.0	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA35026	Greenwood Pond	0.3	N/A	0.2
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Swale	0.4	N/A	0.6
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	1	0.4	N/A	0.6
	Remaining Red. to Meet Target:		N/A	0.0

Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA51-01	Kettle Brook	20.4	7.3	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Existing Extended Detention Basin	0.6	0.3	N/A
	Existing Infiltration Basin	0.0	0.4	N/A
	Infiltration Basin	0.1	0.2	N/A
	Infiltration Swale	0.5	1.3	N/A
	Infiltration Swale	3.1	2.7	N/A
	Infiltration Swale	2.4	1.3	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	6	6.7	6.1	N/A
	Remaining Red. to Meet Target:		1.2	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA51073	Indian Lake	3.9	N/A	6.6
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Water Quality Swale	0.8	N/A	1.3
	Water Quality Swale	0.6	N/A	1.3
	Water Quality Swale	0.6	N/A	1.5
	Infiltration Basin	2.6	N/A	6.9
	Water Quality Swale	1.7	N/A	2.5
	Water Quality Swale	1.8	N/A	3.4
	Water Quality Swale	0.4	N/A	0.9
	Infiltration Basin	2.6	N/A	7.0
	Water Quality Swale	0.8	N/A	1.6
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	9	11.9	N/A	26.4
	Remaining Red. to Meet Target:		N/A	0.0
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA51-08	Unnamed Tributary	124.0	102.0	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	1.2	0.6	N/A
	Infiltration Basin	0.6	0.6	N/A
	Infiltration Basin	1.1	1.1	N/A
	Infiltration Basin	0.4	0.4	N/A
	Infiltration Basin	0.1	0.1	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	5	3.4	2.8	N/A
	Remaining Red. to Meet Target:		99.2	N/A

Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA51087	Leesville Pond	8.2	N/A	18.0
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	0.2	N/A	0.4
	Infiltration Swale	0.7	N/A	1.5
	Infiltration Swale	0.7	N/A	0.8
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	3	1.6	N/A	2.7
	Remaining Red. to Meet Target:		N/A	15.3
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA51-16	Dark Brook	35.3	24.1	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Existing Vegetated Filter Strip	0.5	0.3	N/A
	Existing Infiltration Basin	0.1	0.1	N/A
	Existing Infiltration Basin	0.5	0.4	N/A
	Extended Detention Basin	1.2	0.7	N/A
	Bioretention Basin	0.7	0.5	N/A
	Bioretention Swale	2.3	2.3	N/A
	Bioretention Swale	0.2	0.4	N/A
	Bioretention Swale	1.0	0.9	N/A
	Bioretention Swale	0.3	0.3	N/A
	Bioretention Swale	0.3	0.5	N/A
	Bioretention Basin	0.1	0.1	N/A
	Bioretention Swale	0.7	0.5	N/A
	Bioretention Basin	1.3	2.0	N/A
	Bioretention Swale	2.7	2.6	N/A
	Bioretention Swale	1.4	1.4	N/A
	Bioretention Swale	0.4	0.5	N/A
	Bioretention Swale	0.4	0.4	N/A
	Bioretention Swale	3.1	2.5	N/A
	Bioretention Swale	0.9	0.8	N/A
	Bioretention Swale	0.2	0.3	N/A
	Bioretention Swale	0.4	0.3	N/A
	Bioretention Basin	3.2	2.7	N/A
	Bioretention Basin	0.7	0.8	N/A
	Bioretention Swale	1.1	1.8	N/A
	Bioretention Basin	0.3	0.6	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	25	23.9	23.8	N/A
	Remaining Red. to Meet Target:		0.3	N/A

Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA61-02	Lee River	30.4	15.5	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	4.5	3.7	N/A
	Infiltration Basin	0.7	0.6	N/A
	Infiltration Basin	5.6	4.6	N/A
	Infiltration Basin	3.7	3.0	N/A
	Infiltration Basin	0.2	0.2	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	5	14.6	12.0	N/A
	Remaining Red. to Meet Target:		3.5	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA62-39	Rumford River	20.2	9.0	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Existing Infiltration Basin	0.2	0.2	N/A
	Existing Infiltration Swale	0.8	0.8	N/A
	Existing Infiltration Swale	0.4	0.3	N/A
	Existing Infiltration Swale	0.4	0.4	N/A
	Infiltration Basin	2.9	2.8	N/A
	Infiltration Basin	1.6	1.4	N/A
	Infiltration Basin	1.3	1.2	N/A
	Infiltration Basin	0.2	0.2	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	8	7.7	7.2	N/A
	Remaining Red. to Meet Target:		1.8	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA71-02	Mystic River	125.0	104.0	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	1.3	1.3	N/A
	Infiltration Basin	1.2	1.1	N/A
	Infiltration Basin	2.3	2.2	N/A
	Infiltration Basin	0.9	0.9	N/A
	Infiltration Swale	0.8	0.7	N/A
	Infiltration Basin	1.0	0.9	N/A
	Infiltration Swale	0.6	0.6	N/A
	Infiltration Basin	0.1	0.1	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	8	8.2	7.8	N/A
	Remaining Red. to Meet Target:		96.2	N/A

Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA71-04	Alewife Brook	1.1	0.9	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Leaching Catch Basin (x5)	0.4	0.3	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	5	0.4	0.3	N/A
	Remaining Red. to Meet Target:		0.6	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA72-07	Charles River	Not Delineated	N/A	307.0
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	0.6	N/A	1.6
	Infiltration Basin	0.2	N/A	0.4
	Infiltration Basin	0.4	N/A	1.1
	Infiltration Basin	1.8	N/A	4.9
	Infiltration Basin	0.4	N/A	1.0
	Infiltration Basin	0.6	N/A	1.4
	Infiltration Basin	1.2	N/A	3.1
	Infiltration Basin	1.9	N/A	5.0
	Infiltration Swale	0.3	N/A	0.9
	Infiltration Basin	1.2	N/A	3.4
	Infiltration Basin	1.1	N/A	2.9
	Infiltration Basin	1.6	N/A	3.2
	Infiltration Basin	1.4	N/A	3.7
	Infiltration Basin	1.3	N/A	3.5
	Infiltration Basin	0.4	N/A	1.0
	Infiltration Basin	0.2	N/A	0.6
	Infiltration Swale	1.2	N/A	3.3
	Wet Pond/Swale	2.3	N/A	6.0
	Infiltration Basin	0.5	N/A	2.2
	Infiltration Basin	0.7	N/A	4.2
	Infiltration Basin	0.3	N/A	1.2
	Infiltration Basin	0.5	N/A	2.5
	Infiltration Basin	0.9	N/A	0.7
	Infiltration Basin	0.4	N/A	1.5
	Underground Infiltration Structure/System	1.2	N/A	0.7
	Infiltration Basin	0.4	N/A	2.0
	Infiltration Basin	2.3	N/A	5.8
	Infiltration Swale	0.1	N/A	0.5
	Infiltration Basin	0.6	N/A	1.6
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	29	26.0	N/A	69.8
	Remaining Red. to Meet Target:		N/A	237.2

Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA72-14	Mine Brook	79.2	36.7	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Existing Infiltration Basin	2.7	2.5	N/A
	Existing Infiltration Basin	0.7	0.7	N/A
	Existing Infiltration Swale	2.0	1.8	N/A
	Infiltration Swale	0.5	0.8	N/A
	Infiltration Swale	0.8	1.1	N/A
	Infiltration Swale	0.6	1.0	N/A
	Infiltration Swale	0.7	1.0	N/A
	Infiltration Swale	1.1	1.8	N/A
	Infiltration Swale	1.1	1.6	N/A
	Infiltration Swale	0.7	0.8	N/A
	Infiltration Swale	0.8	1.2	N/A
	Infiltration Swale	1.1	1.5	N/A
	Infiltration Swale	0.7	1.1	N/A
	Infiltration Swale	0.8	1.1	N/A
	Infiltration Swale	0.8	1.1	N/A
	Infiltration Swale	0.5	0.8	N/A
	Infiltration Swale	0.5	0.8	N/A
	Infiltration Swale	0.8	1.0	N/A
	Infiltration Swale	0.9	1.3	N/A
	Infiltration Swale	0.7	1.2	N/A
	Infiltration Swale	0.3	0.4	N/A
	Infiltration Swale	0.2	0.3	N/A
	Infiltration Swale	0.4	0.6	N/A
	Infiltration Swale	0.4	0.6	N/A
	Infiltration Swale	0.4	0.7	N/A
	Infiltration Swale	0.1	0.2	N/A
	Infiltration Swale	0.6	0.9	N/A
	Infiltration Swale	0.7	1.0	N/A
	Infiltration Swale	0.7	1.0	N/A
	Infiltration Swale	0.6	0.8	N/A
	Infiltration Swale	0.5	0.8	N/A
	Infiltration Swale	0.3	0.4	N/A
	Infiltration Basin	0.5	0.7	N/A
	Infiltration Basin	1.9	3.0	N/A
	Infiltration Basin	0.7	1.0	N/A
	Infiltration Basin	1.5	2.3	N/A
	Infiltration Basin	0.5	0.8	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	37	28.8	39.6	N/A
	Remaining Red. to Meet Target:		0.0	N/A

Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA72-29	Cheese Cake Brook	Not Delineated	N/A	62.0
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	0.4	N/A	1.0
	Infiltration Basin	0.1	N/A	0.3
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	2	0.5	N/A	1.3
	Remaining Red. to Meet Target:		N/A	60.7
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA72-36	Charles River	123.0	99.0	254.0
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	2.2	2.7	5.9
	Infiltration Basin	0.5	0.2	0.6
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	2	2.7	2.9	6.5
	Remaining Red. to Meet Target:		96.1	247.5
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA73-04	Neponset River	65.2	52.9	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	2.1	2.1	N/A
	Infiltration Basin	0.8	0.8	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	2	2.9	2.9	N/A
	Remaining Red. to Meet Target:		50.0	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA74-04	Mill River	24.3	11.5	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	3.2	3.2	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	1	3.2	3.2	N/A
	Remaining Red. to Meet Target:		8.3	N/A

Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA74-08	Monatiquot River	31.5	22.9	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	1.2	1.0	N/A
	Infiltration Basin	1.1	2.7	N/A
	Infiltration Basin	3.0	5.1	N/A
	Infiltration Basin	0.8	0.8	N/A
	Infiltration Basin	0.6	0.5	N/A
	Other	0.8	0.6	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	6	7.5	10.7	N/A
	Remaining Red. to Meet Target:		12.2	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA74-09	Town Brook	34.7	27.1	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Swale	1.1	1.1	N/A
	Infiltration Swale	0.3	0.3	N/A
	Infiltration Swale	0.2	0.2	N/A
	Infiltration Swale	0.6	0.6	N/A
	Infiltration Swale	2.2	2.2	N/A
	Infiltration Swale	0.5	0.5	N/A
	Infiltration Swale	0.02	0.02	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	7	5.0	5.0	N/A
	Remaining Red. to Meet Target:		22.1	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA82B-04	Assabet River	18.0	10.0	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Existing Wet Pond/Swale	0.6	0.4	N/A
	Existing Wet Pond/Swale	0.7	0.3	N/A
	Existing Vegetated Filter Strip	0.5	0.4	N/A
	Existing Vegetated Filter Strip	0.9	0.7	N/A
	Infiltration Swale	2.5	2.3	N/A
	Infiltration Swale	5.2	4.7	N/A
	Infiltration Swale	1.5	1.4	N/A
	Infiltration Swale	0.9	0.8	N/A
	Infiltration Basin	0.3	0.3	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	9	13.1	11.3	N/A
	Remaining Red. to Meet Target:		0.0	N/A

Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA83-19	Shawsheen River	58.3	39.3	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Swale	1.8	1.8	N/A
	Infiltration Basin	0.4	0.4	N/A
	Infiltration Basin	0.8	0.8	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	3	3.0	3.0	N/A
	Remaining Red. to Meet Target:		36.3	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA84046	Newfield Pond	0.8	0.4	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Leaching Catch Basin	0.5	0.3	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	1	0.5	0.3	N/A
	Remaining Red. to Meet Target:		0.2	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA92-03	Miles River	1.6	0.2	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	0.5	0.4	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	1	0.5	0.4	N/A
	Remaining Red. to Meet Target:		0.0	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA93-07	Bass River	6.7	5.0	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	1.1	1.1	N/A
	Infiltration Swale	3.8	3.5	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	2	4.9	4.6	N/A
	Remaining Red. to Meet Target:		0.4	N/A

Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA93-51	Unnamed Tributary	2.1	1.7	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	1.1	1.0	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	1	1.1	1.0	N/A
	Remaining Red. to Meet Target:		0.7	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA95171	Noquochoke Lake (North Basin)	3.1	0.3	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	1.0	0.9	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	1	1.0	0.9	N/A
	Remaining Red. to Meet Target:		0.0	N/A
Waterbody ID	Waterbody Name	Direct IC WS (acres)	Target IC Red. (acres)	Target P Red. (lbs/yr)
MA95-42	New Bedford Inner Harbor	37.0	32.0	N/A
	BMP Type	BMP IC WS (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Constructed Stormwater Wetland	0.7	0.4	N/A
	Constructed Stormwater Wetland	0.7	0.3	N/A
	Constructed Stormwater Wetland	3.4	1.7	N/A
	Total No. of BMPs	Total IC Area to BMP(s) (acres)	Total IC Red. (acres)	Total BMP P Red. (lbs/yr)
	3	4.7	2.4	N/A
	Remaining Red. to Meet Target:		29.6	N/A

¹ In some cases, the predicted effective IC is determined by comparing the BMP's calculated median annual discharge volume, runoff flow/duration relationship, median annual phosphorus load, and median annual total suspended solids load to predicted discharge values for benchmark watersheds with the same size and varying percent IC. For cases following this approach where analysis predicts that BMPs would discharges less runoff volume and pollutant mass than those predicted for a 0% IC (pervious, woods in good condition) benchmark watershed, then the predicted effective IC removal would be greater than 100% and reduction of effective IC area will be greater than the BMP contributing IC area.

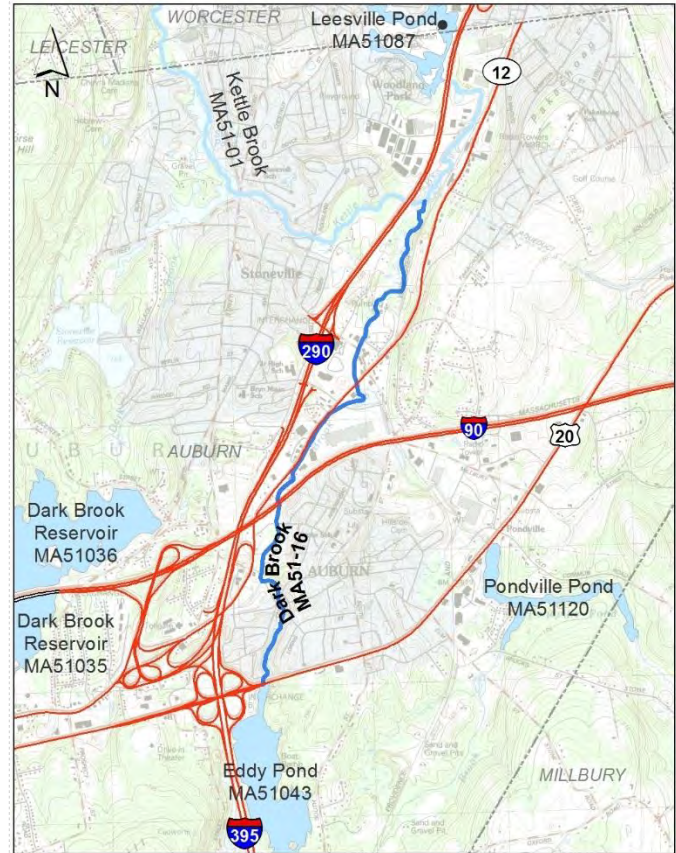
Retrofit Project Summary Sheets

Stormwater Improvements for Dark Brook (MA51-16)

Water Body Name: Dark Brook
Water Body ID: MA51-16
Project Town: Auburn
MassDOT District: 3

Site Description:

MassDOT's Interstate 290 (I-290), I-90, Route 12 (Rte. 12), in Auburn discharge stormwater to Dark Brook (MA51-16). Dark Brook flows from Eddy Pond at Rte. 20 for approximately 1.6 miles, runs through Auburn Pond for about 0.1 miles, and continues approximately 1.1 miles until it flows into Kettle Brook (MA51-01). The brook runs parallel to Rte. 12 for the majority of its reach until it passes under Rte. 12, downstream of Auburn Pond. Dark Brook (MA51-16) is approximately 2.8 miles long and, according to the 2012 Integrated List of Waters, is impaired for non-native aquatic plants, aquatic macroinvertebrate bioassessments, aquatic plants (macrophytes) and *Escherichia coli*. Auburn Pond, which is now considered a run of the

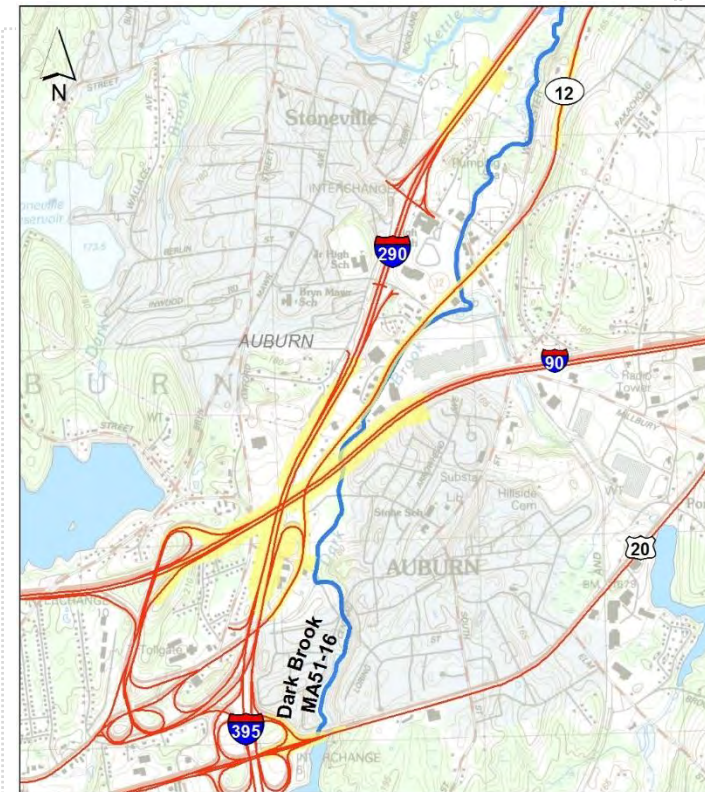


Site Locus

river impoundment, is covered by MassDEP's *Total Maximum Daily Loads of Phosphorus for Selected Northern Blackstone Lakes (CN 70.1)*.

Project Goal:

MassDOT's directly discharging impervious cover (IC) to Dark Brook is 35.3 acres. In order to meet the IC reduction target developed through MassDOT's Impaired Waters Program, the receiving water preliminary design evaluation recommended a target reduction of 24.1 acres. Three existing BMPs (one vegetated filter strip and two infiltration basin) are in place to treat MassDOT direct runoff and provide a 0.9 acre reduction in effective IC. Therefore, an additional reduction of 23.2 acres of effective IC is necessary to meet the target.



MassDOT Directly Discharging Area

Permit Year 12 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way, drinking water resources, and wetland resources constrained the area available for construction, but MassDOT was able to design **one extended detention basin, six bioretention basins, and 15 bioretention swales** to treat stormwater from MassDOT's roadway prior to reaching Dark Brook. Design plans for these proposed BMPs were completed and successfully permitted with approval from the Auburn Conservation Commission.

Construction of these BMPs was completed in September 2014. The projects along I-90 and I-290 were split to utilize funding from both retrofit and programmed project sources. The BMP-related construction costs were approximately \$2,100,000. These BMPs provide a **22.9-acre reduction in effective IC**. With the newly constructed and the already existing BMPs in place, MassDOT would need to reduce the effective IC by an additional 0.3 acres to meet the target.

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



BMP Locations



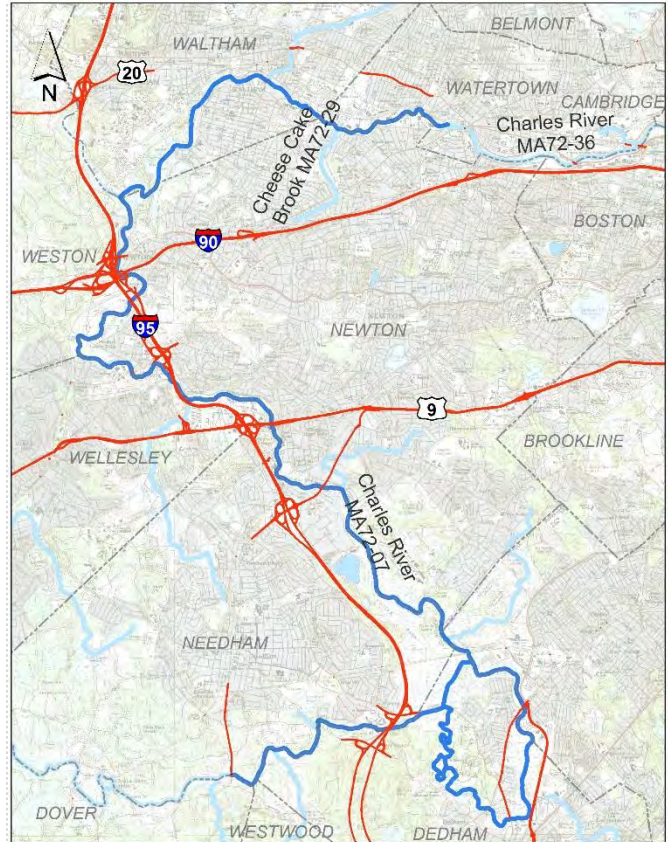
BMP in Shoulder

Stormwater Improvements for Charles River (MA72-07)

Water Body Name: Charles River
Water Body ID: MA72-07
Project Town: Weston
MassDOT District: 6

Site Description:

MassDOT's Interstate 90 (I-90), I-95, Route 9 (Rte. 9), Rte. 109, Rte. 135, and Rte. 30 discharge stormwater to the Charles River (MA72-07). This segment of the Charles River flows generally to the north for 24.8 miles. It begins at Chestnut Street in Needham and flows into the Charles River (MA72-36) at the Watertown Dam. According to the 2012 Integrated List of Waters, the Charles River (MA72-07) is impaired for fish-passage barrier, non-native aquatic plants, other flow regime alterations, DDT, Escherichia coli, Eurasian water milfoil, myriophyllum spicatum, fishes bioassessments, nutrient/eutrophication biological indicators, PCB in fish tissue, and total phosphorus. The Charles River is covered under the *Total Maximum*



Site Locus

Daily Load (TMDL) for Nutrients in the Upper/Middle Charles River, Massachusetts (CN 272.0).

Project Goal:

MassDOT's directly discharging area to the Charles River (MA72-07) is 306 acres. In order to meet the phosphorus load reduction target developed in the TMDL, the receiving water assessment recommended a target reduction of 307 lbs/yr. No existing BMPs are in place to reduce the phosphorus load from MassDOT properties to the Charles River.

Permit Year 12 Activity:

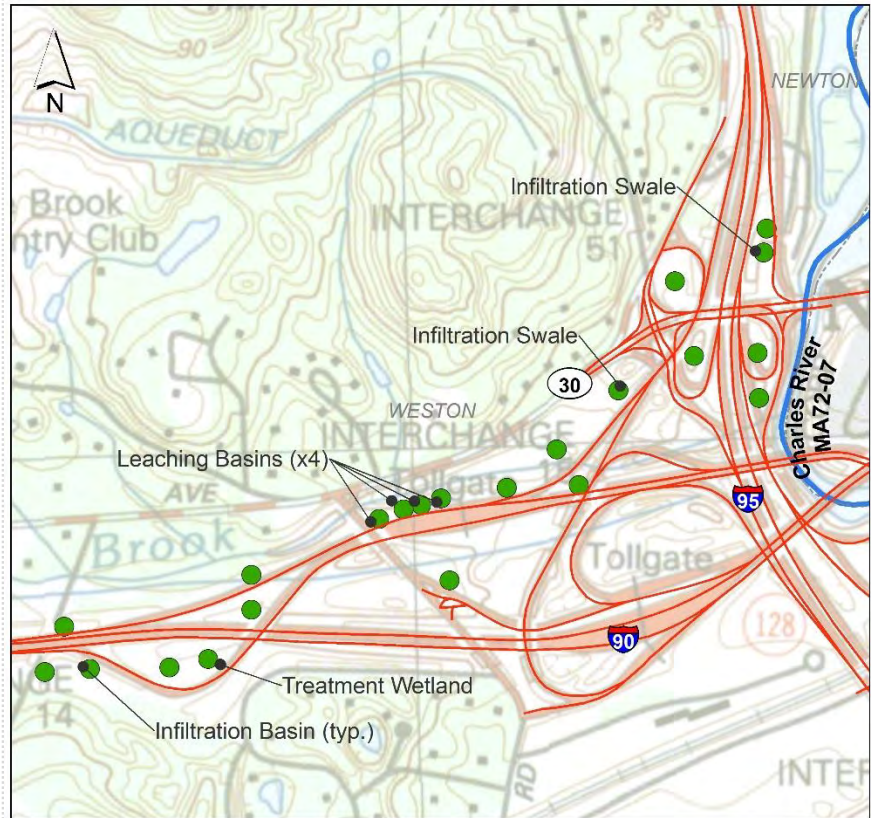
MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that the proximity of the Charles River to the abutting roadway, Zone I Wellhead Protection Areas, and MWRA easements constrained the area available for construction, but MassDOT was able to design **two infiltration swales, one treatment wetland, 15 infiltration basins, and four**



MassDOT Directly Discharging Area

leaching basins to treat stormwater from MassDOT's roadway prior to reaching Charles River. Design plans for these proposed BMPs were completed and successfully permitted with approval from the Weston Conservation Commissions. Additional BMP opportunities were identified that were not constructed as part of this project. Those BMPs will be coupled with future programmed project work.

Construction of these BMPs commenced in the spring of 2015, and completion is anticipated by autumn 2016. They provide **47-lbs/yr reduction in phosphorus loading**. With these BMPs complete, MassDOT would need to reduce the phosphorus loading by an additional 260 lbs/yr to meet the target. This project was coupled with retrofit projects for Charles River (MA72-36) and Cheese Cake Brook (MA72-29). Collectively, the three retrofit projects had a construction bid price of approximately \$1.66 million.



BMP Locations

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



Proposed BMP Location



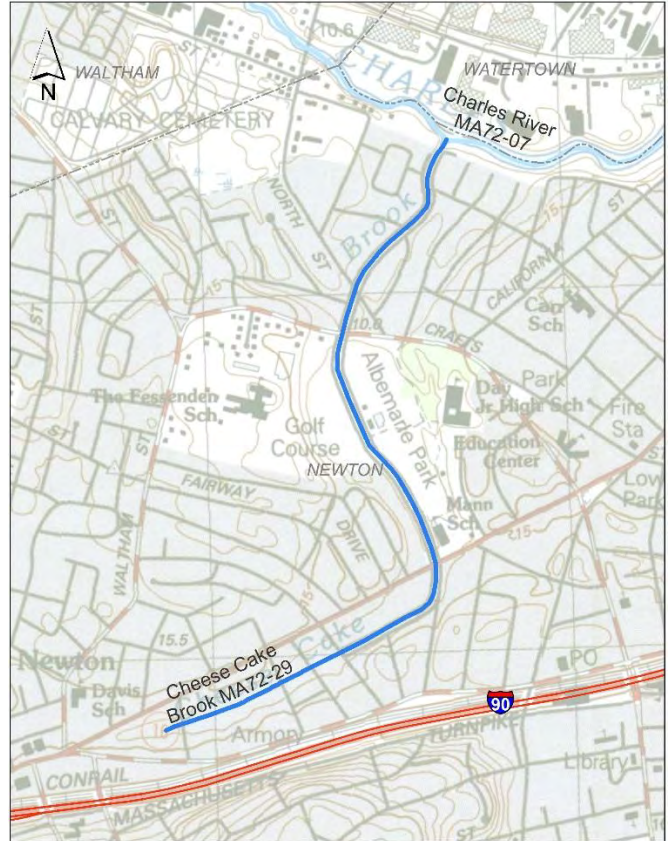
Proposed BMP Location

Stormwater Improvements for Cheese Cake Brook (MA72-29)

Water Body Name: Cheese Cake Brook
Water Body ID: MA72-29
Project Town: Newton
MassDOT District: 6

Site Description:

MassDOT's Interstate 90 (I-90) in Newton discharges stormwater directly to Cheese Cake Brook (MA72-29). Cheese Cake Brook flows northeast for a total of 1.4 miles before joining with the Charles River (MA72-07). The entire reach of Cheese Cake Brook has been straightened and channelized, and according to the 2012 Integrated List of Waters, it is impaired for alteration in stream-side or littoral vegetative covers, other anthropogenic substrate alterations, dissolved oxygen saturation, *Escherichia coli*, excess algal growth, and total phosphorus. Cheese Cake Brook is covered under the *Total Maximum Daily Load (TMDL) for Nutrients in the Lower Charles River, Massachusetts* (CN 301.0).



Site Locus

Project Goal:

MassDOT's directly discharging area to Cheese Cake Brook is 51 acres. In order to meet the phosphorus load reduction target developed in the TMDL, the receiving water assessment recommended a target reduction of 62 lbs/yr. No existing BMPs are in place to reduce the phosphorus load from MassDOT properties to Cheese Cake Brook.

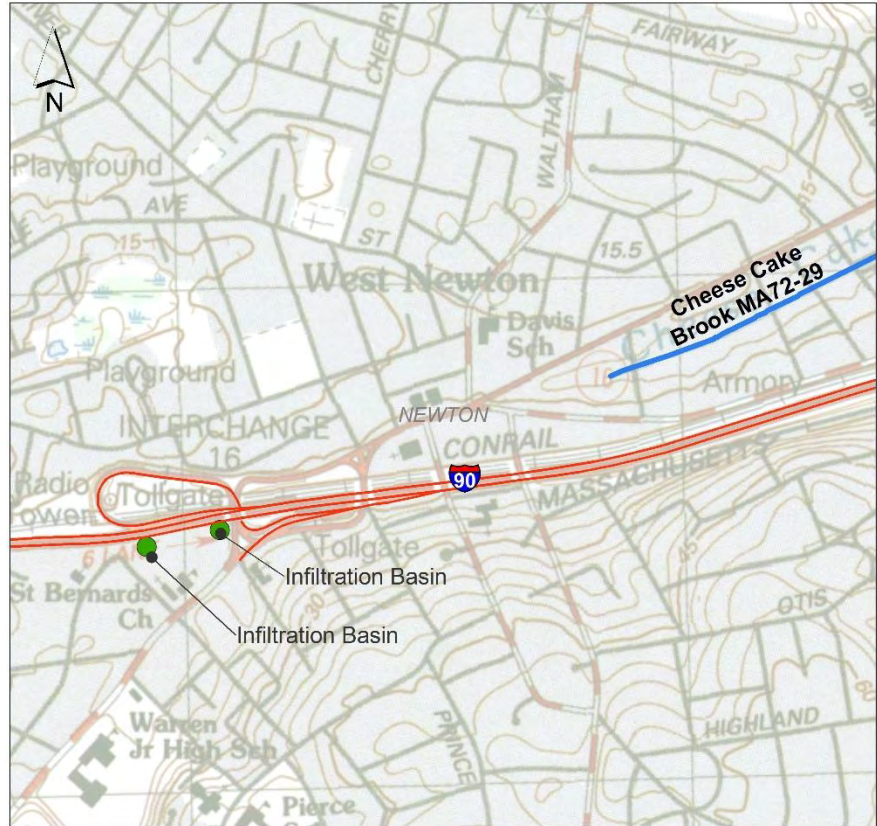


MassDOT Directly Discharging Area

Permit Year 12 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way, abutting railroad, and sound barriers constrained the area available for construction, but MassDOT was able to design **two infiltration basins** to treat stormwater from MassDOT's roadway prior to reaching Cheese Cake Brook.

Construction of these BMPs commenced in the spring of 2015, and completion is anticipated by autumn 2016. They provide a **1.3-lb/yr reduction in phosphorus loading**. With these BMPs complete, MassDOT would need to reduce the phosphorus loading by an additional 60.7 lbs/yr to meet the target. This project was coupled with retrofit projects for Charles River (MA72-07) and Charles River (MA72-36). Collectively, the three retrofit projects had a construction bid price of approximately \$1.66 million.



BMP Locations

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



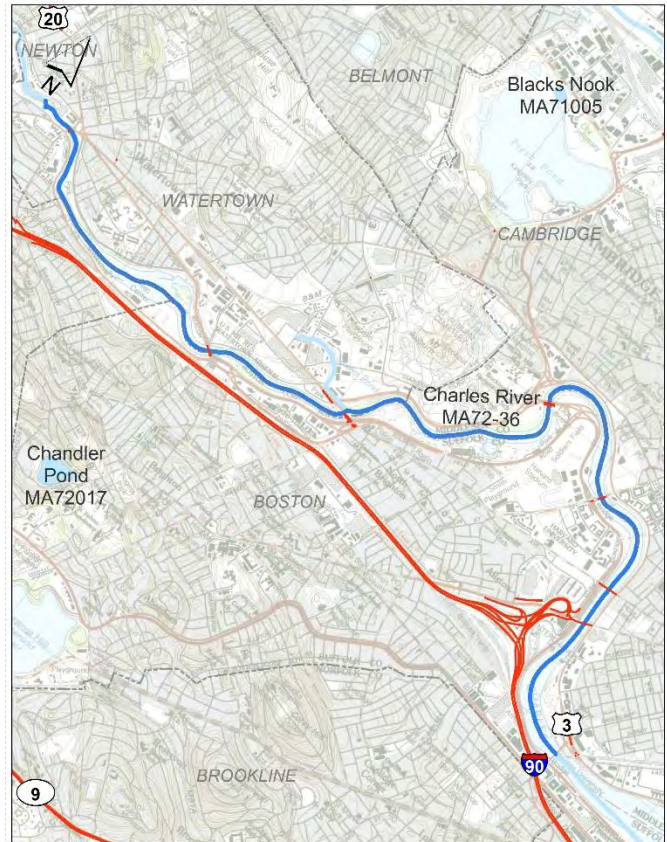
Proposed Infiltration Basin Location

Stormwater Improvements for Charles River (MA72-36)

Water Body Name: Charles River
Water Body ID: MA72-36
Project Town: Boston
MassDOT District: 6

Site Description:

MassDOT's Interstate 90 (I-90) and seven MassDOT-owned bridges discharge stormwater to the Charles River (MA72-36). This segment of the Charles River flows generally to the east and parallel to I-90. It begins downstream of the Watertown Dam at the end of Charles River (MA72-07) and flows into Charles River (MA72-38) at the Boston University Bridge crossing. Charles River (MA72-36) is approximately 6.1 miles long and, according to the 2012 Integrated List of Waters, is impaired for fish-passage barrier, non-native aquatic plants, other flow regime alterations, chlorophyll-a, DDT, Escherichia coli, fishes bioassessments, nutrient/eutrophication biological indicators, oil and grease, dissolved oxygen, PCB in

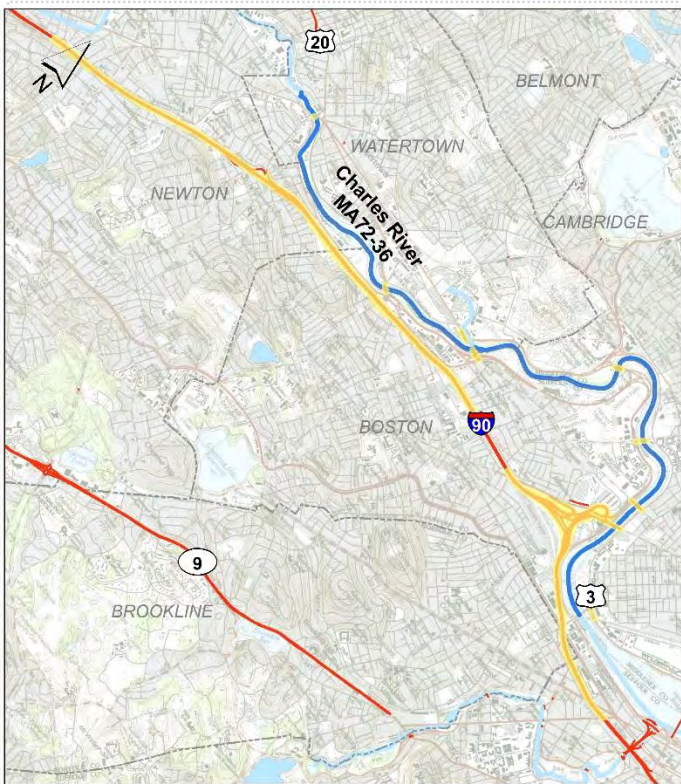


Site Locus

fish tissue, high pH, total phosphorus, secchi disk transparency, and sediment bioassays—acute toxicity freshwater. The Charles River is covered under the *Total Maximum Daily Load (TMDL) for Nutrients in the Lower Charles River, Massachusetts* (CN 301.0).

Project Goal:

MassDOT's directly discharging impervious cover (IC) to the Charles River (MA72-36) is 123.0 acres. In order to meet the phosphorus load reduction target established in the TMDL, the assessment recommends a target reduction of 254 lbs/yr. In order to meet the IC reduction target for the impairments not covered under the TMDL, the receiving water assessment recommended a target reduction of 99 acres. No existing BMPs are in place to reduce the phosphorus load and effective IC from MassDOT properties to the Charles River (MA72-36).



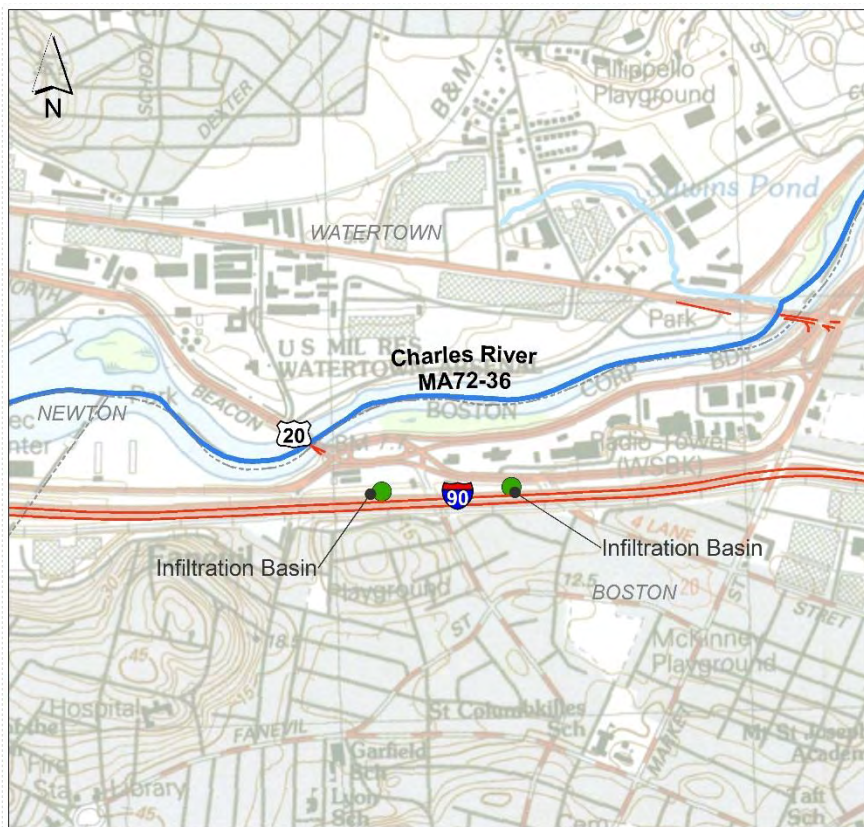
MassDOT Directly Discharging Area

Permit Year 12 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way and abutting railroad constrained the area available for construction, but MassDOT was able to design **two infiltration basins** to treat stormwater from MassDOT's roadway prior to reaching Charles River.

Construction of these BMPs commenced in the spring of 2015, and completion is anticipated by autumn 2016. They provide **6.5 lbs/yr in phosphorus reduction and 2.9 acres of effective IC reduction**. With these BMPs complete, MassDOT would need to reduce the phosphorus loading by an additional 247.5 lbs/yr and the effective IC by an additional 96.1 acres to meet the target. This project was coupled with retrofit projects for Charles River (MA72-07) and Cheese Cake Brook (MA72-29). Collectively, the three retrofit projects had a construction bid price of approximately \$1.66 million.

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



BMP Locations



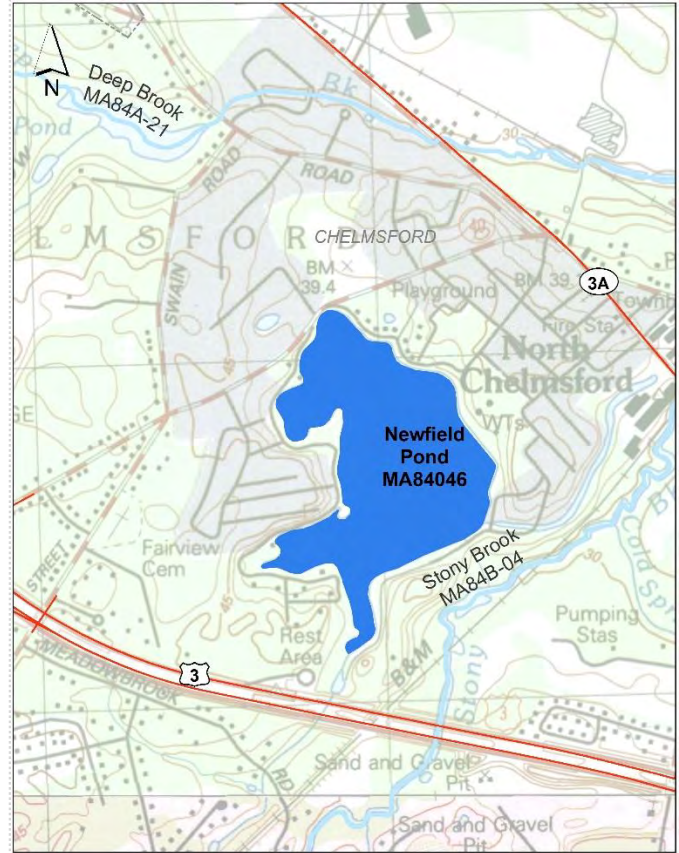
Proposed Infiltration Swale Location

Stormwater Improvements for Newfield Pond (MA84046)

Water Body Name: Newfield Pond
Water Body ID: MA84046
Project Town: Chelmsford
MassDOT District: 4

Site Description:

MassDOT's Route 3 directly contributes stormwater runoff to Newfield Pond (MA84046). An unnamed tributary crosses Route 3 and flows north, carrying contributing drainage into Newfield Pond. Newfield Pond covers 77 acres and, according to the 2012 Integrated List of Waters, is impaired for Eurasian Water Milfoil, non-native aquatic plants, mercury in fish tissue, and dissolved oxygen.



Site Locus

Project Goal:

MassDOT's directly discharging impervious cover (IC) to Newfield Pond covers 0.8 acres. In order to meet the IC reduction target developed through MassDOT's Impaired Waters Program, the receiving water assessment recommended a target reduction of 0.4 acres. No existing BMPs are in place to reduce the IC load from MassDOT properties to Newfield Pond.



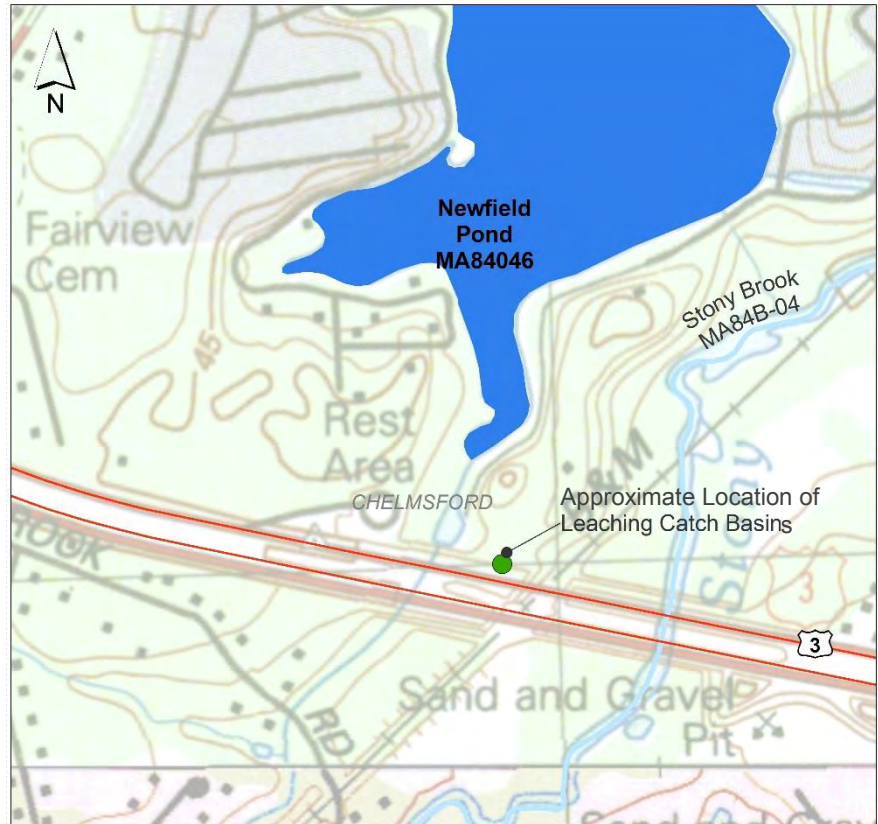
MassDOT Directly Discharging Area

Permit Year 12 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way and steep slopes constrained the area available for construction, but MassDOT was able to design **two leaching catch basins** to treat stormwater from MassDOT's roadway prior to reaching Newfield Pond. Design plans for this proposed BMPs were completed and successfully permitted with approval from the Chelmsford Conservation Commission.

Construction of these BMPs was completed in June 2014, and the construction cost was approximately \$61,000. These BMPs provide a **0.3-acre reduction in effective IC**. With these BMPs complete, MassDOT would need to reduce the effective IC by an additional 0.1 acres to meet the target.

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



BMP Locations

Programmed Project Summary Sheets

Roadway Reconstruction and Related Work (Including 2 Bridges and 14 Retaining Walls) Along a Section of Route 2 (Crosby's Corner Interchange)

MassDOT Project #: 602984
Project Town: Concord, Lincoln
MassDOT District: 4

Project Description:

MassDOT is reconstructing and conducting other work related to two bridges and 14 retaining walls, along a section of Route 2 near the Crosby's Corner interchange in Concord. The purpose of the project is to provide safety improvements to Crosby's Corner and alleviate traffic congestion in the area by constructing neighborhood service roads which will be parallel to Route 2 and by constructing a bridge to carry Route 2 over the other routes. The project starts at the Bedford Road intersection in the Town of Lincoln and extends to 300 feet west of Sandy Pond Road in the Town of Concord.

Site Description:

Stormwater runoff from a portion of project site flows through a closed drainage system to pervious areas surrounding Mill Brook (MA82A-20). Mill Brook is listed on the 2012 Integrated List of Waters under Category 4C, indicating the impairment is not caused by a pollutant and is therefore not covered by a TMDL. Mill Brook is impaired for habitat assessment (streams).

Stormwater Management Improvements:

The project's proposed stormwater management system includes the use of Best Management Practices (BMPs). The proposed BMPs included in the reconstruction consist of **eight constructed stormwater wetlands, one infiltration basin, and deep sump catch basins**. The stormwater BMPs included as part of this project will provide a benefit for surrounding water resources by reducing TSS, promoting infiltration and groundwater recharge, and reducing flow rates of highway runoff.

As of Permit Year 12, construction of the roadway reconstruction and associated stormwater management improvements is currently underway. The construction bid price for the entire project was approximately \$42.3 million. The construction cost related to stormwater management improvements was unavailable.



Project Area



Constructed Stormwater Wetland

I-95 (Route 128)/Bridge V Add-a-Lane Project

MassDOT Project #: 603711
Project Town: Needham, Dedham, Wellesley
MassDOT District: 6

Project Description:

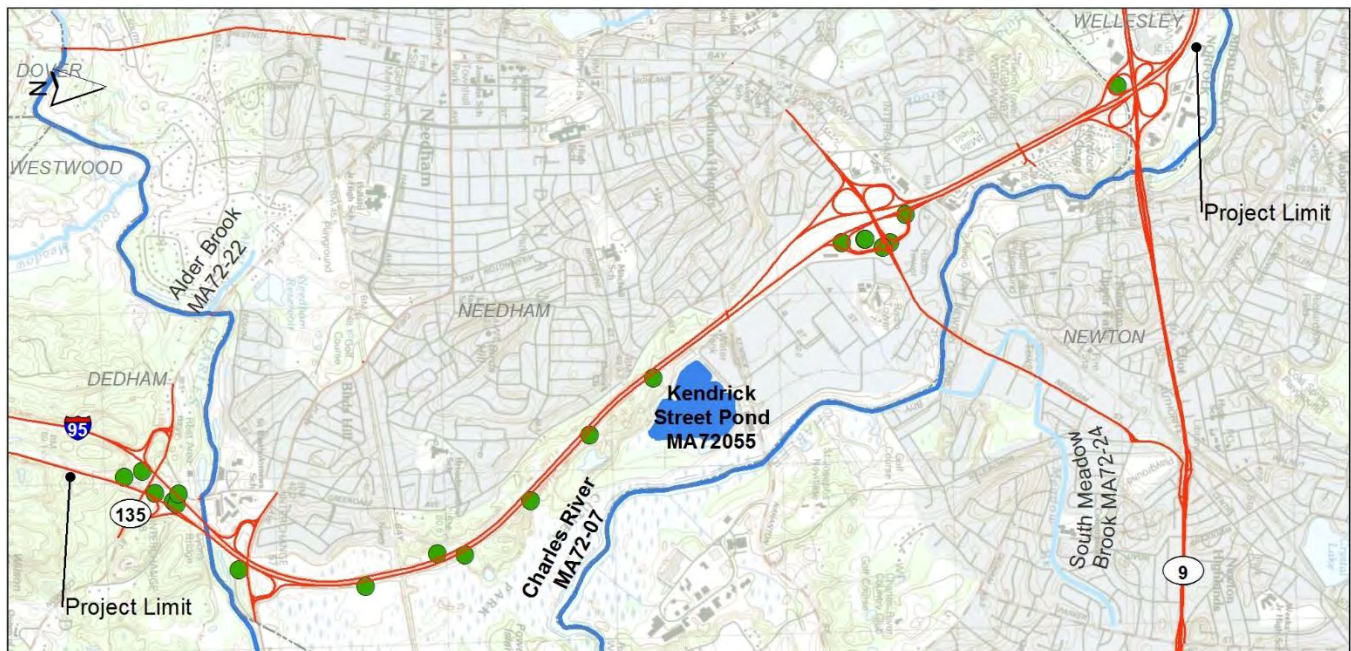
MassDOT is constructing an additional travel lane and shoulder toward the median on I-95, with the approximate extents lying between the Route 24 interchange in Randolph and the Route 9 interchange in Wellesley. The additional roadway widening includes restoring the proper functionality of the breakdown lane in each direction. A new interchange will be constructed at Kendrick Street and existing interchanges at Highland Avenue and Route 9 will be modified to improve safety and mobility.

Site Description:

Stormwater runoff from a portion of the project site flows through a closed drainage system and/or sheet flows to the Charles River (MA72-07) and to Kendrick Street Pond (MA72055). The Charles River is listed on the 2012 Integrated List of Waters under Category 4A, indicating the waterbody is covered by a TMDL. The Charles River (MA72-07) is impaired for fish passage barrier, nonnative aquatic plants, other flow regime alterations, DDT, Escherichia coli, eurasian water milfoil, myriophyllum spectrum, fishes bioassessments, nutrient/eutrophication biological indicators, PCB in fish tissue, and total phosphorus. This segment of the Charles River is covered under the *Total Maximum Daily Load for Nutrients in the Upper/Middle Charles River* (CN 272.0) and the *Final Pathogen TMDL Reports for the Charles River Watershed* (CN 156.0). Kendrick Street Pond is listed on the 2012 Integrated List of Waters under Category 5 and is impaired for turbidity.

Stormwater Management Improvements:

The project's proposed stormwater management system includes the use of Best Management Practices (BMPs). The proposed BMPs (locations shown in green below) include **one bioretention basin, nine extended detention basins, four infiltration basins, and six infiltration swales**. The stormwater BMPs included as part of this project will provide a benefit for surrounding water resources by reducing TSS, promoting infiltration, and reducing flow rates of highway runoff. Construction of the roadway work and stormwater improvements is set to begin in early 2015 with a construction bid price of approximately \$137.6 million. The total construction cost related to stormwater management improvements was unavailable.



Project Limits and BMP Locations

Stormwater Improvements for Lake Quinsigamond

MassDOT Project #: 604729
Water Body Name: Lake Quinsigamond
Water Body ID: MA51125
Project Town: Worcester and Shrewsbury
MassDOT District: 3

Site Description:

MassDOT's Interstate 290 (I-290), Route 9, and Route 20 in Worcester and Shrewsbury discharge stormwater to Lake Quinsigamond (MA51125). Lake Quinsigamond covers approximately 471 acres and, according to the 2012 Integrated List of Waters, is impaired for Eurasian Water Milfoil, non-native aquatic plants, excess algal growth, and dissolved oxygen. The excess algal growth and dissolved oxygen impairments are covered under *The Total Maximum Daily Loads of Phosphorus for Lake Quinsigamond and Flint Pond* (CN115.0).

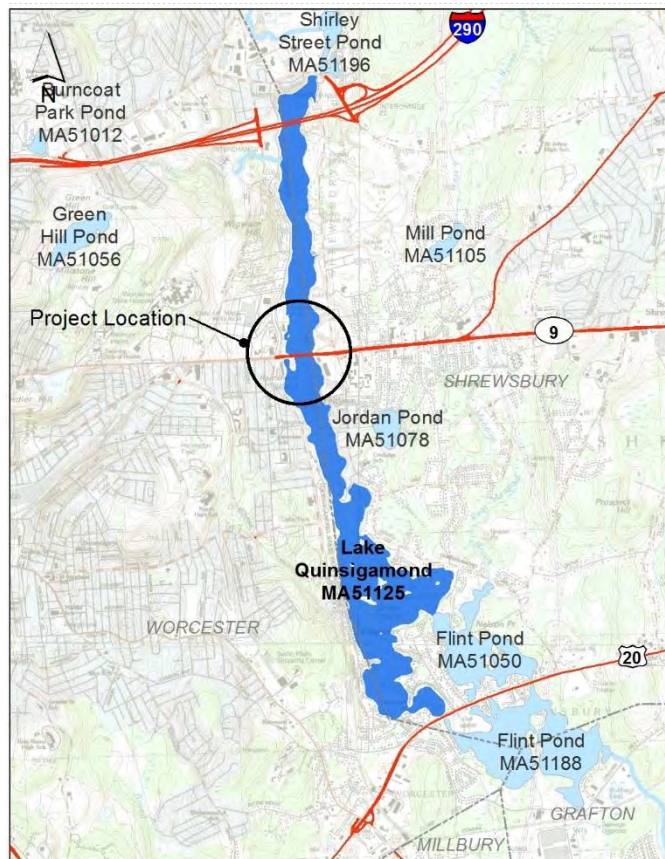
Project Goal:

MassDOT's directly discharging impervious cover (IC) to Lake Quinsigamond covers 2.2 acres. In order to meet the phosphorus reduction target established in the TMDL, the receiving water assessment recommended a target reduction of 48 lbs/yr. Two existing BMPs (underground infiltration systems) are in place to treat MassDOT direct runoff and provide a 3.7 lb/yr reduction in phosphorus loading. The assessment recommended an additional reduction of 44.3 lbs/yr of phosphorus to meet the target.

Permit Year 12 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way, topography, and wetland resources constrained the area available for construction but MassDOT was able to design **two infiltration basin** to treat stormwater from MassDOT's roadway prior to reaching Lake Quinsigamond. Design plans for these proposed BMPs were completed and successfully permitted with approval from the Worcester and Shrewsbury Conservation Commissions.

The stormwater improvements are coupled with a bridge rehabilitation project for the Route 9 Bridge over Lake Quinsigamond. The project began construction in spring 2012 and is scheduled to be completed during the winter of 2015/2016. The stormwater BMPs included as part of this project will provide a benefit for surrounding water resources by reducing TSS, promoting infiltration, and reducing flow rates of highway runoff. The construction bid price is approximately \$89.7 million, and the total construction cost related to stormwater management improvements was unavailable.



Site Locus

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



Sediment Forebay for Constructed Infiltration Basin

Stormwater Improvements for Connecticut River (MA34-05)

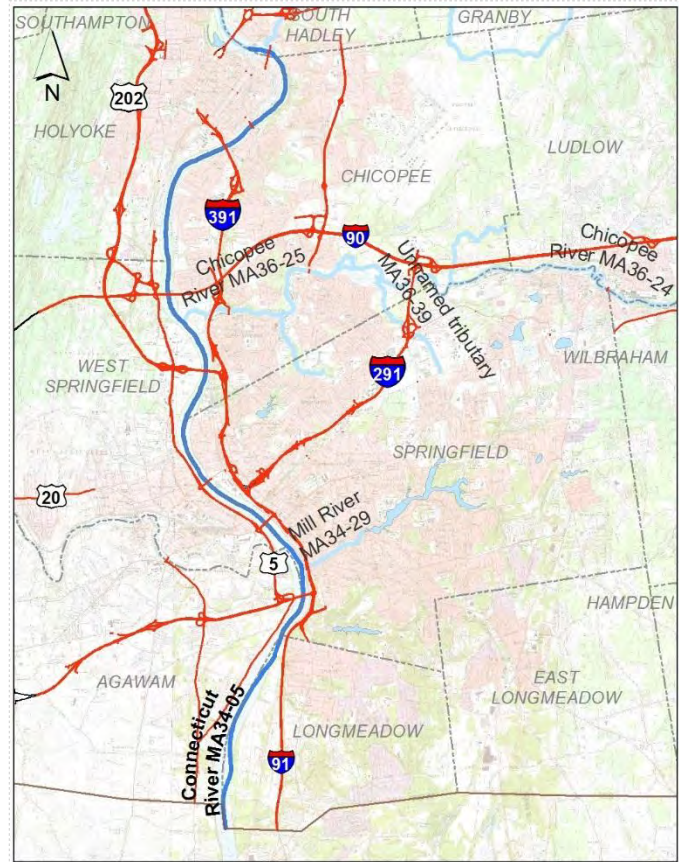
MassDOT Project #: 607731
Water Body Name: Connecticut River
Water Body ID: MA34-05
Project Town: Springfield
MassDOT District: 2

Site Description:

MassDOT's Interstate 91 (I-90) viaduct in Springfield discharges stormwater to the Connecticut River (MA34-05) through a closed drainage system. Connecticut River (MA34-05) is 15.8 miles long and, according to the 2012 Integrated List of Waters, is impaired for *Escherichia coli*, PCB in fish tissue and total suspended solids (TSS).

Project Goal:

MassDOT is replacing the deck of the I-91 viaduct in Springfield, and as part of the project, they are updating the drainage system to treat stormwater



Site Locus



BMP Locations

runoff from the viaduct before it discharges to the Connecticut River (MA34-05). In order to treat stormwater runoff discharging into the receiving waterbody, MassDOT recommended constructing BMPs to capture and treat the stormwater runoff from the viaduct. MassDOT also recommended separating combined sewer overflow systems to reduce sewer overflows into the Connecticut River.

Permit Year 12 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way, topography, and wetland resources constrained the area available for construction but MassDOT was able to design **five bioretention basins** to treat stormwater from MassDOT's roadway prior

to reaching Connecticut River. Design plans for these proposed BMPs were completed and successfully permitted with approval from the Springfield Conservation Commission.

These BMPs provides a **1.4-acre reduction in effective IC** and a **2.9 lbs/yr reduction in phosphorus**. The Springfield viaduct deck replacement project was advertised in November 2014 and is currently awaiting construction. The construction cost of the entire project is approximately \$70 million. An estimate of the portion of the construction cost related to stormwater improvements was unavailable.

MassDOT is proposing to construct the BMPs possible within the existing right-of-way and taking into account site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



Proposed Location for Bioretention Basin

Replacement of I-195 Bridge over Cole River

MassDOT Project #: 605343
Project Town: Swansea
MassDOT District: 5

Project Description:

MassDOT is replacing the Interstate 195 (I-195) bridge over the Cole River (MA61-04) in Swansea. The work will consist of replacing the superstructure of the 50-year-old east and westbound bridges along I-195 over the Cole River.

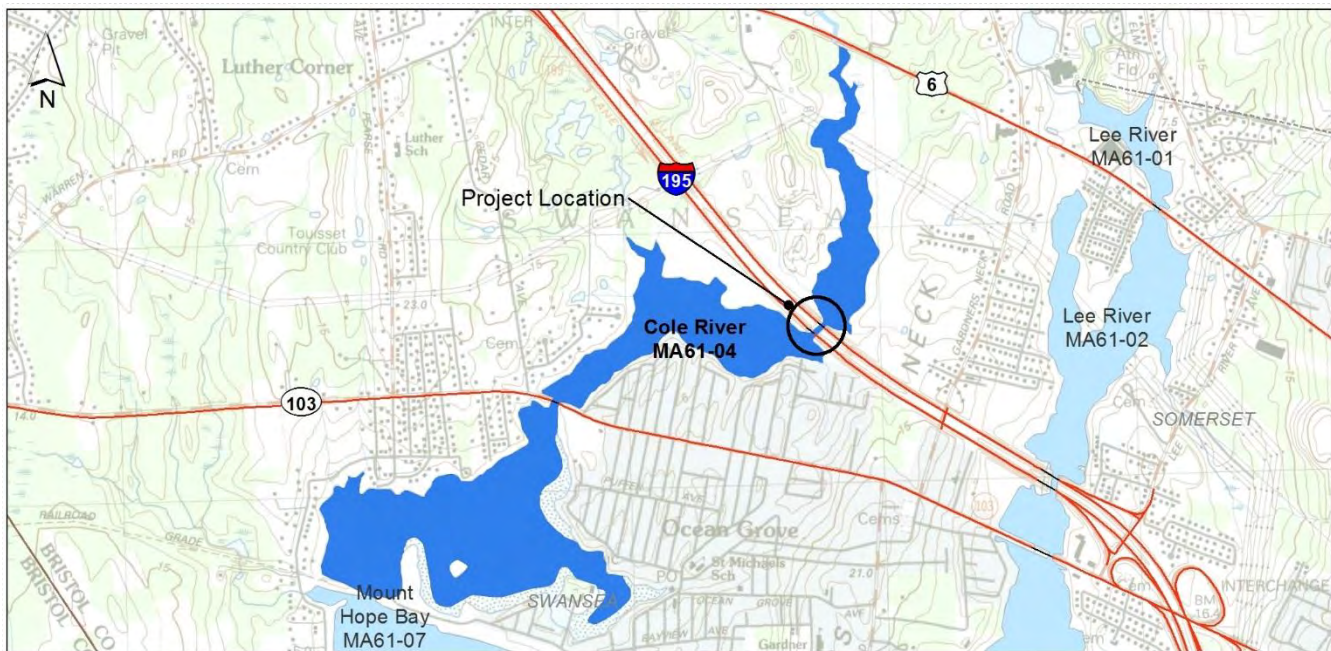
Site Description:

Stormwater runoff from the project site flows through a closed drainage system to Cole River (MA61-04). Cole River is listed on the 2012 Integrated List of Waters under Category 5, and it is impaired for chlorophyll-a, fecal coliform, total nitrogen, and dissolved oxygen. Cole River is covered under the *Final Pathogen TMDL for the Narragansett/Mt. Hope Bay Watershed* (CN 351.0).

Stormwater Management Improvements:

The project's proposed stormwater management system includes the use of Best Management Practices (BMPs). **Two infiltration swales with check dams** are proposed within the median to the east and west of the I-195 Bridge over Cole River. The stormwater BMPs included as part of this project will provide a benefit for surrounding water resources by reducing TSS, promoting infiltration, and reducing flow rates of highway runoff.

Construction of the bridge replacement and associated stormwater management improvements is underway and set to be completed within Permit Year 12. The construction bid price for the entire project was approximately \$10.5 million. The total construction cost related to stormwater management improvements was unavailable.



Project Location

Stormwater Improvements for Rumford River (MA62-39)

MassDOT Project #: 605591
Water Body Name: Rumford River
Water Body ID: MA62-39
Project Town: Mansfield
MassDOT District: 5

Site Description:

MassDOT's Interstate 495 (I-495) in Mansfield discharges stormwater to Rumford River (MA62-39). Rumford River is 8.0 miles long and, according to the 2012 Integrated List of Waters, is impaired for pentachlorophenol (PCP), physical substrate habitat alterations, aquatic macroinvertebrate bioassessments, dioxin, fecal coliform, fishes bioassessments, and sedimentation/siltation. *The Final Pathogen Total Maximum Daily Load for The Taunton River Watershed* (CN 0256.0) covers some of the listed impairments.

Project Goal:

MassDOT's directly discharging impervious cover (IC) to Rumford River covers 42.5 acres, 28.3 acres comes from I-495 and associated ramps. However, only 21 acres of IC from I-495 is considered urban. In order to meet the IC reduction target developed through MassDOT's Impaired Waters Program, the receiving water assessment recommended a target reduction of 9.4 acres. Three existing BMPs (two water quality swales and one infiltration basin) are in place to treat MassDOT direct runoff and provide a 1.0-acre reduction in effective IC. The assessment recommended an additional reduction of 8.4 acres of effective IC to meet the target.

Permit Year 12 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way, topography, and wetland resources constrained the area available for construction but MassDOT was able to design **one infiltration basin and one infiltration swale** to treat stormwater from MassDOT's roadway prior to reaching Rumford River. The proposed BMPs are located within the median of I-495. Design plans for these proposed BMPs were completed and successfully permitted with approval from the Mansfield Conservation Commission.

The project was given the notice to proceed in January of 2013 and construction is scheduled to be completed during the summer of 2015. BMPs will be constructed along with the programmed resurfacing of I-495. The stormwater BMPs included as part of this project will provide a benefit for surrounding water resources by reducing TSS, promoting infiltration, and reducing flow rates of highway runoff. The construction bid price is approximately \$10.9 million, the total construction cost related to stormwater management improvements was unavailable.

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



Project Location

Stormwater Improvements for Robinson Brook (MA62-14)

MassDOT Project #: 605596
Water Body Name: Robinson Brook
Water Body ID: MA62-14
Project Town: Foxborough
MassDOT District: 5

Site Description:

MassDOT's Interstate 95 (I-95) in Foxborough discharges stormwater to Robinson Brook (MA62-14). Robinson Brook is 1.8 miles long and, according to the 2012 Integrated List of Waters, is impaired for aquatic physical substrate habitat alterations and aquatic macroinvertebrate bioassessments.

Project Goal:

MassDOT's directly discharging impervious cover (IC) to Robinson Brook covers 37.0 acres. In order to meet the IC reduction target developed through MassDOT's Impaired Waters Program, the receiving water assessment recommended a target reduction of 25.0 acres. There are no existing BMPs place to treat MassDOT direct runoff.

Permit Year 12 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way, topography, and wetland resources constrained the area available for construction, but MassDOT was able to design **two infiltration swales** to treat stormwater from MassDOT's roadway prior to reaching Robinson Brook. Design plans for these proposed BMPs were completed and successfully permitted with approval from the Foxborough Conservation Commission.

MassDOT is scheduled to complete construction during the summer of 2015. BMPs will be constructed along with the programmed resurfacing of I-95. The stormwater BMPs included as part of this project will provide a benefit for surrounding water resources by reducing TSS, promoting infiltration, and reducing flow rates of highway runoff. The construction bid price is approximately \$8 million. The total construction cost related to stormwater management improvements was unavailable.

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



Site Locus

Stormwater Improvements for Alewife Brook (MA71-04)

MassDOT Project #: 605637
Water Body Name: Alewife Brook
Water Body ID: MA71-04
Project Town: Cambridge
MassDOT District: 6

Site Description:

MassDOT's Route 2 at Routes 3 and 16 in Cambridge discharges stormwater to Alewife Brook (MA71-04). Alewife Brook is 2.3 miles long and, according to the 2012 Integrated List of Waters, is impaired for aquatic debris/floatables/trash, copper, Escherichia coli, foam/flocs/scum/oil sticks, lead, dissolved oxygen, PCB in fish tissue, total phosphorus, secchi disk transparency, sediment bioassays – chronic toxicity freshwater, and taste and odor.

Project Goal:

MassDOT's directly discharging impervious cover (IC) to Alewife Brook covers 1.1 acres. In order to meet the IC reduction target developed through MassDOT's Impaired Waters Program, the receiving water assessment recommended a target reduction of 0.9 acres. There are no existing BMPs place to treat MassDOT direct runoff.

Permit Year 12 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way, topography, and wetland resources constrained the area available for construction, but MassDOT was able to design **five leaching basins** to treat stormwater from MassDOT's roadway prior to reaching Alewife Brook. Design plans for these proposed BMPs were completed and successfully permitted with approval from the Cambridge Conservation Commission.

MassDOT is scheduled to complete construction during the spring of 2016. The purpose of the project is to perform minor widening, eliminate a merge condition, and improve capacity and vehicle queue storage at the intersection of Route 2 and Route 16. BMPs will be constructed along with the programmed project. The stormwater BMPs included as part of this project will provide a **0.3-acre reduction in effective IC** that will benefit surrounding water resources by reducing TSS, promoting infiltration, and reducing flow rates of highway runoff. With these BMPs complete, MassDOT would need to reduce the effective IC by an additional 0.6 acres to meet the target. The construction bid price is approximately \$3.3 million. The total construction cost related to stormwater management improvements was unavailable.

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



Site Locus

Stormwater Improvements for Quaboag River (MA36-16)

MassDOT Project #: 606704
Water Body Name: Quaboag River
Water Body ID: MA36-16
Project Town: Palmer
MassDOT District: 2

Site Description:

MassDOT's Interstate 90 (I-90) in Palmer discharges stormwater to Quaboag River (MA36-16). Quaboag River is 8.7 miles long and, according to the 2012 Integrated List of Waters, is impaired for fecal coliform.

Project Goal:

MassDOT aimed to reduce the amount of chloride, from road salting along I-90, discharging into the Quaboag River (MA36-16). In order to reduce the chloride discharging into the receiving waterbody, MassDOT recommended constructing a BMP to capture and treat the stormwater runoff from I-90 before discharging into the Quaboag River.



Site Locus



BMP Locations

Permit Year 12 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way, topography, and wetland resources constrained the area available for construction but MassDOT was able to design **one gravel wetland** to treat stormwater from MassDOT's roadway prior to reaching Quaboag River. Design plans for this proposed BMP were completed and successfully permitted with approval from the Palmer Conservation Commission.

This BMP provides a **0.1-acre reduction in effective IC** and a **2.8 lbs/yr reduction in phosphorus**. The BMP was constructed in July of 2014, adjacent to the I-90 Bridge over the Quaboag River, and the BMP construction cost was estimated to be \$191,000.

MassDOT constructed the BMPs possible within the existing right-of-way and taking into account site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



Completed Gravel Wetland

Stormwater Improvements for Mine Brook (MA72-14)

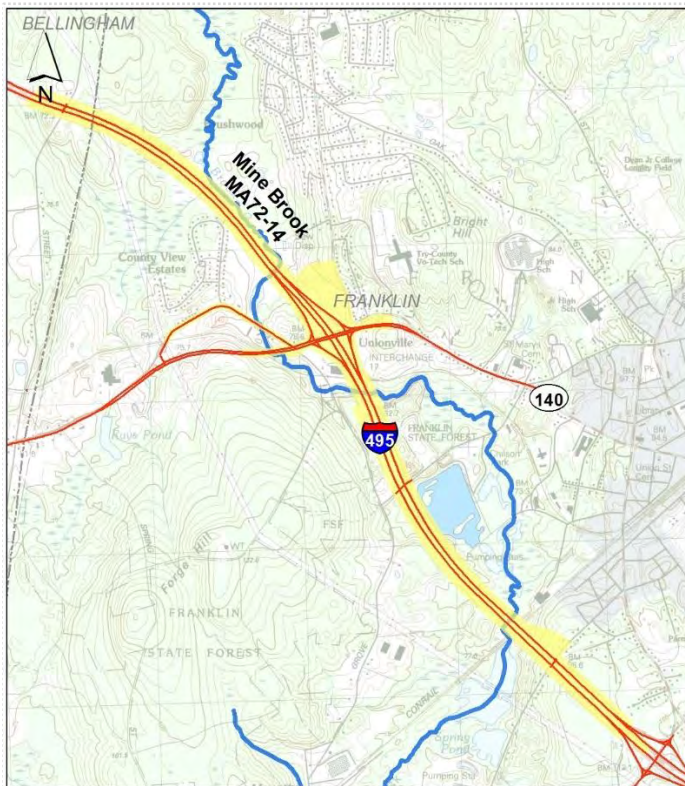
MassDOT Project #: 607179
Water Body Name: Mine Brook
Water Body ID: MA72-14
Project Town: Franklin and Bellingham
MassDOT District: 3

Site Description:

MassDOT's property that directly contributes stormwater runoff to Mine Brook (MA72-14) includes portions of West Central Street, Route 140 (Rte 140), Washington Street, and Interstate 495 (I-495). Mine Brook flows for 8.9 miles through Franklin and Bellingham until its confluence with the Charles River (MA72-04) and, according to the 2012 Integrated List of Waters, it is impaired for water temperature and habitat assessment.



Site Locus



MassDOT Directly Discharging Area

Project Goal:

MassDOT's directly discharging impervious cover (IC) to Mine Brook covers 79.2 acres. In order to meet the IC reduction target developed through MassDOT's Impaired Waters Program, the receiving water preliminary design evaluation recommended a target reduction of 36.7 acres. Three existing BMPs (one infiltration basin, one extended detention basin, and one infiltration swale) are in place to treat MassDOT's direct runoff and provide a 5.0-acre reduction in effective IC. Therefore, an additional reduction of 31.7 acres of effective IC is necessary to meet the target.

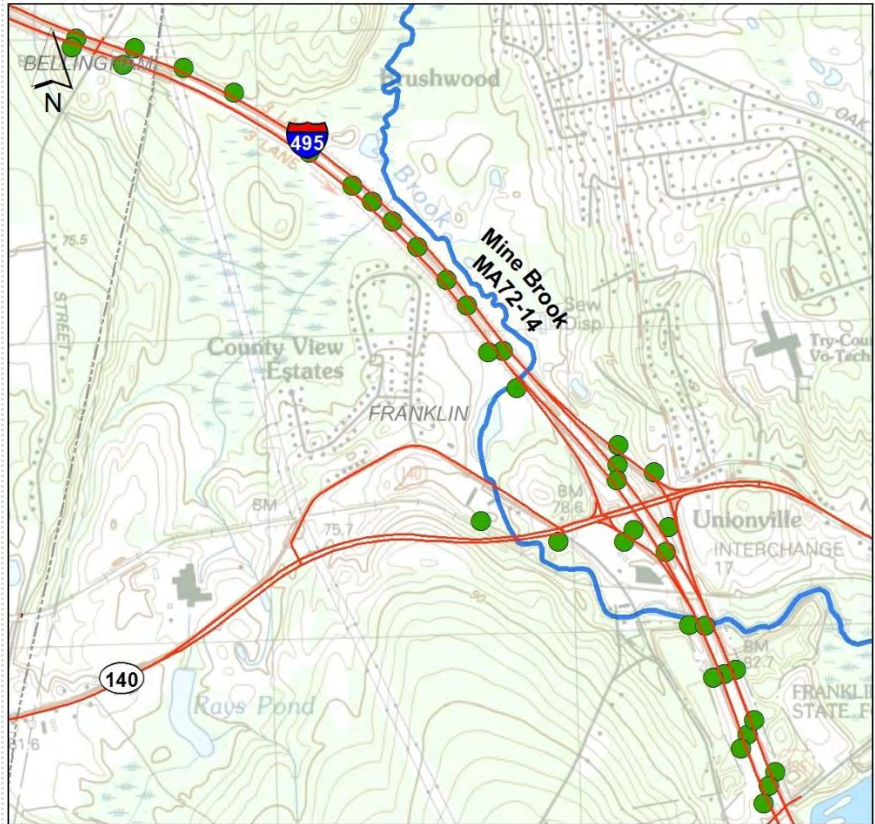
Permit Year 12 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way, topography, and wetland resources constrained the area available for construction but MassDOT was able to design **five infiltration basin and 29 infiltration swales** to treat stormwater from MassDOT's roadway prior to reaching Mine Brook. Design plans for these proposed BMPs were completed and successfully permitted with approval from the Franklin and Bellingham Conservation Commissions.

Together with the existing BMPs, these BMPs provide a **39.6-acre reduction in effective IC**.

Construction of the BMPs was completed in October of 2014. The BMPs were constructed along with the programmed resurfacing of I-495, and the BMP construction cost is estimated to be \$964,000. With these BMPs, MassDOT exceeds the target reduction in effective IC.

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



BMP Locations



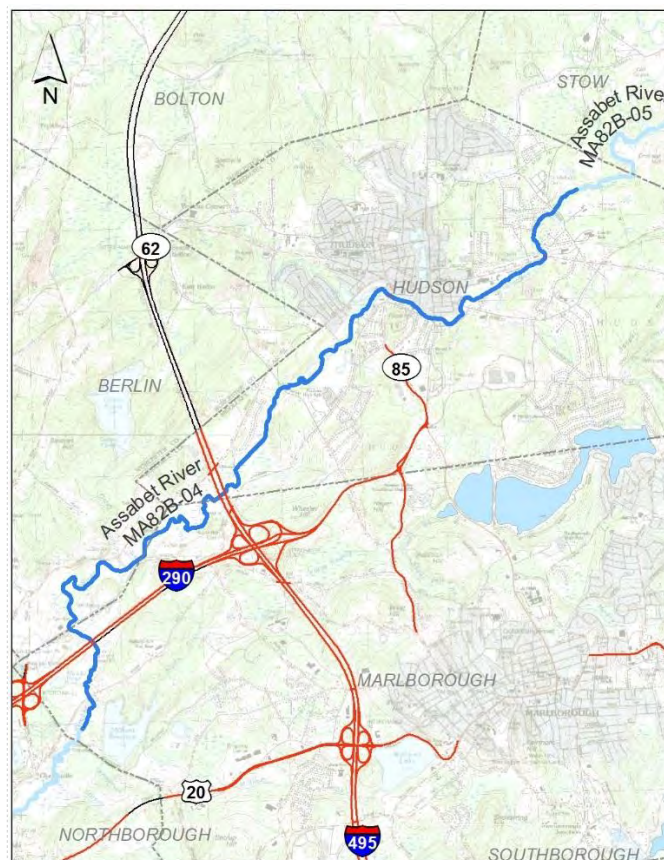
Location for Infiltration Swale Prior to Construction

Stormwater Improvements for Assabet River (MA82B-04)

MassDOT Project #: 607181
Water Body Name: Assabet River
Water Body ID: MA82B-04
Project Town: Hudson and Marlborough
MassDOT District: 3

Site Description:

MassDOT's Interstate 495 (I-495), I-290, and Route 85 in Hudson and Marlborough discharge stormwater to Assabet River (MA82B-04). Assabet River is 8.0 miles long and, according to the 2012 Integrated List of Waters, is impaired for aquatic macroinvertebrate bioassessments, aquatic plants (macrophytes), excess algal growth, fecal coliform, fishes bioassessments, dissolved oxygen, and total phosphorus. *The Assabet River Total Maximum Daily Load for Total Phosphorus (CN201.0)* covers some of the listed impairments, however the waste load allocation does not apply to non-point sources.



Site Locus



MassDOT Directly Discharging Area

Project Goal:

MassDOT's directly discharging impervious cover (IC) to Assabet River covers 18.0 acres. In order to meet the IC reduction target developed through MassDOT's Impaired Waters Program, documentation for the receiving water body recommended a target reduction of 10.0 acres. Four existing BMPs (two wet ponds and two vegetated filter strips) are in place to treat MassDOT direct runoff and provide a 1.8-acre reduction in effective IC. Therefore, an additional reduction of 8.2 acres of effective IC is necessary to meet the target. There are 12 BMPs outside of the directly discharging area that were constructed as part of the reconstruction of Route 85 in Hudson; these BMPs were included in the 2013 EPA Annual Report.

Permit Year 12 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way, topography, and wetland resources constrained the area available for construction but MassDOT was able to design **one infiltration basin and four infiltration swales** to treat stormwater from MassDOT's roadway prior to reaching Assabet River. Design plans for these proposed BMPs were completed and successfully permitted with approval from the Hudson and Marlborough Conservation Commissions.

These BMPs will provide a **9.5-acre reduction in effective IC**. MassDOT advertised the design in Permit Year 12 and will begin construction in the summer of 2015. BMPs will be constructed along with the

programmed resurfacing of I-290, and the BMP construction cost is estimated to be \$400,000. Following the construction of these BMPs, MassDOT will exceed the target reduction in effective IC.

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



BMP Locations



Planned BMP Location



**Appendix E:
Water Quality Data Forms Submitted in Permit Year 12**

25% Submissions

Project Number	Project Type	Project Name	Project Road	Location	District	Design Firm	Final Ownership	SW into Non-MassDOT System	In TMDL WS?	TMDL Pollutant	TMDL Pollutant	TMDL Pollutant	TMDL Pollutant	Receiving WBs	WBID #1	WB #1 Name	WB #1 Status	WB #1 Final TMDL	WB #1 Conceptual BMP Notes	WBID #2	WB #2 Name	WB #2 Status	WB #2 TMDL	WB #2 Conceptual BMPs
87790	Bridge	Boston- Bridge Rehabilitation, B-16-237, Massachusetts Avenue over Commonwealth Avenue	Massachusetts Avenue, Commonwealth Avenue	Boston	6	FS&T	Municipality	Yes	Yes	TRUE	FALSE	FALSE	FALSE	1	MA72-38	Charles River	Impaired	Phosphorus						
117106	Intersection	LAWRENCE-INTERSECTION IMPROVEMENTS AT LAWRENCE STREET AND PARK STREET	LAWRENCE STREET, PARK STREET	LAWRENCE	4	TEC, INC.	Municipality	Yes	No	FALSE	FALSE	FALSE	FALSE	1	MA84A-10	Spicket River	Impaired	Bacteria/Pathogens	Severe spatial constraints prevent the implementation of BMPs					
600867	Bridge	DEERFIELD - BRIDGE PRESERVATION, D-06-023, MCCLELLAN FARM ROAD OVER THE B&M RAILROAD	McClellan Farm Road	Deerfield	2	CLD Consulting Engineers, Inc.	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	2	MA33-04	Deerfield River	Not Impaired	N/A	New closed drainage systems are planned for both northern and southern approaches to the proposed bridge. Closed drain systems will utilize MassDOT Standard deep-sump catch basins Stormwater from south approach will discharge near southeast abutment onto a stone pad, thence to flow into an existing swale beneath the bridge to a 30" RCP cross culvert under a section of railroad tracks. Stormwater from northern approach will be discharged near the bike trail entrance to be conveyed southwestwards through a treatment swale to ultimately combine with flow from southern approach outside the project limits.	MA34-04	Connecticut	Impaired	N/A	A small portion of the northernmost portion of the project area drains overland northwards onto property that transitions from forested land to terraced cultivated land overlooking the Connecticut River. BMPs are not planned for this contributing area to the Connecticut River in light of its small size and its runoff that sheet flows into undeveloped/cultivated areas.
602280	Highway Reconstruction	WORCESTER- STREETSCAPE IMPROVEMENTS AT MAIN STREET & MAYWOOD STREET	Main Street, Maywood Street	Worcester	3	Fay, Spofford & Thorndike	Municipality	Yes	Yes	TRUE	FALSE	FALSE	FALSE	1	MA51-07	Beaver Brook	Impaired	Bacteria/Pathogens	Deep sump catch basins with hoods will be installed.					
602320	Highway Reconstruction	Reconstruction on Route 126 (Pond Street), from the Framingham T.L. to the Holliston T.L.	Route 126	Ashland	3	Green International Affiliates, Inc.	MassDOT	Yes	Yes	TRUE	FALSE	FALSE	TRUE	2	MA82112	Waushakum Pond	Impaired	N/A	Most of the project area is located in this watershed. General soils information indicates that many roadside areas may have favorable characteristics for infiltration BMPs such as infiltration basins, dry swales, or leaching catch basins.	MA72050	Houghton Pond	Impaired	Phosphorus	Only a small portion of the project area is located in this watershed. General soil information suggests it may be possible to install one or more leaching catch basins in this area.
602932	Highway Reconstruction	RECONSTRUCTION OF HOUSATONIC STREET, FROM ROUTE 8 & 9 TO ROUTE 8	Housatonic Street	Dalton	1	Greenman-Pedersen, Inc.	Municipality	Yes	No	FALSE	FALSE	FALSE	FALSE	1	MA21-02	East Branch Housatonic River	Impaired	N/A	Deep sump catch basins will be used for all catch basins. Some outfalls will have stilling basins, others will have a sediment forebay and water quality swale, while others will simply have stone for pipe ends.					
603682	Other	DISTRICT 3 - DEMOLITION OF LEGACY TOLL PLAZAS ALONG I-90, Toll Plaza No. 11 in Millbury, MA	I-90	Statewide/ Millbury, MA	3	AECOM	MassDOT	No	Yes	TRUE	FALSE	FALSE	TRUE	3	MA51125	Lake Quinsigamond	Impaired	Phosphorus	No BMP is currently proposed in this project. Project site does not directly discharge stormwater runoff to the impaired water body.	MA51180	Whitins Pond	Impairment Not Caused By Pollutant		No BMP is currently proposed in this project. Project site does not directly discharge stormwater runoff to the impaired water body.
603682	Other	DISTRICT 3 - DEMOLITION OF LEGACY TOLL PLAZAS ALONG I-90, Toll Plaza No. 11 in Millbury, MA	I-90	Statewide/ Millbury, MA	3	AECOM	MassDOT	No	Yes	TRUE	FALSE	FALSE	TRUE	3	MA51-03	Blackstone River	Impaired	Bacteria/Pathogens	No BMP is currently proposed in this project. Project site does not directly discharge stormwater runoff to the impaired water body. MassDOT previously constructed stormwater BMPs which effectively reduced most of the IC (Impervious Cover) from MassDOT roads in the watershed.					
604035	Bridge	Amesbury - Bridge Replacement, A-07-026, Route I-495 (NB & SB) over the Bikeway (Abandoned B&M RR Line)	Interstate 495	Amesbury	4	Vanasse Hangin Brustlin, Inc.	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	1	MA84A-08	Powwow River	Impaired	Bacteria/Pathogens	No conceptual BMP's are anticipated. The project includes a footprint bridge replacement. The existing structure has no stormwater management features as space is limited. The replacement bridge will occupy the same footprint, therefore no BMPs are anticipated.					
604123	Intersection	PELHAM- BRIDGE REPLACEMENTS, P-04-006, MEETINGHOUSE ROAD OVER AMETHYST BROOK & P-04-007, MEETINGHOUSE ROAD OVER HARRIS BROOK	Meetinghouse Rd	Pelham	2	Pare Corporation	Municipality	No	No	FALSE	FALSE	FALSE	FALSE	1	MA34-35	Amethyst Brook	Not Impaired	N/A						
604173	Intersection	HADLEY - SIGNAL & INTERSECTION IMPROVEMENTS AT ROUTE 9 (RUSSELL STREET) AND ROUTE 47 (MIDDLE STREET)	ROUTE 9 (RUSSELL STREET) AND ROUTE 47 (MIDDLE STREET)	HADLEY	2	BAYSIDE ENGINEERING, INC.	MassDOT	Yes	No	FALSE	FALSE	FALSE	FALSE	1	MA34-04	Connecticut River	Impaired	N/A	Intersection Job will include relocation and replacement of catch basins. Any replaced catch basins will include deep sumps.					

Project Number	Project Type	Project Name	Project Road	Location	District	Design Firm	Final Ownership	SW into Non-MassDOT System	In TMDL WS?	TMDL Pollutant	TMDL Pollutant	TMDL Pollutant	TMDL Pollutant	Receiving WBs	WBID #1	WB #1 Name	WB #1 Status	WB #1 Final TMDL	WB #1 Conceptual BMP Notes	WBID #2	WB #2 Name	WB #2 Status	WB #2 TMDL	WB #2 Conceptual BMPs
604173	Intersection	HADLEY - SIGNAL & INTERSECTION IMPROVEMENTS AT ROUTE 9 (RUSSELL SREET) AND ROUTE 47 (MIDDLE STREET)	ROUTE 9 (RUSSELL SREET) AND ROUTE 47 (MIDDLE STREET)	HADLEY	2	BAYSIDE ENGINEERING, INC.	MassDOT	Yes	No	FALSE	FALSE	FALSE	FALSE	1	MA34-04	Connecticut River	Impaired	N/A	Intersection Job will include relocation and replacement of catch basins. Any replaced catch basins will include deep sumps.					
604429	Bridge	Marshfield - Bridge Replacement, M-07-007, Beach Street over the Cut River	Beach Street	Marshfield	5	URS Corporation	Municipality	Yes	Yes	TRUE	FALSE	FALSE	FALSE	1	MA94-11	Green Harbor	Impaired	Bacteria/Pathogens	Two existing catch basins collect stormwater near the bridge eastern abuttmnt. The existing catch basins flow to an outfall 10 feet away. The BMP's chosen will comply with the maximum extent practical method for stormwater treatment. A catch basin hood is possible.					
604537	Bridge	North Washington Street Bridge Replacement over Boston Inner Harbor (segment ID MA70-02) B-16-016	North Washington Street	Boston	6	Alfred Benesch & Company	Municipality	Yes	Yes	TRUE	FALSE	FALSE	TRUE	1	MA70-02	Boston Inner Harbor	Impaired	Bacteria/Pathogens	Bridge scuppers will be used along the new bridge structure. Other BMP alternatives will be used at the bridge approaches (i.e. deep sump catch basins) where feasible. Street sweeping will be provided as a source control BMP that provides a 10% TSS removal credit.					
604655	Intersection	INTERSECTION & SIGNAL IMPROVEMENTS AT ROUTE 9 & LYMAN STREET	State Route 9, Lyman Street	Westborough	3	Greenman-Pedersen, Inc	MassDOT	Yes	Yes	TRUE	FALSE	FALSE	TRUE	2	ma82017	Chauncy Lake	Impairment	N/A	Deep sump catch basins.	MA82A-25	Rutters Brook	Not Impaired	N/A	Deep sump catch basins.
604838	Intersection	Easton- Intersection Improvements at Washington Street (Route 138) and Union Street	Washington Street (Route 138), Union Street	Easton	5	BETA Group, Inc.	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	1	MA62109	Longwater Pond	Impairment	N/A	Proposed and existing catch basins within the project limits will be deep sump.					
604864	Bridge	GREAT BARRINGTON-BRIDGE REPLACEMENT, G-11-005, SR 183 (PARK STREET) OVER HOUSATONIC RIVER	Route 183	Great Barrington	1	CLD Consulting Engineers	MassDOT	Yes	No	FALSE	FALSE	FALSE	FALSE	1	MA21-19	Housatonic River	Impaired	N/A	There are no BMP's proposed to treat stormwater runoff. The project consists of replacing an existing bridge deck and the additional of a sidewalk along a portion of the roadway. No modifications are proposed to the existing closed drainage system with the exception of adjusting grates. The project is a Footprint project.					
604893	Highway Reconstruction	Templeton - Roadway Resurfacing & Related Work on a Section of Route 68 from the Gardner T.L. to the end of the State Highway	Route 68 (State Road and Gardner Road)	Templeton	2	MASSDOT D2	MassDOT	No	Yes	TRUE	FALSE	FALSE	TRUE	4	MA35-08	Otter River	Impaired	N/A	The proposed project will have erosion controls throughout the construction period on the project. Other BMPs proposed are reconstructed paved waterways, and cleaning of existing drainage structures and piping. Also the culvert which flows from the south wetland to the north wetlands at approximate Sta. 96+00 to 99+00 (beneath Route 68) will be cleaned.	MA35-07	Otter River	Impaired	N/A	The proposed project will have erosion controls throughout the life of the construction on the project. Other BMPs proposed are reconstructed paved waterways, and cleaning of existing drainage structures and piping. Also the culvert which flows from the south wetland to the north wetlands at approximate Sta. 96+00 to 99+00 (beneath Route 68) will be cleaned.
604893	Highway Reconstruction	Templeton - Roadway Resurfacing & Related Work on a Section of Route 68 from the Gardner T.L. to the end of the State Highway	Route 68 (State Road and Gardner Road)	Templeton	2	MASSDOT D2	MassDOT	No	Yes	TRUE	FALSE	FALSE	TRUE	4	MA35018	Depot Pond	Impaired	Phosphorus	The proposed project will have erosion controls throughout the life of the construction project. Other BMPs proposed include reconstructed paved waterways, and cleaning of existing drainage structures and pipes. Also the culvert which flows from the south wetlands to the north wetland at approximate Sta. 96+00 to Sta. 99+00 (beneath Route 68) will be cleaned.	MA35029	Hilchey Pond	Impaired	Phosphorus	Hilchey Pond does not appear to be a receiving water from the project, however Bailey Brook which flows south to southwest from Hilchey Pond may be a receiving water from the project. Bailey Brook is not a TMDL or potential TMDL; therefore the proposed BMPs of erosion controls, reconstructed paved waterways, and cleaning of drainage structures and pipes should be sufficient. Additionally, the culvert which flows from the south wetlands to the north wetlands at approximate Sta. 96+00 to 99+00 (beneath Route 68) will be cleaned.
605299	Intersection	Taunton- Intersection Improvements at the Hon. Gordon M. Owen Riverway & Williams Street	Hon. Gordon M. Owen Riverway, Williams Street	Taunton	5	Beta Group	Municipality	No	Yes	TRUE	FALSE	FALSE	FALSE	1	MA62-02	Taunton River	Impaired	Bacteria/Pathogens						

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605367	Highway Reconstruction	SPRINGFIELD- SIGNAL & INTERSECTION IMPROVEMENTS @ ROOSEVELT AVENUE & ISLAND POND ROAD, ROOSEVELT AVENUE & ALDEN STREET	Roosevelt Ave, Alden Street, Island Pond Road	Springfield	2	Fuss & O'Neill Inc.	Municipality	Yes	No	FALSE	FALSE	FALSE	FALSE	1	MA34099	Watershops Pond	Impaired	N/A						
605385	Bridge	DEDHAM - Needham Street over Great Ditch	Needham Street	Dedham	6	Dewberry Engineers Inc.	MassDOT	No	Yes	TRUE	FALSE	FALSE	TRUE	1	MA72-07	Charles River	Impaired	Bacteria/Pathogens, Phos	Provide deep sump CB's and route runoff to one or more level spreaders to minimize erosion.					
605883	Resurfacing	SHEFFIELD- GREAT BARRINGTON- RESURFACING & RELATED WORK ON ROUTE 7 (MM 0.0 TO MM 9.38)	Route 7	Sheffield, Great Barrington	1	In-house	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	4	MA21-20	Housatonic River	Impaired	N/A	No new BMPs are proposed.	MA21-26	Konkapot R	Impaired	N/A	No new BMPs are proposed.
605883	Resurfacing	SHEFFIELD- GREAT BARRINGTON- RESURFACING & RELATED WORK ON ROUTE 7 (MM 0.0 TO MM 9.38)	Route 7	Sheffield, Great Barrington	1	In-house	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	4	MA21-23	Green River	Not Impaired	N/A	No new BMPs are proposed.	MA21-15	Hubbard Br	Impairment Not Caused By Pollutant	N/A	No new BMPs are proposed
605887	Highway Reconstruction	HOPKINTON- SIGNAL & INTERSECTION IMPROVEMENTS ON ROUTE 135	Route 135 (Main Street)	Hopkinton	3	BETA Group Inc.	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	1	MA82A-23	Indian Brook	Not Impaired	N/A	All existing catch basins will be replaced with deep sump catch basins.					
606043	Bridge	WAREHAM- BRIDGE REPLACEMENT, W-06-002, PAPER MILL ROAD OVER WEWEANTIC RIVER	Paper Mill Road	Wareham	5	In-house	Municipality	No	Yes	TRUE	FALSE	FALSE	FALSE	1	MA95-04	Weweantic River	Not Impaired	N/A						
606146	Bridge	WINCHENDON- SUPERSTRUCTURE OR BRIDGE REPLACEMENT, W-39-001, HARRIS ROAD OVER TARBELL BROOK	Harris Road	Winchendon	2	WSP	Municipality	No	No	FALSE	FALSE	FALSE	FALSE	1	MA35-01	Millers River	Impaired	N/A	Deep Sump Catch Basins; Locate outfalls as far upland as possible.					
606146	Highway Reconstruction	CANTON- DEDHAM- NORWOOD- INTERCHANGE IMPROVEMENTS AT I-95/I-93/UNIVERSITY AVENUE/I-95 WIDENING INCLUDING 12 BRIDGES	I-95/I-93/University Avenue	Canton, Dedham, Norwood	6	FST	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	3	MA73-25	Pecunit Brook	Impaired	N/A	Anticipated BMPs treatment train planned include a combination of deep sump catch basins, water quality swales, sedimentation forebays, extended detention basins, infiltration basins, and/or wet basins.	MA73-27	Ponkapog Brook	Impaired	Bacteria/Pathogens	Anticipated BMP treatment train planned include a combination of deep sump catch basins, water quality swales, sedimentation forebays, extended detention basins, infiltration basins, and/or wet basins
606146	Highway Reconstruction	CANTON- DEDHAM- NORWOOD- INTERCHANGE IMPROVEMENTS AT I-95/I-93/UNIVERSITY AVENUE/I-95 WIDENING INCLUDING 12 BRIDGES	I-95/I-93/University Avenue	Canton, Dedham, Norwood	6	FST	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	3	MA73-02	Neponset River	Impaired	Bacteria/Pathogens	Anticipated BMP treatment train planned include a combination of deep sump catch basins, water quality swales, sedimentation forebays, extended detention basins, infiltration basins, and/or wet basins.					
606318	Bridge	Dedham Street/I-95 Interchange	Dedham Street	Canton	6	AECOM	MassDOT	Yes	Yes	TRUE	FALSE	FALSE	FALSE	2	MA73-02	Neponset River	Impaired	Bacteria/Pathogens	Three infiltration basins are planned to treat stormwater flowing to the Neponset River.	MA73-25	Pecunit Bro	Impaired		Four infiltration basins are planned to treat stormwater flowing to Pecunit Brook.
606372	Bridge	Retaining Wall Replacement on Route 9 Adjacent to C-21-023 over Westfield Brook	Route 9	Cummington	1	MassDOT	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	1	MA32-04	Westfield River	Not Impaired	N/A	No new BMPs are proposed given the scope of this project (a retaining wall replacement and slope repair project). Existing drainage and vegetated areas will be maintained.					
606417	Highway Reconstruction	Highway Reconstruction and Traffic Calming on Route 2 Adjacent to the Deerfield River, over Rice Brook C-05-018 and Mill Brook C-05-011	Route 2	Charlemont	1	MassDOT	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	3	MA33-02	Deerfield River	Not Impaired	N/A	New BMPs are proposed given the scope of the project (Highway Reconstruction and Traffic Calming of existing roadway). BMPs include Deep Sump Catch Basin and Retention Area (Pond/Basin).	MA33-14	Mill Brook	Not Impaired	N/A	New BMPs are proposed given the scope of the project (High Reconstruction and Traffic Calming of existing roadway). BMPs include Deep Sump Catch Basin and Retention Area (Pond/Basin).

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606485	Intersection	Milford - Resurfacing & Intersection Improvements on Route 16 (Main Street), from Water Street to the Hopedale T.L.	Route 16 (Main Street)	Milford		3	CHA	Municipality	Yes	Yes	TRUE	FALSE	FALSE	TRUE	1	MA72-33	Charles River	Impaired	Bacteria/Pathogens, Phos	This project is does not include major changes to the existing drainage system. The existing system consists of deep sump catch basins that outlets to a tributary stream to the Charles River. The stream stretches 1.5 miles and crosses two wetland areas between the outlet point on Main Street and the Charles River. Although infiltration methods are recommended to remove phosphorus contamination and BMP's with bio-uptake capabilities are recommended to treat any bacteria/pathogen contamination, the urban environment and limit right of way limits the applicability of these BMP's to this project.					
606507	Bridge	GREENFIELD - SUPERSTRUCTURE REPLACEMENT, G-12-052 (OXR) & G-12-053 (OXT), I-91 (NB & SB) OVER BMRR	I-91 NB, I-91SB	Greenfield		2	Green International Affiliates, Inc.	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	1	MA33-30	Green River	Impaired	N/A	LID measures, dry swales					
606548	Resurfacing	Resurfacing and Related Work on Route 122 from Route 31 to the Rutland T.L.	Route 122	Paxton		3	In-house	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	1	MA36056	Eames Pond	Impaired	N/A	Six new CBs w/4' deep sumps.					
606551	Highway Reconstruction	BOSTON- INTERSECTION IMPROVEMENTS @ GALLIVAN BOULEVARD (ROUTE 203) & MORTON STREET	Morton Street and Gallivan Blvd	Boston		6	Transsystems	MassDOT	Yes	Yes	TRUE	FALSE	FALSE	FALSE	1	MA73-04	Neponset River	Impaired	Bacteria/Pathogens						
606559	Highway Reconstruction	CHATHAM- IMPROVEMENTS ON WEST MAIN STREET (ROUTE 28), FROM GEORGE RYDER ROAD TO BARN HILL ROAD	Route 28	Chatham		5	HSH	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	1	MA96-44	Bucks Creek	Impaired	Bacteria/Pathogens, Nitrogen						
606596	Other	Amesbury- Powow Riverwalk Construction, Main Street to Water Street, includes PED Bridge A-07-034 (Phase I)	Main Street to Water Street	Amesbury		4	Vanasse Hangen Brustlin, Inc.	Municipality	No	No	FALSE	FALSE	FALSE	FALSE	1	MA84A-08	Powwow River	Impaired	Bacteria/Pathogens	No new flow of stormwater to the Powow River is planned as part of this project. No collection system or treatment of the Riverwalk will be conducted.					
606629	Bridge	ST 112 Jacksonville Road over North River	Jacksonville Road (ST 112)	Colrain		1	Mistry Associates, Inc.	MassDot	Yes	No	FALSE	FALSE	FALSE	FALSE	1	MA33-19	East Branch North River	Not Impaired	N/A	Eight (8) Proposed Catch Basins with four (4) foot deep sumps and two (2) Infiltration Swales at drain system outlets.					
606669	Bridge	SAVOY- SUPERSTRUCTURE REPLACEMENT, S-06-004, RIVER ROAD OVER THE WESTFIELD RIVER	River Road	Savoy		1	Chappell Engineering Associaties, LLC	Municipality	No	No	FALSE	FALSE	FALSE	FALSE	1	MA32-04	Westfield River	Not Impaired	N/A	Reconstruct the drainage ditch along the left side of Griffin Road into a water quality swale and include a Drop Inlet with deep sump (4 ft sump). Construct an infiltration trench with forebay on the southeast side of river road after the bridge; an existing drainage pipe will discharge into the trench instead of discharging directly into the river.					
606686	Other	Worcester-Blackstone Visitor Center	Intersection of McKeon Road and Route 146	City of Worcester		3	URS Corporation	Other	No	Yes	TRUE	FALSE	FALSE	FALSE	2	MA51-02	Middle River	Impaired	Bacteria/Pathogens	The conceptual design includes plans to retain the existing oil/particle separators that treat runoff from both sides of the river. In addition, new water quality swales are proposed to provide additional treatment. The Engineer and Architect plan to maximize the use of non-structural BMPs as the design progresses. The facility is also being designed to meet LEED Silver standards.	MA51-03	Blackstone	Impaired	Bacteria/Pathogens	The conceptual design includes plans to retain the existing oil/particle separators that treat runoff from both sides of the river. In addition, new water quality swales are proposed to provide additional treatment. The Engineer and Architect plan to maximize the use of non-structural BMPs as the design progresses. The facility is also being designed to meet LEED Silver standards.
606729	Resurfacing	WARREN-RESURFACING & RELATED WORK ON ROUTE 67 @ WEST WARREN & WARREN TOWN CENTERS	ROUTE 67, MAIN ST	WARREN		2	MASSDOT DISTRICT 2	MassDOT	Yes	Yes	FALSE	FALSE	FALSE	TRUE	1	MA36-15	Quaboag River	Not Impaired	N/A	All existing drainage pipes and structures will be cleaned, all curb reveal height will be restored, all existing HMA curb will be reconstructed, and roadway and shoulder cross slopes will be reconstructed with standard cross slopes.					

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607117	Bridge	LANCASTER- BRIDGE REPLACEMENT, L-02-018, JACKSON ROAD OVER ROUTE 2	Jackson Rd over Route 2	Lancaster	3	BSC Group	MassDOT	No	Yes	FALSE	FALSE	FALSE	TRUE	1	MA81-05	Nashua River	Impaired	Bacteria/Pathogens, Phos	Basin proposed.					
607121	Bridge	HAWLEY- BRIDGE REPLACEMENT, H-13-003, SAVOY ROAD OVER THE CHICKLEY RIVER	Savoy Road	Hawley	1	McFarland Johnson	Municipality	No	No	FALSE	FALSE	FALSE	FALSE	1	MA33-11	Chickley River	Impaired	N/A	No conceptual BMPs are planned for the bridge.					
607121	Highway Reconstruction	EASTON- CORRIDOR IMPROVEMENTS ON DEPOT STREET (ROUTE 123), FROM NEWELL CIRCLE TO WASHINGTON STREET (ROUTE 138)	Depot Street (Route 123)	Easton	5	BETA Group, Inc.	Municipality	Yes	Yes	TRUE	FALSE	FALSE	FALSE	2	MA62-21	Queset Brook	Not Impaired	N/A	Deep sump catchbasins, subsurface infiltration systems	MA62106	Little Cedar	Not Impaired	N/A	Deep sump catchbasins, subsurface infiltration systems, sediment forebays, detention/retention.
607123	Bridge	SAVOY- SUPERSTRUCTURE REPLACEMENT, S-06-004, RIVER ROAD OVER THE WESTFIELD RIVER	River Road	Savoy	1	Chappell Engineering Associaties, LLC	Municipality	No	No	FALSE	FALSE	FALSE	FALSE	1	MA32-04	Westfield River	Not Impaired	N/A	Reconstruct the drainage ditch along the left side of Griffin Road into a water quality swale and include a Drop Inlet with deep sump (4 ft sump). Construct an infiltration trench with forebay on the southeast side of river road after the bridge; an existing drainage pipe will discharge into the trench instead of discharging directly into the river.					
607217	Highway Reconstruction	Templeton - Roadway Resurfacing & Related Work on a Section of Route 68 from the Gardner T.L. to the end of the State Highway	Route 68 (State Road and Gardner Road)	Templeton	2	MASSDOT D2	MassDOT	No	Yes	TRUE	FALSE	FALSE	TRUE	4	MA35-08	Otter River	Impaired	N/A	The proposed project will have erosion controls throughout the construction period on the project. Other BMPs proposed are reconstructed paved waterways, and cleaning of existing drainage structures and piping. Also the culvert which flows from the south wetland to the north wetlands at approximate Sta. 96+00 to 99+00 (beneath Route 68) will be cleaned.	MA35-07	Otter River	Impaired	N/A	The proposed project will have erosion controls throughout the life of the construction on the project. Other BMPs proposed are reconstructed paved waterways, and cleaning of existing drainage structures and piping. Also the culvert which flows from the south wetland to the north wetlands at approximate Sta. 96+00 to 99+00 (beneath Route 68) will be cleaned.
607217	Highway Reconstruction	Templeton - Roadway Resurfacing & Related Work on a Section of Route 68 from the Gardner T.L. to the end of the State Highway	Route 68 (State Road and Gardner Road)	Templeton	2	MASSDOT D2	MassDOT	No	Yes	TRUE	FALSE	FALSE	TRUE	4	MA35018	Depot Pond	Impaired	Phosphorus	The proposed project will have erosion controls throughout the life of the construction project. Other BMPs proposed include reconstructed paved waterways, and cleaning of existing drainage structures and pipes. Also the culvert which flows from the south wetlands to the north wetland at approximate Sta. 96+00 to Sta. 99+00 (beneath Route 68) will be cleaned.	MA35029	Hilchey Por	Impaired	Phosphorus	Hilchey Pond does not appear to be a receiving water from the project, however Bailey Brook which flows south to southwest from Hilchey Pond may be a receiving water from the project. Bailey Brook is not a TMDL or potential TMDL; therefore the propsed BMPs of erosion controls, reconstructed paved waterways, and cleaning of drainage structures and pipes should be sufficient. Additionally, the culvert which flows from the south wetlands to the north wetlands at approximate Sta. 96+00 to 99+00 (beneath Route 68) will be cleaned.
607222	Bridge	Chelmsford- Bridge Superstructure Replacement, C-08-048, Hunt Road over I-495	Hunt Road	Chelmsford	4	McFarland Johnson	MassDOT	No	Yes	TRUE	FALSE	FALSE	TRUE	1	MA82A-10	River Meadow Brook	Impaired	Bacteria/Pathogens	The project does not propose to change the existing stormwater design of the bridge or alter the BMPs currently in use. Currently, there are scuppers on the bridge which drain to the ground adjacent to I-495.					
607250	Intersection	Route 5/10 (Deerfield St.) & Cheapside Street Intersection Improvements	Route 5/10, Cheapside Street	Greenfield	2	MassDOT - District 2	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	1	MA33-04	Deerfield River	Not Impaired	N/A	Deep Sump Catch Basins, Possible Detention Basin, Vegetated Swales					
607273	Highway Reconstruction	PAXTON- RECLAMATION ON ROUTE 31 (HOLDEN ROAD)	Holden Road	Paxton	3	CHA	Municipality	Yes	Yes	TRUE	FALSE	FALSE	TRUE	2	MA51082	Kettle Brook Reservoir No. 4	Not Impaired	N/A	Deep sump Catch Basins will collect stormwater and discharge into a nearby wetland/ stream system tributary to Kettle Brook Reservoir No. 4.	MA81002	Asnebumsk	Not Impaired	N/A	Deep Sump Catch Basins will collect stormwater and discharge into a drainage basin for the majority of drainage system and into a nearby wetland tributary to Asnebumskit Pond for the remainder.

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607312	Bridge	FRANKLIN- PEDESTRIAN BRIDGE CONSTRUCTION F-08-005, OLD SR 140 OVER MBTA/CSX	Old West Central Street, Old State Route 140	Franklin	3	Dewberry Engineers Inc.	MassDOT	Yes	Yes	TRUE	FALSE	FALSE	TRUE	1	MA72-14	Mine Brook	Impaired	N/A	Proposed improvements will decrease impervious area upstream of existing catch basins. No permanent stormwater improvements are planned at this time. All stormwater mitigation will be temporary during construction, including the installation of silt sacks in existing catch basins, slope protection and silt fences.					
607321	Other	IMPROVEMENTS TO EAST MILTON SQUARE	East Milton Square	Milton	6	Howard/Stein-Hudson Associates	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	2	MA73-30	Gulliver Creek	Impaired	Bacteria/Pathogens	Use of deep sump catch basins where new catchbasins are proposed.	MA74-10	Furnace Brook	Impaired	N/A	Use of deep sump catch basins where new catchbasins are proposed.
607321	Other	IMPROVEMENTS TO EAST MILTON SQUARE	East Milton Square	Milton	6	Howard/Stein-Hudson Associates	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	2	MA73-30	Gulliver Creek	Impaired	Bacteria/Pathogens	Use of deep sump catch basins where new catchbasins are proposed.	MA74-10	Furnace Brook	Impaired	N/A	Use of deep sump catch basins where new catchbasins are proposed.
607330	Intersection	Pembroke- Intersection Improvements and Related Work at Washington Street (route 53) and Pleasant Street	Washington Street (Route 53), Pleasant Street	Pembroke	5	CHA	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	1	MA94-05	North River	Impaired	Bacteria/Pathogens						
607330	Intersection	Pembroke- Intersection Improvements and Related Work at Washington Street (route 53) and Pleasant Street	Washington Street (Route 53), Pleasant Street	Pembroke	5	CHA	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	1	MA94-05	North River	Impaired	Bacteria/Pathogens						
607337	Other	SEEKONK - INTERSECTION IMPROVEMENTS & RELATED WORK AT FALL RIVER AVENUE (ROUTE 114A) AND COUNTY STREET	FALL RIVER AVENUE (ROUTE 114A), COUNTY STREET	TOWN OF SEEKONK	5	Greenman - Pedersen, Inc.	MassDOT	Yes	Yes	TRUE	FALSE	FALSE	FALSE	1	MA53-01	Runnins River	Impaired	Bacteria/Pathogens	There are no BMPs being proposed on this project as it is a traffic signal project.					
607337	Other	SEEKONK - INTERSECTION IMPROVEMENTS & RELATED WORK AT FALL RIVER AVENUE (ROUTE 114A) AND COUNTY STREET	FALL RIVER AVENUE (ROUTE 114A), COUNTY STREET	TOWN OF SEEKONK	5	Greenman - Pedersen, Inc.	MassDOT	Yes	Yes	TRUE	FALSE	FALSE	FALSE	1	MA53-01	Runnins River	Impaired	Bacteria/Pathogens	There are no BMPs being proposed on this project as it is a traffic signal project.					
607392	Highway Reconstruction	Northborough/Shrewsbury - Reconstruction on Route 9 & Route 20 Ramp Improvements	Route 9, Route 20	Northborough, Shrewsbury	3	MassDOT Highway Design	MassDOT	No	Yes	TRUE	FALSE	FALSE	TRUE	1	MA82099	Smith Pond	Not Impaired	N/A	Deep Sump Catch Basin's, manholes, and Riprap swales are proposed to collect and convey runoff to reconstruction outfalls.					
607428	Bridge	Natick - superstructure replacement, N-03-003, Marion Street over MBTA	Marion Street	Natick	3	TranSystems	MassDOT	No	Yes	TRUE	FALSE	FALSE	TRUE	1	MA82127	Lake Cochituate	Impaired	N/A	Existing catch basins will be replaced with deep sump catch basins.					
607438	Bridge	LOWELL-BRIDGE REPLACEMENT, L-15-045, MARKET STREET OVER THE WESTERN CANAL	Market Street	Lowell	4	MassDOT-Highway Design	MassDOT	Yes	Yes	TRUE	FALSE	FALSE	FALSE	1	MA84A-29	Lowell Canals	Impaired	N/A	Existing grades and ROW constraints prevent the implementation of BMPs					
607442	Highway Reconstruction	Southampton - Safe Routes to School (William E. Norris Elementary)	College Highway (Route 10) and Pomeroy Meadow Road	Southampton	2	TEC, Inc.	Municipality	Yes	No	FALSE	FALSE	FALSE	FALSE	2	MA34-10	Manhan River	Not Impaired	N/A	This proposed pedestrian safety improvement project includes construction of approximately 2,700 feet of sidewalk, new signs and pavement markings and minor drainage improvements. A majority of work is construction of new sidewalk, therefore resulting in a slight net increase in impervious area totaling approximately 0.4 acres. This project proposes eight (8) new catch basins with hoods and 4-foot deep sumps. Please note that our survey does not show the main drain line on Route 10 as we were unable to obtain record plans showing this drain line. As such, TEC has assumed that stormwater runoff from this project may empty into two adjacent waterbodies. TEC is continuing to work with the Town to	MA34-12	Potash Brook	Not Impaired	N/A	This proposed pedestrian safety improvement project includes construction of approximately 2,700 feet of sidewalk, new signs and pavement markings and minor drainage improvements. A majority of work is construction of new sidewalk, therefore resulting in a slight net increase in impervious area totaling approximately 0.4 acres. This project proposes eight (8) new catch basins with hoods and 4-foot deep sumps. Please note that our survey does not show the main drain line on Route 10 as we were unable to obtain record plans showing this drain line. As such, TEC has assumed that
607453	Resurfacing	SOUTHBOROUGH-RESURFACING & RELATED WORK ON ROUTE 9, FROM THE FRAMINGHAM T.I. TO WHITE BAGLEY ROAD	Turnpike Road (Rte 9)	Southborough	3	Greenman-Pedersen, Inc.	MassDOT	No	Yes	TRUE	FALSE	FALSE	TRUE	2	MA82106	Sudbury Reservoir	Impaired	N/A	Where new catch basins are required, they shall be Deep Sump Catch Basins.	MA82046	Framingham	Impairment	N/A	Where new catch basins are required, they shall be Deep Sump Catch Basins.

Project Number	Project Type	Project Name	Project Road	Location	District	Design Firm	Final Ownership	SW into Non-MassDOT System	In TMDL WS?	TMDL Pollutant	TMDL Pollutant	TMDL Pollutant	TMDL Pollutant	Receiving WBs	WBID #1	WB #1 Name	WB #1 Status	WB #1 Final TMDL	WB #1 Conceptual BMP Notes	WBID #2	WB #2 Name	WB #2 Status	WB #2 TMDL	WB #2 Conceptual BMPs
607488	Other	MANSFIELD-SIDEWALK CONSTRUCTION & RELATED WORK ON EAST STREET AT THE JORDAN-JACKSON ELEMENTARY SCHOOL (SRTS)	East Street, Park Street, Hope Street	Mansfield	5	TEC, Inc.	Municipality	Yes	No	FALSE	FALSE	FALSE	FALSE	1	MA62-27	Canoe River	Not Impaired	N/A	TEC has proposed an Outlet Sediment Trap at the southwest corner of the intersection of East Street and the Jordan/Jackson School Entrance Driveway					
607580	Highway Reconstruction	Millbury-Sutton - Median Barrier Replacement on Route 146, From 122A to Boston Road	Route 146	Millbury, Sutton	3	In House, HQ	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	4	MA51-03	Blackstone River	Impaired	Bacteria/Pathogens	Drainage improvements not included in scope of work	MA51-31	Singletery B	Impaired		Drainage improvements not included in scope of work
607580	Highway Reconstruction	Millbury-Sutton - Median Barrier Replacement on Route 146, From 122A to Boston Road	Route 146	Millbury, Sutton	3	In House, HQ	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	4	MA51059	Hathaway Por	Not Impaired	N/A	Drainage improvements not included in scope of work	MA51093	Marble Pon	Impaired		Infiltration swale proposed under project 608060 to treat runoff discharging to Marble Pond.
607580	Other	DISTRICT 2 - DEMOLITION OF LEGACY TOLL PLAZAS ALONG I-90	I-90	Statewide	2	AECOM	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	1	MA32-09	Powdermill Brook	Impaired	N/A	No BMPs are proposed in this project. MassDOT road surfaces within the work limit of Toll Plaza #3 do not directly contribute stormwater runoff to MA32-09.					
607580	Other	DISTRICT 2 - DEMOLITION OF LEGACY TOLL PLAZAS ALONG I-90	I-90	Statewide	2	AECOM	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	1	MA34-05	Connecticut River	Impaired	N/A	No BMPs are planned to treat stormwater in this project. Although Toll Plaza is located within the watershed to Water Body MA34-05, stormwater runoff from the DOT road surfaces (inlcuding the toll Plaza area) was not considered part of the direct runoff according to the impaired assessment performed for MA34-05 (reference "Impaired Waters Assessment for Connecticut River (MA34-05) - Progress Report), dated December 8th, 2013).					
607580	Other	DISTRICT 2 - DEMOLITION OF LEGACY TOLL PLAZAS ALONG I-90	I-90	Statewide	2	AECOM	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	1	MA32-09	Powdermill Brook	Impaired	N/A	No BMPs are proposed in this project. MassDOT road surfaces within the work limit of Toll Plaza #3 do not directly contribute stormwater runoff to MA32-09.					
607580	Other	DISTRICT 2 - DEMOLITION OF LEGACY TOLL PLAZAS ALONG I-90	I-90	Statewide	2	AECOM	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	1	MA34-05	Connecticut River	Impaired	N/A	No BMPs are planned to treat stormwater in this project. Although Toll Plaza is located within the watershed to Water Body MA34-05, stormwater runoff from the DOT road surfaces (inlcuding the toll Plaza area) was not considered part of the direct runoff according to the impaired assessment performed for MA34-05 (reference "Impaired Waters Assessment for Connecticut River (MA34-05) - Progress Report), dated December 8th, 2013).					
606485	Highway Reconstruction	Millbury-Sutton - Median Barrier Replacement on Route 146, From 122A to Boston Road	Route 146	Millbury, Sutton	3	In House, HQ	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	4	MA51-03	Blackstone River	Impaired	Bacteria/Pathogens	Drainage improvements not included in scope of work	MA51-31	Singletery B	Impaired	N/A	Drainage improvements not included in scope of work
606485	Highway Reconstruction	Millbury-Sutton - Median Barrier Replacement on Route 146, From 122A to Boston Road	Route 146	Millbury, Sutton	3	In House, HQ	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	4	MA51059	Hathaway Por	Not Impaired	N/A	Drainage improvements not included in scope of work	MA51093	Marble Pon	Impaired	N/A	Infiltration swale proposed under project 608060 to treat runoff discharging to Marble Pond.
607581	Other	DISTRICT 2 DEMOLITION OF LEGACY TOLL PLAZAS ALONG I-90	I-90	STATEWIDE	2	AECOM	MassDOT	No	No	FALSE	FALSE	FALSE	FALSE	2	MA36-24	Chicopee River	Impaired	N/A	No BMPs are planned in this project to treat stormwater flowing to MA36-24. Although the MassDOT roads within the project limit are located in Chicopee River watershed, they do not directly discharge stormwater runoff to MA36-24 and MA36-25 according to Progress Reports "Impaired Waters Assessment for Chicopee River (MA36-24)" (MassDOT, December 8, 2014) and "Impaired Waters Assessment for Chicopee River (MA36-25)" (MassDOT, December 8, 2014).	MA36-25	Chicopee R	Impaired	N/A	No BMPs are planned in this project to treat stormwater flowing to MA36-24. Although the MassDOT roads within the project limit are located in Chicopee River watershed, they do not directly discharge stormwater runoff to MA36-24 and MA36-25 according to Progress Reports "Impaired Waters Assessment for Chicopee River (MA36-24)" (MassDOT, December 8, 2014) and "Impaired Waters Assessment for Chicopee River (MA36-25)" (MassDOT, December 8, 2014).

Project Number	Project Type	Project Name	Project Road	Location	District	Design Firm	Final Ownership	SW into Non-MassDOT System	In TMDL WS?	TMDL Pollutant	TMDL Pollutant	TMDL Pollutant	TMDL Pollutant	Receiving WBs	WBID #1	WB #1 Name	WB #1 Status	WB #1 Final TMDL	WB #1 Conceptual BMP Notes	WBID #2	WB #2 Name	WB #2 Status	WB #2 TMDL	WB #2 Conceptual BMPs
607716	Bridge	SPRINGFIELD- VIADUCT DECK REPLACEMENT OF S-24-061 ON I-91 (EARLY ACTION)	I-91	Springfield	3	Vanasse Hangen Brustlin, Inc. & CME	MassDOT	Yes	No	FALSE	FALSE	FALSE	FALSE	1	MA34-05	Connecticut River	Impaired	N/A	20 catch basins will be replaced with deep sump catch basins. No other BMPs are propopsed.					
607731	Other	Westfield - Improvements & Related Work on Route 20, Court Street & Western Avenue, Lloyds Hill Road to High Stret/Mill Street Intersection (Phase II)	Western Avenue/Court Street, Lloyds Hill Road, West Silver Street	Westfield	2	Milone & MacBroom	Municipality	Yes	No	FALSE	FALSE	FALSE	FALSE	1	MA32-05	Westfield River	Impaired	N/A	This project will use deep sump CB's to collect runoff which will ultimately discharge to the Westfield River.					
607732	Other	DISTRICT 3 - DEMOLITION OF LEGACY TOLL PLAZAS ALONG I-90, Toll Plaza No. 11A in Hopkinton, MA	I-90	Statewide/ Hopkinton, MA	3	AECOM	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	1	MA82A-01	Sudbury River	Not Impaired	N/A	No BMP is currently proposed in this project. The site drains into MA82A-01 Sudbury River which is not impaired. MA82A-01 is within the greater Concord River watershed which has a draft TMDL for pathogens.					
607773	Other	North Andover - Safe Routes to School (North Andover Middle School)	Massachusetts Avenue & Greene Street	North Andover	4	TEC, Inc.	Municipality	Yes	Yes	TRUE	FALSE	FALSE	FALSE	1	MA83-19	Shawsheen River	Impaired	Bacteria/Pathogens	This proposed pedestrian safety improvement project includes construction of approximately 6,000 feet of sidewalk, new signs and pavement markings and drainage improvements. A majority of work is construction of new sidewalk, therefore resulting in a slight net increase in impervious area totaling approximately 0.5 acres. This project proposes fourteen (14) new catch basins with hoods and 4-foot deep sumps.					
607776	Other	CLIPPERSHIP PARK AT THE MEDFORD SENIOR CENTER	Clippership Drive and Riverside Ave	Medford	4	Pare Corporation	Municipality	Yes	No	FALSE	FALSE	FALSE	FALSE	1	MA71-02	Mystic River	Impaired	Bacteria/Pathogens	An underground infiltration system has been proposed to treat runoff for both water quality and recharge. The system will also provide storage volume and mitigate stormwater during storms.					
607839	Highway Reconstruction	West Boylston - Stormwater Improvements on Beaman Street (Route 140) at the Wachusett Reservoir	Beaman Street / Route 140	West Boylston	3	Tighe & Bond, Inc.	Other Agency	Yes	Yes	FALSE	FALSE	FALSE	TRUE	1	MA81147	Wachusett Reservoir	Impaired	N/A	A new stormwater system will be installed including deep sump, hooded catch basins, stormwater treatment units, hazardous chemical spill containment structures, and stormwater quality basins with lined forebays and low energy discharges. Clean overland flow will be segregated from the proposed closed stormwater system to reduce the required size of structural BMPs, and conveyed through a vegetated drainage swale.					
607851	Bridge	LOWELL- BRIDGE REPLACEMENT, L-15-058, VFW HIGHWAY OVER BEAVER BROOK	VFW Highway	Lowell	4	TranSystems	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	2	MA84A-11	Beaver Brook	Impaired	Bacteria/Pathogens	Deep sump catch basins will be installed on the new bridge.	MA84A-02	Merrimack	Impaired	Bacteria/Pathogens	Deep sump catch basins will be installed on the new bridge.
607851	Other	DISTRICT 3 - DEMOLITION OF LEGACY TOLL PLAZAS ALONG I-90, Toll Plaza No. 10 in Auburn, MA	I-90	Statewide	3	AECOM	MassDOT	No	Yes	TRUE	FALSE	FALSE	TRUE	1	MA51-16	Dark Brook	Impaired	Phosphorus	No BMPs are proposed in this project. According to Impaired Waters Assessment for Dark Brook (MA51-16) (December 2011), stormwater runoff from Toll Plaza #10 area was not considered direct runoff to MA51-16 impairment.					
607888	Other	Natick-Cochituate Rail-Trail Construction	N/A	Natick	3	BETA	Municipality	No	Yes	TRUE	FALSE	FALSE	TRUE	3	MA82125	Lake Cochituate	Impaired	N/A	The conceptual BMPs considered for the project include infiltration trenches parallel to the CRT alignment, as well as a bioretention cell at the spur trail.	MA82126	Lake Cochituate	Impaired	N/A	The conceptual BMPs considered for the project include infiltration trenches parallel to the CRT alignment, as well as a bioretention cell at the spur trail.
607892	Other	Boston/Brookline- Multi-use Path Construction on Fenway	None	Boston/Brookline	6	HDR Engineering	Other	Yes	Yes	TRUE	FALSE	FALSE	TRUE	1	MA72-11	Muddy River	Impaired	Bacteria/Pathogens	The Project will minimize the creation of steep slopes and preserve as much existing vegetation and riparian buffers as possible					

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608006	Other	Somerville - Safe Routes to School (Healey School)	Mystic Avenue & Temple Street	Somerville	4	TEC, Inc.	Municipality	Yes	Yes	TRUE	FALSE	FALSE	FALSE	1	MA71-03	Mystic River	Impaired	Bacteria/Pathogens	The proposed pedestrian safety improvement project includes reconstruction of approximately 600 feet of sidewalk, MBTA Bus Pull-Outs, pavement resurfacing, new signs and pavement markings and minor drainage improvements. The MBTA Bus Pull-Outs propose some additional impervious area however they are balanced by additional greenspace; and therefore result in no net increase in impervious area. The implementation of BMP's is not feasible due to limited right-of-way and the adjacent I-93 viaduct.					
608041	Highway Reconstruction	Boylston - West Boylston - Stormwater Improvements on Route 140 at the Wachusett Reservoir South Bay	Temple Street (Rte 140), West Boylston Street (Rte 140)	West Boylston, Boylston	3	Tighe & Bond, Inc.	Other Agency	Yes	Yes	FALSE	FALSE	FALSE	TRUE	1	MA81147	Wachusett Reservoir	Impaired	N/A	A new stormwater system will be installed including deep sump, hooded catch basins, stormwater treatment units, hazardous chemical spill containment structures, and stormwater quality basins with lined forebays and low energy discharges. Stormwater collection methods will vary between closed and open systems based on terrain. A vegetative swale will be employed in areas where a closed collection system cannot be installed.					
608043	Highway Reconstruction	WAREHAM-RECONSTRUCTION OF ROUTE 6 & 28	ROUTE 6 & 28 (CRANBERRY HIGHWAY)	WAREHAM	5	Vanasse Hangen Brustlin, Inc.	MassDOT	No	Yes	TRUE	FALSE	FALSE	FALSE	1	MA95038	Dicks Pond	Not Impaired	N/A	Four "Wet Pond" basins have been proposed to treat stormwater runoff before it discharges to Dicks Pond. The basins have been designed with sediment forebays for pretreatment and have been sized to treat the 0.5" water quality volume.					
608075	Other	Pedestrian Hybrid Beacon Installation At Route 9 And Maynard Road	Route 9 and Maynard Road	Framingham	3	Vanasse Hangen Brustlin, Inc.	MassDOT	No	Yes	TRUE	FALSE	FALSE	TRUE	1	MA82A-26	Sudbury River	Impaired	N/A	No stormwater management improvements are proposed. Project consists of a cross walk, minor modifications to the paved median and installation of a Pedestrian Hybrid Beacon.					
608075	Intersection	LAWRENCE-INTERSECTION IMPROVEMENTS AT LAWRENCE STREET AND PARK STREET	LAWRENCE STREET, PARK STREET	LAWRENCE	4	TEC, INC.	Municipality	Yes	No	FALSE	FALSE	FALSE	FALSE	1	MA84A-10	Spicket River	Impaired	Bacteria/Pathogens	Heavily urbanized intersection- Spatial constraints limit BMP implementation.					

75% Submissions

Project Number	Project Type	Project Name	Project Road	Project Towns	District	Design Firm	WPA Filing	Change Impervious Area	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Impacted Impaired Waterbodies	WBID #1	WB #1 Name	WB#1 Status	WB #1 BMPs	WB #1 DSCBs	WB #1 BMP Notes	WBID #2	WB #2 Name	WB #2 Status	WB #2 BMPs	WB #2 DSCBs	WB #2 BMP Notes
117106	Highway Reconstructi on	WAREHAM- RECONSTRUCTION OF ROUTE 6 & 28	ROUTE 6 & 28 (CRANBERRY HIGHWAY)	WAREHAM	5	Vanasse Hangen Brustlin, Inc.	NOI	98245	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	MA95038	Dicks Pond	Not Impaired	2	23	At the lowpoint of the road, directly adjacent to Dicks Pond, the elevations of the drainage system is very low and is unable to be treated in a BMP. At this location approximately 1.2 acres is discharged directly to the wetland.						
601426	Highway Reconstructi on	BILLERICA- RECONSTRUCTION OF ALLEN ROAD, FROM ROUTE 3A TO WEBB BROOK ROAD (5,400 FEET)	Allen Road	Billerica	4	BETA Group, Inc.	NOI	69700	1	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	MA83-17	Shawsheen River	Impaired	7	61	Right-of-way is limited throughout the project corridor and BMPs have been installed where possible.						
601986	Bridge	ANDOVER- BRIDGE REPLACEMENT, A-09-011, STATE ROUTE 28 (NORTH MAIN STREET) OVER MBTA RR	State Route 28 (North Main Street	Andover	4	Greenman-Pedersen, Inc.	Bridge Exempt	0	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	MA83-19	Shawsheen River	Impaired	0	3	The project involves the replacement of an existing bridge superstructure in which the proposed design is the functional equivalent of the existing structure on a similar alignment. The existing cross section will be maintained. All existing catch basins are being replaced by deep sump catch basins.						
602280	Highway Reconstructi on	RECONSTRUCTION OF HOUSATONIC STREET, FROM ROUTE 8 & 9 TO ROUTE 8	Housatonic Street	Dalton	1	Greenman-Pedersen, Inc	NOI	53317	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	MA21-02	East Branch Housatonic River	Impaired	1	84	The proximity of wetlands to the roadway, steep slopes, high groundwater and limited ROW prohibit the installation of additional BMP's.						
603893	Highway Reconstructi on	Dartmouth- Padanarum Bridge Causeway Reconstruction, D-04-002, Bridge Street over Apponagansett River	Gulf Road and Smith Neck Road	Dartmouth	5	VHB	NOI	3800	1	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	MA95-39	Apponagansett River	Impaired	0	13	The existing Padanaram Causeway and Swing Bridge provide a crossing of Apponagansett Bay. The Causeway is constructed in a low fill section that directly abuts coastal wetland resource areas including Coastal Bank, Coastal Beach, Tidal Flat, Salt Marsh, and Salt Pond. The small difference in elevation between the road surface on the causeway and tidal water limits the depth of sumps that can be used in catch basins. Three catch basins will have 2.0 foot deep sumps, six catch basins will have 2.5 foot deep sumps and four catch basins will have 3.0 foot sumps. There were no practicable BMPs that could be retrofitted into the causeway. The project will decrease the area of paved roadway by -0.05 acres, however the addition of new sidewalk and reconstruction of wider sidewalks will result in an increase in overall impervious surface for the project by 0.09 acres.						
603893	Highway Reconstructi on	Dartmouth- Padanarum Bridge Causeway Reconstruction, D-04-002, Bridge Street over Apponagansett River	Gulf Road and Smith Neck Road	Dartmouth	5	VHB	NOI	3800	1	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	MA95-39	Apponagansett River	Impaired	0	13	The existing Padanaram Causeway and Swing Bridge provide a crossing of Apponagansett Bay. The Causeway is constructed in a low fill section that directly abuts coastal wetland resource areas including Coastal Bank, Coastal Beach, Tidal Flat, Salt Marsh, and Salt Pond. The small difference in elevation between the road surface on the causeway and tidal water limits the depth of sumps that can be used in catch basins. Three catch basins will have 2.0 foot deep sumps, six catch basins will have 2.5 foot deep sumps and four catch basins will have 3.0 foot sumps. There were no practicable BMPs that could be retrofitted into the causeway. The project will decrease the area of paved roadway by -0.05 acres, however the addition of new sidewalk and reconstruction of wider sidewalks will result in an increase in overall impervious surface for the project by 0.09 acres.						
604035	Intersection	HADLEY - SIGNAL & INTERSECTION IMPROVEMENTS AT ROUTE 9 (RUSSELL SREET) AND ROUTE 47 (MIDDLE STREET)	ROUTE 9 (RUSSELL SREET) AND ROUTE 47 (MIDDLE STREET)	HADLEY	2	BAYSIDE ENGINEERING, INC.	None	16824	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	MA34-04	Connecticut River	Impaired	0	20	The proposed project is planned within an existing constrained right-of-way in an area with extensive historic properties. These constraints make implementing new BMPs difficult without ROW alterations or land acquisitions, and/or change in use of historic properties.						
604488	Other	Dennis-Yarmouth-Cape Cod Rail Trail Extension, Includes 2 Bridges in Dennis, CCRT over Route 134 & Yarmouth, CCRT over Station Avenue	Cape Cod Rail Right-of-Way	Town of Dennis	5	Vanasse Hangen Brustlin, Inc and CDM Smith Inc.	NOI	265720	1	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	MA96-12	Bass River	Impaired	1	0	The CCRT Extension project is located in the coastal zone, does not include any new outfalls with direct discharge to Waters of the Commonwealth, and is not a land use with potential higher pollutant loads, therefore primary stormwater standards are nos. 3, 8 and 9. These will be met by designing project with country drainage style system to promote groundwater recharge [3], developing a comprehensive construction Stormwater Pollution Prevention Plan [8], and developing a CCRT maintenance plan [9]. Country drainage style systems will be implemented along the whole trail.						
604675	Bridge	HOLDEN - BRIDGE REPLACEMENT, H-18-020, RIVER STREET OVER QUINAPOXET RIVER	River Street and Harris Street	Holden	3	C&C Consulting Engineers	Bridge Exempt	276	1	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	MA81-32	Quinapoxet River	Impairment Not Caused By Pollutant	3	0	The project area has a 49'-5" wide layout, which the project must stay within. This limits the use of many BMPs. The intent is to use modified rock fill with a geotextile fabric along the top of the retaining wall and at the areas the ends of curbs to provide a permeable area for water runoff.						
604796	Bridge	DEDHAM- BRIDGE REPLACEMENT, D-05-033, PROVIDENCE HIGHWAY OVER MOTHER BROOK	PROVIDENCE HIGHWAY	DEDHAM	6	BETA GROUP, INC	Bridge Exempt	218	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	MA73-28	Mother Brook	Impaired	0	5	This is a bridge replacement with little to no additional land (right-of-way) available to install BMPs - All existing catch basins within project limits will be repalced with deep sump catchbasins	MA72-07	Charles River	Impaired	0	4	This is a bridge replacement with little to no additional land (right-of-way) available to install BMPs - All existing catch basins within project limits will be repalced with deep sump catchbasins
604796	Bridge	DEDHAM- BRIDGE REPLACEMENT, D-05-033, PROVIDENCE HIGHWAY OVER MOTHER BROOK	PROVIDENCE HIGHWAY	DEDHAM	6	BETA GROUP, INC	Bridge Exempt	218	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	MA72-07	Charles River	Impaired	0	4	This is a bridge replacement with little to no additional land (right-of-way) available to install BMPs - All existing catch basins within project limits will be repalced with deep sump catchbasins						

Project Number	Project Type	Project Name	Project Road	Project Towns	District	Design Firm	WPA Filing	Change Impervious Area	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Impacted Impaired Waterbodies	WBID #1	WB #1 Name	WB#1 Status	WB #1 BMPs	WB #1 DSCBs	WB #1 BMP Notes	WBID #2	WB #2 Name	WB #2 Status	WB #2 BMPs	WB #2 DSCBs	WB #2 BMP Notes
604928	Highway Reconstructi on	RECONSTRUCTION OF MECHANIC STREET, FROM LAUREL STREET TO THE LEOMINSTER CONNECTOR	MECHANIC STREET	LEOMINSTER	3	CHA CONSULTIN G	NONE	7926	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	MA81-13	Monoosnuc Broo	Impaired	0	4	Project is located in a very urban seetting, sidewalks extend the the Layout limits in most cases, there are several buildings and retaining walls along the back of layout lines and the project is heavily filled with utilities.	MA81-04	North Nashua Riv	Impaired	0	12	Project is located in a very urban seetting, sidewalks extend the the Layout limits in most cases, there are several buildings and retaining walls along the back of layout lines and the project is heavily filled with utilities.
604928	Highway Reconstructi on	RECONSTRUCTION OF MECHANIC STREET, FROM LAUREL STREET TO THE LEOMINSTER CONNECTOR	MECHANIC STREET	LEOMINSTER	3	CHA CONSULTIN G	NONE	7926	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	MA81-04	North Nashua Riv	Impaired	0	12	Project is located in a very urban seetting, sidewalks extend the the Layout limits in most cases, there are several buildings and retaining walls along the back of layout lines and the project is heavily filled with utilities.						
605066	Intersection	Northampton-Intersection Improvements at Route 5 (Pleasant Street) and Conz Street	Pleasant Street / Conz Steet	Northampton	2	Nitsch Engineering	RDA	2232	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	MA34-04	Connecticut Rive	Impaired	0	12	As per recent test pits, existing subsurface soils are not conducive to underground recharge. Additionally, the highly developed nature of the existing land use prohibits the use of surface infiltration BMPs.						
605114	Highway Reconstructi on	Groveland - Rehabilitation on Route 97 (School Street & Salem Street)	School Street, Salem Street	Groveland	4	Bayside Engineering, Inc.	NOI	0	2	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	MA91010	Pentucket Pond	Impaired	0	4	The roadway project is in an area that is bordered by well developed properties or wetlands directly adjacent to the roadway sideslopes. Lack of space and restrictive soils severely limits BMP options.	MA84A-38	Unnamed Tribut	Not Impaired	4	59	The roadway project is in an area with well-developed properties or wetlands directly adjacent to the roadway sideslopes. Lack of space and restrictive soils severely limits BMP options.	
605114	Highway Reconstructi on	Groveland - Rehabilitation on Route 97 (School Street & Salem Street)	School Street, Salem Street	Groveland	4	Bayside Engineering, Inc.	NOI	0	2	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	MA84A-38	Unnamed Tribut	Not Impaired	4	59	The roadway project is in an area with well-developed properties or wetlands directly adjacent to the roadway sideslopes. Lack of space and restrictive soils severely limits BMP options.							
605146	Highway Reconstructi on	Salem - Reconstruction on Canal Street, from Washington Street and Mill Street to Loring Avenue and Jefferson Avenue	Canal Street, Washington Street, Mill Street, Loring Avenue, Jefferson Avenue	Salem	4	AECOM	None	-6390	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	MA93-54	Salem Harbor	Impaired	0	24	The City of Salem just completed drainage, sewer and water improvements on Canal Street as part of a long term solution to prevent or reduce the severity of flooding in the low areas of the South River Watershed. These improvements included enlarging the existing stormwater collection system on Canal Street to protect from the 100-year flood. The next phase of the project is to build a storage facility under the O'Keefe Parking Lot after our project of reconstructing Canal Street is complete. They will be installing proprietary systems upstream of the storage facility to treat for water quality. The drainage improvements proposed on our project are replacements of existing structures or minor improvements to the system in coordination with the work that the city has already done or is going to do.						
605181	Highway Reconstructi on	METHUEN- INTERCHANGE RECONSTRUCTION ON I-93 AT ROUTE 110/113 ROTARY, INCLUDING REMOVAL OF M-17-017 & M-17-018, REHAB OF M-17-007 & NEW BRIDGE CONSTRUCTION OF M-17-040	Route 110, Route 113, I-93	Methuen	4	Tetra Tech	Variance	209000	1	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	MA84A-03	Merrimack River	Impaired	6	178							
605368	Intersection	NORTH ATTLEBOROUGH- TRAFFIC SIGNAL AND INTERSECTION IMPROVEMENTS AT EAST WASHINGTON STREET (ROUTE 1), SOUTH WASHINGTON STREET AND HOPPIN HILL ROAD (ROUTE 120)	East Washington St (Route 1), South Washington St, Hoppin Hill Rd (Route 120)	North Attlebo	5	Nitsch Engineering, Inc.	NOI	8474	2	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	MA52-02	Ten Mile River	Impaired	0	5	The project is located within a heavily developed urban area, and there is limited space available for BMPs beyond the roadway itself. Proposed deep-sump catch basins are to be outletted to an existing closed drainage system which extends beyond the limits of project work.	MA52-07	Sevenmile River	Not Impaired	0	3	The project is located within a heavily developed urban area, and there is limited space available for BMPs beyond the roadway itself. Proposed deep-sump catch basins are to be outletted to an existing closed drainage system which extends beyond the limits of project work.
605368	Intersection	NORTH ATTLEBOROUGH- TRAFFIC SIGNAL AND INTERSECTION IMPROVEMENTS AT EAST WASHINGTON STREET (ROUTE 1), SOUTH WASHINGTON STREET AND HOPPIN HILL ROAD (ROUTE 120)	East Washington St (Route 1), South Washington St, Hoppin Hill Rd (Route 120)	North Attlebo	5	Nitsch Engineering, Inc.	NOI	8474	2	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	MA52-02	Ten Mile River	Impaired	0	5	The project is located within a heavily developed urban area, and there is limited space available for BMPs beyond the roadway itself. Proposed deep-sump catch basins are to be outletted to an existing closed drainage system which extends beyond the limits of project work.	MA52-07	Sevenmile River	Not Impaired	0	3	The project is located within a heavily developed urban area, and there is limited space available for BMPs beyond the roadway itself. Proposed deep-sump catch basins are to be outletted to an existing closed drainage system which extends beyond the limits of project work.
605511	Bridge	BOSTON- BRIDGE REMOVAL, B-16-367, CASEY OVERPASS OVER WASHINGTON STREET WITH AT-GRADE INTERSECTIONS	Arborway (Route 203)	Boston	6	HNTB	None	-56628	4	TRUE	FALSE	TRUE	FALSE	FALSE	TRUE	MA72-11	Muddy River	Impaired	20	135	The following site constraints prevent the installation of BMPs in certain areas: 1. BMPs cannot be installed in certain areas due to the need to maintain separation from existing subsurface utility infrastructure, tree roots, and a subway tunnel; 2. Some sections of the Right-of-Way are too narrow to accommodate BMPs outside of the travelled way; 3. Due to design constraints of infiltration BMPs, such as maintenance access requirements and structural limitations, infiltration BMPs have not been proposed beneath the proposed roadway; and 4. Areas near high points are unsuitable for infiltration since limited stormwater could be conveyed to the systems by gravity.	MA72-11	Muddy River	Impaired	20	0	See above description.	

Project Number	Project Type	Project Name	Project Road	Project Towns	District	Design Firm	WPA Filing	Change Impervious Area	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Impacted Impaired Waterbodies	WBID #1	WB #1 Name	WB#1 Status	WB #1 BMPs	WB #1 DSCBs	WB #1 BMP Notes	WBID #2	WB #2 Name	WB #2 Status	WB #2 BMPs	WB #2 DSCBs	WB #2 BMP Notes
605511	Bridge	BOSTON- BRIDGE REMOVAL, B-16-367, CASEY OVERPASS OVER WASHINGTON STREET WITH AT-GRADE INTERSECTIONS	Arborway (Route 203)	Boston	6	HNTB	None	-56628	4	TRUE	FALSE	TRUE	FALSE	FALSE	TRUE	MA72-11	Muddy River	Impaired	20	135	The following site constraints prevent the installation of BMPs in certain areas: 1. BMPs cannot be installed in certain areas due to the need to maintain separation from existing subsurface utility infrastructure, tree roots, and a subway tunnel; 2. Some sections of the Right-of-Way are too narrow to accommodate BMPs outside of the travelled way; 3. Due to design constraints of infiltration BMPs, such as maintenance access requirements and structural limitations, infiltration BMPs have not been proposed beneath the proposed roadway; and 4. Areas near high points are unsuitable for infiltration since limited stormwater could be conveyed to the systems by gravity.	MA72-11	Muddy River	Impaired	20	0	See WB# 1 description.
605559	Highway Reconstructi on	WARREN- RESURFACING & INTERSECTION IMPROVEMENTS AT ROUTE 67 & ROUTE 19 (TOWN CENTER), INCLUDES REHAB OF W-07-008	Route 67 and Route 19	Warren	2	Lenard Engineering, Inc.	NOI	-2484	1	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	MA36-15	Quaboag River	Not Impaired	2	23	The project occurs almost entirely within the footprint of existing roadway and sidewalk so there will be very little change in impervious area due to this project. Temporary BMP's include compost filter tubes and siltation fence at downstream boundaries of the proposed work area. Non-structural BMP's include ongoing street sweeping.						
605657	Highway Reconstructi on	Medway-Reconstruction on Route 109, from Holliston Street to 100 ft. west of Highland Street, includes Rehab of M-13-012.	Main Street (Rte. 109), Milford Street, Holliston Street	Medway	3	GPI - Greeman-Petersen, Inc.	NOI	-25221	2	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	MA72-34	Chicken Brook	Not Impaired	1	8		MA72-16	Bogastow Brook	Impaired	1	14	
605848	Hwy Reconstr - Added Capacity	Dartmouth-Improvements on Grand Army of the Republic Highway (U.S. Route 6) and Faunce Corner Road	U.S. Route 6, Faunce Corner Mall Road, Old Westport Road	Dartmouth	5	VHB, Inc.	RDA	22215	1	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	MA95-11	Paskamanset Riv	Not Impaired	0	21	The existing town and state layouts for the roads within the project area do not provide suitable areas for the incorporation of new BMPs. This is further limited by the presence of underground utilities and dense commercial development in the project area.						
605883	Bridge	DEDHAM - Needham Street over Great Ditch	Needham Street	Dedham	6	Dewberry Engineers Inc.	Bridge Exempt	7709	1	TRUE	FALSE	TRUE	FALSE	FALSE	TRUE	MA72-07	Charles River	Impaired	2	1	Additional impervious area is not concentrated in any specific location but is distributed along the length of the project due to the wider bridge being designed and the accompanying roadway widening needed to meet it. In addition, some of the new impervious areas is due to a proposed sidewalk along a portion of one side of the road.						
605895	Other	BELLINGHAM- BRIDGE DEMOLITION, B-06-011, ROUTE 126 OVER CSX RAILROAD (ABANDONED) & INSTALLATION OF BIKE PATH CULVERT	ROUTE 126	Bellingham	3	Tetra Tech	Bridge Exempt	558	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	MA51-36	Mill River	Impaired	0	3	This is a footprint bridge project. There very limited ROW, limiting the ability to install BMP's within the project limits.						
605964	Bridge	MILLBURY- BRIDGE REPLACEMENT, M-22-020, ROUTE 146 (NB & SB) OVER WEST MAIN STREET & IMPROVEMENTS ON ROUTE 146 @ ELM STREET, ELMWOOD STREET & WEST MAIN STREET (ROUNDAABOUT)	Route 146, West Main Street, Elm Street, Elmwood Street, Faron Circle, Elm Court	Millbury	3	Greenman-Pedersen, Inc. (GPI)	Bridge Exempt	45200	2	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	MA51-03	Blackstone River	Impaired	2	62	NA	MA51-31	Singletary Brook	Impaired	1	33	NA
606007	Resurfacing	Carver - Resurfacing and related work on Route 58 (Nain Street), from South Meadow Road to Purchase Street	Route 58 (Main Street)	Carver	5	Vanasse Hangen Brustlin, Inc.	NOI	43130	1	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	MA95-04	Weweantic River	Not Impaired	0	35	Very limited right of way within corridor with development, cranberry bogs and othe wetlands close to the edge of the roadway. A small bioretention area may be constructed in front of the library and town hall but will only receive water from a side road not within the project limits. Area draining to the bioretention area will be very small, approximatley 5,000 square feet of roadway. All catch basins will be converted to deep sump designs or maintained as existing deep sump basins.						
606146	Bridge	Dedham Street / I-95 Interchange	Dedham Street	Canton	6	AECOM	NOI	182224	2	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	MA73-02	Neponset River	Impaired	3	27	From BMP 30, a plunge pool or stilling basin is proposed at outfall of existing drainage pipe that is located between existing wetlands. Flow is maintained to this area via 3 CB's for stormwater management and maintain flow to low areas that receive runoff from roadway today. Remaining flow from 12 of 15 CB and surplus flow from stilling basin flows into new BMP 30 located in remaining available space that is located outside the flood plain. For BMP 40 a stilling basin and water quality swale is included in the design of the infiltration basin. For BMP 24, water quality for new impervious areas are proposed only due to available Right of way between the new ramp and existing wetland Q that takes stormwater south to the Railroad Track, under I95 before joining flow from BMP 30 on its way to the Neponset River.	MA73-25	Pecunit Brook	Impaired	5	17	BMP 20 collects stormwater from the new on-ramp and existing I-95 SB highway flow. BMP 22 collects stormwater from the low point in Dedham Street from the new off-ramp to Shawmut Ave and the off-ramp from Dedham Street to the low point. BMP 19 collects stormwater along Dedham Street from the I-95 bridge to the new off-ramp. BMP-32 collects stormwater from the adjacent site and Sawmut Ave intersection. Existing low area called point of interest 35 handles the same flow as existing only all will be pretreated by Catch Basins to direct flow from Sawmut Ave to Kirby Street. Overflow from 35 will be directed into 32.
606394	Intersection	BARNSTABLE- INTERSECTION IMPROVEMENTS AT FALMOUTH ROAD (ROUTE 28) AND BEARSES WAY	Falmouth Road (Route 28) & Bearses Way	Barnstable	5	Howard/Stein-Hudson Associates, Inc.	NOI	64469	1	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	MA96-36	Lewis Bay	Impaired	16	33	Infiltration systems are leaching catch basins						

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606417	Bridge	Retaining Wall Replacement on Route 9 Adjacent to C-21-023 over Westfield Brook	Route 9	Cummington	1	MassDOT	Bridge Exempt	0	1	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	MA32-04	Westfield River	Not Impaired	1	0	The project is limited in scope to the replacement of sections of a bridge wingwall and slope repair. The slope is high and steep. No BMPs can be installed on the project site due to topography and the limited site and scope.						
606433	Other	Nantucket - Multi use path construction from Washington Street to Orange Street	Washington Street, Goose Pond Lane, Orange Street	Nantucket	5	Vanasse Hangen Brustlin, Inc.	NOI	8750	1	FALSE	TRUE	TRUE	FALSE	TRUE	FALSE	FALSE	MA97-01	Nantucket Harbor	Impaired	0	1	Developed area of the island except for the path alignment across a former railroad bed with wetlands and salt marsh on both sides. No opportunity to install BMPs to treat runoff from the path.						
606445	Resurfacing	Longmeadow- Resurfacing and Related Work on Converse Street from Laurel Street to Dwight Street	Converse Street	Longmeadow	2	Town of Longmeadow	RDA	16680	1	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	MA34-05	Connecticut River	Impaired	0	0	BMPs will not be required for this project.						
606461	Intersection	ORLEANS- INTERSECTION IMPROVEMENTS AT 2 LOCATIONS: CRANBERRY HIGHWAY (ROUTE 6A) AND MAIN STREET; CHATHAM ROAD (ROUTE 28) AND MAIN STREET	Rte 6A and Main Street and Rte 28 and Main Street	Orleans	5	Greenman-Pedersen, Inc.	None	7274	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	MA96-88	Cedar Pond	Impaired	0	3	This is an intersection improvement project with limited ROW, and the project is not adjacent to the outfall of the closed drainage system.	MA96-68	Town Cove	Impaired	1	20	The Towns existing underground infiltration system will take flow from the project. Due to limited ROW, other BMP's were not selected.
606485	Highway Reconstruction	Millbury-Sutton - Median Barrier Replacement on Route 146, From 122A to Boston Road	Route 146	Millbury, Sutton	3	In House, HQ	RDA	0	4	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	MA51-03	Blackstone River	Impaired	0	0	Drainage not included in the scope of work	MA51-31	Singletary Brook	Impaired	0	0	Drainage not included in the scope of work
606485	Highway Reconstruction	Millbury-Sutton - Median Barrier Replacement on Route 146, From 122A to Boston Road	Route 146	Millbury, Sutton	3	In House, HQ	RDA	0	4	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	MA51-31	Singletary Brook	Impaired	0	0	Drainage not included in the scope of work	MA51059	Hathaway Pond	Not Impaired	0		0 Drainage not included in the scope of work.
606485	Highway Reconstruction	Millbury-Sutton - Median Barrier Replacement on Route 146, From 122A to Boston Road	Route 146	Millbury, Sutton	3	In House, HQ	RDA	0	4	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	MA51-31	Singletary Brook	Impaired	0	0	Drainage not included in the scope of work	MA51093	Marble Pond	Impaired	0		0 One infiltration swale is proposed to treat runoff discharging to Marble pond under another project (608060).
606503	Other	Newburyport - Clipper City Rail Trail Along the City Branch (Phase II)	Parker Street, High Street, Alter Court, Barton Court, Bromfield Court, Chestnut Street, Hancock Street, Purchase Street, Harrison Street, Water Street, Custom House Way	Newbury, New	4	Stantec Planning and Landscape Architecture	NOI	73747	2	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	MA84A-06	Merrimack River	Impaired	20	0	Project area is constrained within the existing right-of-way and by easements to only 10 to 12 feet wide in sections. The majority of the proposed pathway is not subject to vehicular loads therefore not subject to TSS loading. Stormwater runoff from areas of roadway/parking areas will be pretreated through water quality structures prior to being sent to BMPs. Stormwater BMPs will primarily consist of preforated HDPE pipe embedded inside stone trenches (Infiltration Trenches) and pre-cast leaching structures. Additionally, subsurface infiltration/detention structures and water quality structures shall be installed in select areas. Generally, subsoils consist of loose sand and gravels (HSG=A), with high infiltration soils.	MA91-11	Little River	Impaired	2	0	A portion of the site has a high groundwater table and poor soil conditions, therefore the installation of BMP is not achievable in a small section. Stormwater BMPs include infiltration trench and leaching basin.
606686	Resurfacing	Warren-Resurfacing and Related Work on Route 67 at West Warren and Warren Town Centers	Main Street (Route 67)	Warren, West	2	MassDOT	Other	0	1	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	MA36-15	Quaboag River	Not Impaired	1	1	Resurfacing, line painting project with no changes to stormwater structures or increase in impervious areas. Project limited to highway layout at various locations.						
606729	Highway Reconstruction	Taunton-Reconstruction on County Street (Route 140) from the Route 24 (SB Off Ramp) Northerly to Mozzone Boulevard.	Route 140 (County Street)	Taunton	5	MassDOT District Five Projects Section	NOI	11656	1	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	MA62-41	Cotley River	Not Impaired	1	22	MassDOT Right-of-Way within the project limits is constricted and will not allow for other stormwater BMPs without impact to adjacent wetlands.						
606733	Bridge	BOSTON- BRIDGE REHABILITATION, B-16-059 & B-16-058, MARKET STREET, OVER I-90 & MBTA/CSX & EVERETT STREET, OVER COMBINED LINCOLN STREET, I-90, CSX, MBTA & BRAintree STREET	Everett Street	Boston	6	Collins Engineering	RDA	0	1	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	MA72-36	Charles River	Impaired	0	0	This project is a preservation of an existing bridge. No additional impervious material is being added to the superstructure and therefore no additional stormwater runoff will be generated. Therefore, no BMPs are proposed to be installed since no additional runoff will make its way to the protected Charles River Watershed.						
606733	Bridge	BOSTON- BRIDGE REHABILITATION, B-16-059 & B-16-058, MARKET STREET, OVER I-90 & MBTA/CSX & EVERETT STREET, OVER COMBINED LINCOLN STREET, I-90, CSX, MBTA & BRAintree STREET	Everett Street	Boston	6	Collins Engineering	RDA	0	1	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	MA72-36	Charles River	Impaired	0	0	This project is a preservation of an existing bridge. No additional impervious material is being added to the superstructure and therefore no additional stormwater runoff will be generated. Therefore, no BMPs are proposed to be installed since no additional runoff will make its way to the protected Charles River Watershed.						
607207	Highway Reconstruction	Amherst - Pelham - Reconstruction of Amherst Road, from 8-- feet east of Enfield Road to Route 202 (2.5 Miles - Phase II)	Amherst Road	Pelham	2	VHB, Inc.	NOI	51600	1	TRUE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	MA34-35	Amethyst Brook	Not Impaired	16	34	In addition to the 34 deep sump catch basins, there are 22 deep sump drop inlets.						
607209	Other	Reconstruction of Beacon Street, from Oxford Street to Cambridge City Line	Beacon Street	Somerville/Cam	4	Design Consultants, INC	None	-5863	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	MA72-38	Charles River	Impaired	0	52	Beacon Street is a densely populated street where existing structures are located directly on the edge of the Right of Way along the entire length of the project. Travel lanes, cycle tracks, and sidewalks, make up the entire width of the Right of Way allowing no extra space for the installation of any BMPs other than deep sump catch basins. The proposed deep sump catch basins will be an improvement to the existing drainage system.						
607222	Intersection	Greenfield - Intersection Improvements at Routes 5/10 & Cheapside St.	Deerfield St.(Route 5/10), Cheapside St.	Greenfield	2	MassDOT - District 2 Project Section	RDA	262	1	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	MA33-04	Deerfield River	Not Impaired	2	2	BMPs are not proposed for this project because runoff from the project limits does not drain to an impaired water. Proposed catch basins will have deep sumps.						

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607239	Highway Reconstruction	MONTAGUE-CANALSIDE BIKE PATH & PEDESTRIAN CROSSING IMPROVEMENTS, MONTAGUE CITY ROAD AT SOLAR AVENUE & DEPOT STREET (850 FEET)	Montague City Road	Montague City	2	Stantec Consulting Services Inc.	RDA	2700	1	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	MA34-03	Connecticut River	Impaired	0	8	This project is a reconstruction / reconfiguration of an existing roadway. All proposed drainage structures will be connected to the existing drainage system prior to discharge to jurisdictional resource areas. On the west side, the roadway layout line is along existing sidewalks providing no opportunity to install BMP's within the layout. On the east side, there is a steep slope not far from the existing roadway edge and parking lot.						
607314	Bridge	Rehoboth - Emergency Repair of Culvert R-04-002 on Wheeler Street	Wheeler Street	Rehoboth	5	Greenman-Pedersen, Inc. (GPI)	Bridge Exempt	485	1	TRUE	TRUE	FALSE	TRUE	TRUE	FALSE	MA53-04	Palmer River	Impaired	1	0	This site does not have any curb, allowing runoff to travel off the pavement and run thru woods prior to entering waterbody. A grass swale is proposed along one quadrant of the culvert and discharges to the waterbody.						
607321	Highway Reconstruction	Templeton - Roadway Resurfacing & Related Work on a Section of Route 68 from the Gardner T.L. to the end of the State Highway limit.	Route 68 (State Rd and Gardner Rd)	Templeton	2	MASSDOT D2	NOI	10460	4	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	MA35-08	Otter River	Impaired	3	1	This segment of the Otter River is primarily south of the western half of the project. One deep sump catch basin is being reconstructed to connect to an existing catch basin (which will be modified to a manhole). Existing paved waterways will be replicated/maintained and existing country drainage will be retained. No additional drainage structures/deep sump catch basins will be constructed in keeping with the 3-R rating for the project. Stormwater drainage flows into existing catch basins and paved waterways or country drainage. The basins/paved waterways outfall at headwalls into existing streams/brooks or swales and overland flow through grass, woods, or undeveloped land prior to eventually reaching the Otter River. The project is primarily resurfacing with sidewalk reconstruction the entire length and some widening of the roadway - therefore the 3-R applies to the project.	MA35018	Depot Pond	Impaired	2	0	The western end of the project may potentially discharge towards Depot Pond and/or the Otter River. Existing Paved Waterways will be replicated. No additional deep sump catch basins/drainage structures will be constructed in keeping with the 3-R rating for this project. Stormwater drainage flows into existing catch basins and paved waterways or country drainage. The basins/paved waterways outfall at headwalls into existing streams/brooks/swales and overland flow through grass, woods, or undeveloped land prior to eventually reaching the Depot Pond or Otter River. The project is primarily resurfacing with sidewalk reconstruction the entire length and
607321	Highway Reconstruction	Templeton - Roadway Resurfacing & Related Work on a Section of Route 68 from the Gardner T.L. to the end of the State Highway limit.	Route 68 (State Rd and Gardner Rd)	Templeton	2	MASSDOT D2	NOI	10460	4	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	MA35029	Hichey Pond	Impaired	2	0	It is not anticipated that the project discharges/drains towards Hichey Pond; as this is located beyond the eastern and northern limits of the project. The project is at a lower elevation than Hichey Pond.						
607453	Highway Reconstruction	Southampton - Safe Routes to School (William E. Norris Elementary)	College Highway (Route 10) and Pomeroy Meadow Road	Southampton	2	TEC, Inc.	None	17425	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	MA34-10	Manhan River	Not Impaired	0	8	This proposed pedestrian safety improvement project includes construction of approximately 2,700 feet of sidewalk, new signs and pavement markings and minor drainage improvements. A majority of work is construction of new sidewalk, therefore resulting in a slight net increase in impervious area totaling approximately 0.4 acres. This project proposes eight (8) new catch basins with hoods and 4-foot deep sumps. Please note that our survey does not show the main drain line on Route 10 as we were unable to obtain record plans showing this drain line. As such, TEC has assumed that stormwater runoff from this project may empty into two adjacent waterbodies. TEC is continuing to work with the Town to obtain any available plans.	MA34-12	Potash Brook	Not Impaired	0	8	This proposed pedestrian safety improvement project includes construction of approximately 2,700 feet of sidewalk, new signs and pavement markings and minor drainage improvements. A majority of work is construction of new sidewalk, therefore resulting in a slight net increase in impervious area totaling approximately 0.4 acres. This project proposes eight (8) new catch basins with hoods and 4-foot deep sumps. Please note that our survey does not show the main drain line on Route 10 as we were unable to obtain record plans showing this drain line. As such, TEC has assumed that stormwater runoff from this project may empty into two adjacent
607716	Other	MANSFIELD-SIDEWALK CONSTRUCTION & RELATED WORK ON EAST STREET AT THE JORDAN-JACKSON ELEMENTARY SCHOOL (SRTS)	East Street, Park Street, Hope Street	Mansfield	5	TEC, Inc.	NOI	3988	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	MA62-27	Canoe River	Not Impaired	1	12	The basin will treat the required WQv for the impervious cover added by the proposed sidewalks.						
607730	Bridge	FALL RIVER/NEW BEDFORD-BRIDGE REPLACEMENTS, F-02-091 CLUB ROAD OVER MACC RR, F-02-029, MACC RR OVER BROWNELL STREET, F-02-030, MAC RR OVER PRESIDENT AVENUE, AND N-06-024, MAC RR OVER ROUTE 18 AND WAMPSUTTA STREET	Country Club Road, Wampsutta St, Route 18, Brownell St	NEW BEDFORD	5	VHB, Inc.	None	-5660	1	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	MA62-04	Taunton River	Impaired	0	4	Existing swales within project limits will be regraded as drainage from project enters the swales.						
607731	Bridge		I-91, I-291, E/W Columbus Avenue	Springfield	2	VHB & CME	Bridge Exempt	900	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	MA34-05	Connecticut River	Impaired	9	11	There is no opportunity to provide BMPs for the southern portion of the viaduct because there are two parking garages and city streets under the viaduct.						
607776	Other	North Andover - Safe Routes to School (North Andover Middle School)	Massachusetts Avenue & Greene Street	North Andover	4	TEC, Inc.	None	21520	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	MA83-19	Shawsheen River	Impaired	0	14	This proposed pedestrian safety improvement project includes construction of approximately 6,000 feet of sidewalk, new signs and pavement markings and drainage improvements. A majority of work is construction of new sidewalk, therefore resulting in a slight net increase in impervious area totaling approximately 0.5 acres. This project proposes fourteen (14) new catch basins with hoods and 4-foot deep sumps.						
607839	Other	CLIPPERSHIP PARK AT THE MEDFORD SENIOR CENTER	Clippership Drive and Riverside Avenue	Medford	4	Pare Corporation	None	5531	1	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	MA71-02	Mystic River	Impaired	1	0	The impervious surfaces proposed within the project are predominantly sidewalk/walkways that will not be subject to vehicular traffic and will produce minor pollutant loads. Due to the small area contributing to the drainage system, area drains with 3-foot sumps and outlet hoods have been proposed for pretreatment rather than deep sump catch basins.						

Project Number	Project Type	Project Name	Project Road	Project Towns	District	Design Firm	WPA Filing	Change Impervious Area	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Non Structural BMPs	Impacted Impaired Waterbodies	WBID #1	WB #1 Name	WB#1 Status	WB #1 BMPs	WB #1 DSCBs	WB #1 BMP Notes	WBID #2	WB #2 Name	WB #2 Status	WB #2 BMPs	WB #2 DSCBs	WB #2 BMP Notes
607892	Other	Somerville - Safe Routes to School (Healey School)	Mystic Avenue & Temple Street	Somerville	4	TEC, Inc.	None	0	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	MA71-03	Mystic River	Impaired	0	0	The proposed pedestrian safety improvement project includes reconstruction of approximately 600 feet of sidewalk, MBTA Bus Pull-Outs, pavement resurfacing, new signs and pavement markings and minor drainage improvements. The MBTA Bus Pull-Outs propose some additional impervious area however they are balanced by additional greenspace; and therefore result in no net increase in impervious area. The implementation of BMP's is not feasible due to limited right-of-way and the adjacent I-93 viaduct.						

BMPs Tracked through WQDF

Project Number	WBID	BMP ID/Description	Existing or Proposed	Latitude	Longitude	BMP Ownership	Impervious WS (sq.ft.)	Pervious WS (sq. ft.)	Total WS (sq. ft.)	Type of BMP Installed
117106	MA95038	Basin 1	Proposed	41.75931	-70.66182	MassDOT	48552	0	48552	Wet Pond/Swale
117106	MA95038	Basin 2	Proposed	41.75875	-70.66056	MassDOT	64485	0	64485	Wet Pond/Swale
601426	MA83-17	Allen Road Water Quality Basin	Proposed	42.53556	-71.23694	Municipality	218543	461429	679972	Extended Detention Basin
601426	MA83-17	Water Quality Inlet (+55)	Proposed	42.53944	-71.23917	Municipality	17539	50357	67896	Oil/Grit Separator
601426	MA83-17	Water Quality Inlet (+94)	Proposed	42.53972	-71.23917	Municipality	12266	38951	51217	Oil/Grit Separator
601426	MA83-17	House #188 Detention Basin	Proposed	42.5425	-71.23917	Municipality	282216	827997	1110213	Extended Detention Basin
601426	MA83-17	Webb Brook Detention Basin	Proposed	42.54417	-71.23472	Municipality	80934	65209	146143	Extended Detention Basin
601426	MA83-17	Boston Road Water Quality Basin	Proposed	42.535	-71.23472	Municipality	658369	961235	1619604	Extended Detention Basin
601426	MA83-17	Devonshire Outlet Sediment Trap	Proposed	42.53944	-71.23694	Municipality	649133	636279	1285412	Other
602280	MA21-02	Subcatchment 9	Proposed	42.46713	-73.14219	Municipality	27809	15878	43687	Wet Pond/Swale
		16+10R Sediment Forebay	Proposed	42.73608	-71.01724	Municipality	59940	0	59940	Other
605181	MA84A-03	Extended Detention Basin 1	Proposed	42.70606	-71.2096	MassDOT	768904	829317	1598221	Extended Detention Basin
605181	MA84A-03	Infiltration Basin 2	Proposed	42.70545	-71.21159	MassDOT	219228	254063	473291	Infiltration Basin
605181	MA84A-03	Wet Basin 3	Proposed	42.70455	-71.21372	MassDOT	190461	439163	629624	Wet Pond/Swale
605181	MA84A-03	Sediment Basin 2	Proposed	42.70448	-71.21278	MassDOT	144779	75217	219996	Other
605181	MA84A-03	Sediment Basin 3	Proposed	42.70515	-71.21269	MassDOT	45968	55372	101340	Other
605181	MA84A-03	Sediment Basin 8	Proposed	42.70488	-71.20958	MassDOT	60677	136199	196876	Other
605511	MA72-11	Subsurface Infiltration System #1	Proposed	42.30248	-71.11773	Other Agency	18082	5319	23401	Underground Infiltration Structure/System
605511	MA72-11	Subsurface Infiltration System #2	Proposed	42.30274	-71.11764	Other Agency	15028	28096	43124	Underground Infiltration Structure/System
605511	MA72-11	Subsurface Infiltration System #3	Proposed	42.30171	-71.11498	Other Agency	37313	7797	45110	Underground Infiltration Structure/System
605511	MA72-11	Subsurface Infiltration System #4	Proposed	42.30218	-71.11458	Other Agency	25592	7336	32928	Underground Infiltration Structure/System
605511	MA72-11	Subsurface Infiltration System #5	Proposed	42.30128	-71.10988	Other Agency	33062	20909	53971	Underground Infiltration Structure/System
605511	MA72-11	Subsurface Infiltration System #6	Proposed	42.30128	-71.10886	Other Agency	47393	15098	62491	Underground Infiltration Structure/System
605511	MA72-11	Subsurface Infiltration System #7	Proposed	42.30031	-71.10718	Municipality	24084	4556	28640	Underground Infiltration Structure/System
605511	MA72-11	Subsurface Infiltration System #8	Proposed	42.30081	-71.10656	Other Agency	25374	27639	53013	Underground Infiltration Structure/System
605511	MA72-11	Subsurface Infiltration System #9	Proposed	42.29949	-71.11423	Other Agency	25483	0	25483	Underground Infiltration Structure/System
605511	MA72-11	Subsurface Infiltration System #10	Proposed	42.30128	-71.11473	Other Agency	8799	11674	20473	Underground Infiltration Structure/System
605511	MA72-11	Subsurface Infiltration System #11	Proposed	42.3021	-71.11206	Other Agency	9596	21418	31014	Underground Infiltration Structure/System
605511	MA72-11	Subsurface Infiltration System #12	Proposed	42.30214	-71.11245	Other Agency	29881	0	29881	Underground Infiltration Structure/System
605511	MA72-11	Subsurface Infiltration System #13	Proposed	42.3019	-71.11041	Other Agency	7144	0	7144	Underground Infiltration Structure/System
605511	MA72-11	PROP. LB (1-02)	Proposed	42.30265	-71.11733	Other Agency	10454	1960	12414	Underground Infiltration Structure/System
605511	MA72-11	PROP. LB (1-06)	Proposed	42.30272	-71.11769	Other Agency	4574	26136	30710	Underground Infiltration Structure/System
605511	MA72-11	PROP. LB (1-10)	Proposed	42.30239	-71.11705	Other Agency	5449	1085	6534	Underground Infiltration Structure/System
605511	MA72-11	PROP. LB (1-13)	Proposed	42.30241	-71.11726	Other Agency	3790	1002	4792	Underground Infiltration Structure/System
605511	MA72-11	PROP. LB (11-50)	Proposed	42.30121	-71.11053	Other Agency	3441	575	4016	Underground Infiltration Structure/System
605511	MA72-11	PROP. LB (11-51)	Proposed	42.30121	-71.11008	Other Agency	8276	3703	11979	Underground Infiltration Structure/System
605511	MA72-11	PROP. LB (11-52)	Proposed	42.30108	-71.10824	Other Agency	5793	1612	7405	Underground Infiltration Structure/System
605559	MA36-15	Particle Seperator (Stokes Law Device)	Proposed	42.2128	-72.19383	Municipality	208217	178596	386813	Oil/Grit Separator
605559	MA36-15	Particle Seperator (Stokes Law Device)	Proposed	42.21271	-72.19446	Municipality	80586	118484	199070	Oil/Grit Separator
605657	MA72-34	Bioretention Area Bio-1	Proposed	42.14727	-71.42733	Municipality	30712	1438	32150	Bioretention Basin
605964	MA51-03	Infiltration Basin No. 1	Proposed	42.18769	-71.76709	MassDOT	21300	16000	37300	Infiltration Basin
605964	MA51-03	Infiltration Basin No. 2	Proposed	42.18734	-71.76657	MassDOT	61240	32600	93840	Infiltration Basin
606146	MA73-02	BMP 30 flows through floodplain to the tracks	Proposed	42.1939	-71.1535	Municipality	136516	55209	191725	Infiltration Basin
606146	MA73-02	BMP 40 discharges to city drainage system	Proposed	42.1903	-71.1507	Municipality	15155	12152	27307	Infiltration Basin
606146	MA73-02	BMP 24 flows to wetland Q and south to tracks	Proposed	42.189	-71.1532	MassDOT	73998	15292	89290	Infiltration Basin
606394	MA96-36	Infiltration System #1	Proposed	41.6642	-70.2942	MassDOT	10142	1484	11626	Underground Infiltration Structure/System
606394	MA96-36	Infiltration System #2	Proposed	41.664	-70.2941	MassDOT	8792	504	9296	Underground Infiltration Structure/System
606394	MA96-36	Infiltration System #3	Proposed	41.6633	-70.299	MassDOT	8675	2566	11241	Underground Infiltration Structure/System
606394	MA96-36	Infiltration System #4	Proposed	41.6634	-70.2993	MassDOT	10280	970	11250	Underground Infiltration Structure/System

Project Number	WBID	BMP ID/Description	Existing or Proposed	Latitude	Longitude	BMP Ownership	Impervious WS (sq.ft.)	Pervious WS (sq. ft.)	Total WS (sq. ft.)	Type of BMP Installed
606394	MA96-36	Infiltration System #5	Proposed	41.663	-70.2997	MassDOT	9632	3226	12858	Underground Infiltration Structure/System
606394	MA96-36	Infiltration System #6	Proposed	41.6626	-70.2994	MassDOT	4563	0	4563	Underground Infiltration Structure/System
606394	MA96-36	Infiltration System #7	Proposed	41.6639	-70.3008	MassDOT	16627	2812	19439	Underground Infiltration Structure/System
606394	MA96-36	Infiltration System #8	Proposed	41.6633	-70.3005	MassDOT	9466	7932	17398	Underground Infiltration Structure/System
606394	MA96-36	Infiltration System #9	Proposed	41.6632	-70.301	MassDOT	9420	183	9603	Underground Infiltration Structure/System
606394	MA96-36	Infiltration System #10	Proposed	41.6629	-70.3011	MassDOT	9201	2299	11500	Underground Infiltration Structure/System
606394	MA96-36	Infiltration System #11	Proposed	41.6628	-70.3025	MassDOT	7541	3564	11105	Underground Infiltration Structure/System
606394	MA96-36	Infiltration System #12	Proposed	41.6629	-70.3026	MassDOT	6553	1840	8393	Underground Infiltration Structure/System
606394	MA96-36	Infiltration System #13	Proposed	41.6628	-70.3033	MassDOT	4433	3160	7593	Underground Infiltration Structure/System
606394	MA96-36	Infiltration System #14	Proposed	41.6627	-70.3033	MassDOT	5654	3180	8834	Underground Infiltration Structure/System
606394	MA96-36	Porous Asphalt Pavement	Proposed	41.6637	-70.2976	MassDOT	0	1622	1622	Permeable Pavement
606394	MA96-36	Porous Asphalt Pavement	Proposed	41.6635	-70.2978	MassDOT	0	2057	2057	Permeable Pavement
		Leaching Field	Existing	41.78575	-69.98647	Municipality	278348	13466	291814	Underground Infiltration Structure/System
606503	MA84A-06	PDA-2: Leaching Basin 2	Proposed	42.80041	-70.80041	Municipality	5997	0	5997	Other
606503	MA84A-06	PDA-3: Leaching Basin 3	Proposed	42.80186	-70.86785	Municipality	2292	26683	28975	Other
606503	MA84A-06	PDA-3: Leaching Basin 4	Proposed	42.80182	-70.86525	Municipality	2292	4379	6671	Other
606503	MA84A-06	PDA-4: Leaching Basin 5	Proposed	42.8023	-70.86411	Municipality	6424	17000	23424	Other
606503	MA84A-06	PDA-4: Infiltration Trench 2	Proposed	42.80236	-70.86387	Municipality	1927	5950	7877	Other
606503	MA84A-06	PDA-5A: Water Quality Unit 1	Proposed	42.80288	-70.86302	Municipality	38250	0	38250	Oil/Grit Separator
606503	MA84A-06	PDA-5B: Water Quality Unit 2 (Alter Ct.)	Proposed	42.80314	-70.86235	Municipality	15000	0	15000	Oil/Grit Separator
606503	MA84A-06	PDA-5C: Water Quality Unit 3 (Bromfield Ct.)	Proposed	42.80351	-70.86212	Municipality	17000	0	17000	Oil/Grit Separator
606503	MA84A-06	PDA-5D_ Water Quality Unit 4 (Barton Ct.)	Proposed	42.80348	-70.86184	Municipality	22000	0	22000	Oil/Grit Separator
606503	MA84A-06	PDA_5A-5C: Subsurface Infiltration System 1	Proposed	42.80324	-70.8624	Municipality	85835	66597	152432	Underground Infiltration Structure/System
606503	MA84A-06	PDA_5D-5E: Subsurface Infiltration System 2	Proposed	42.80508	-70.86054	Municipality	37250	50795	88045	Underground Infiltration Structure/System
606503	MA84A-06	PDA-6: Infiltration Trench 3	Proposed	42.80635	-70.86027	Municipality	8714	9847	18561	Other
606503	MA84A-06	PDA-6: Subsurface Infiltration System 3	Proposed	42.80695	-70.86019	Municipality	12444	14068	26512	Underground Infiltration Structure/System
606503	MA84A-06	PDA-7: Infiltration Trench 4	Proposed	42.8095	-70.86113	Municipality	16793	39000	55793	Other
606503	MA84A-06	PDA-7: Leaching Basin 6	Proposed	42.8097	-70.86126	Municipality	8396	19500	27896	Other
606503	MA84A-06	PDA-7: Leaching Basin 7	Proposed	42.81049	-70.86283	Municipality	8396	19500	27896	Other
606503	MA84A-06	PDA-8: Leaching Basin 8	Proposed	42.81147	-70.86369	Municipality	3074	3372	6446	Other
606503	MA84A-06	PDA-8: Infiltration Trench 5	Proposed	42.81154	-70.86384	Municipality	6147	6745	12892	Other
606503	MA84A-06	PDA-8: Leaching Basin 9	Proposed	42.81116	-70.86429	Municipality	3074	3372	6446	Other
606503	MA84A-06	PDA-10: Water Quality Unit 5	Proposed	42.81176	-70.86588	Municipality	6787	3492	10279	Oil/Grit Separator
606686	MA36-15	Deep Sump Catch Basins	Existing	42.213421	-72.196741	Municipality	500	10000	10500	Other
606729	MA62-41	Deep Sump Catch Basins	Proposed	41.87311	-71.9425	MassDOT	102112	67995	170107	Other
607207	MA34-35	Water Quality Basin	Proposed	42.3755	-72.44304	Municipality	61200	68040	129240	Infiltration Basin
607207	MA34-35	Water Quality Swale Type E	Proposed	42.37556	-72.44297	Municipality	35000	48190	83190	Infiltration Swale
607207	MA34-35	Water Quality Swale Type B	Proposed	42.37568	-72.44316	Municipality	2800	5472	8272	Infiltration Swale
607207	MA34-35	Water Quality Swale Type B	Proposed	42.37578	-72.44272	Municipality	4200	8159	12359	Infiltration Swale
607207	MA34-35	Water Quality Swale Type B	Proposed	42.38036	-72.43378	Municipality	1310	5968	7278	Infiltration Swale
607207	MA34-35	Grass Swale	Proposed	42.38104	-72.43218	Municipality	14000	24938	38938	Infiltration Swale
607207	MA34-35	Water Quality Swale Type B	Proposed	42.38328	-72.42915	Municipality	19930	10565	30495	Infiltration Swale
607207	MA34-35	Water Quality Swale Type C	Proposed	42.38549	-72.42769	Municipality	4258	2570	6828	Infiltration Swale
607207	MA34-35	Grass Swale	Proposed	42.38755	-72.42453	Municipality	23800	24170	47970	Infiltration Swale
607207	MA34-35	Water Quality Swale Type A and B	Proposed	42.38971	-72.4209	Municipality	17150	8295	25445	Infiltration Swale
607207	MA34-35	Retain Exist Swale	Existing	42.39032	-72.41992	Municipality	11496	7154	18650	Infiltration Swale
607207	MA34-35	Water Quality Swale Type B	Proposed	42.39045	-72.41661	Municipality	11790	3316	15106	Infiltration Swale
607207	MA34-35	Water Quality Swale Type A and B	Proposed	42.39123	-72.41276	Municipality	9235	2175	11410	Infiltration Swale
607207	MA34-35	Water Quality Swale Type B	Proposed	42.39108	-72.41159	Municipality	6550	1780	8330	Infiltration Swale

Project Number	WBID	BMP ID/Description	Existing or Proposed	Latitude	Longitude	BMP Ownership	Impervious WS (sq.ft.)	Pervious WS (sq. ft.)	Total WS (sq. ft.)	Type of BMP Installed
607207	MA34-35	Water Quality Swale Type B	Proposed	42.39199	-72.40557	Municipality	4389	1220	5609	Infiltration Swale
607207	MA34-35	Water Quality Swale Type B	Proposed	42.39195	-72.40387	Municipality	4192	2802	6994	Infiltration Swale
607222	MA33-04	Deep Sump Catch Basin (Sta. 4+57 LT)	Proposed	42.57139	-72.59278	MassDOT	0	718	718	Other
607222	MA33-04	Deep Sump Catch Basin (Sta. 5+73 LT)	Proposed	42.57083	-72.5925	MassDOT	0	3252	3252	Other
607314	MA53-04	Grass Swale	Proposed	41.8122	-71.28432	Municipality	2207	0	2207	Other
607716	MA62-27	Infiltration Basin	Proposed	42.02895	-71.20294	Municipality	27636	7371	35007	Infiltration Basin
607731	MA34-05	Gravel Wetland No. 1	Proposed	42.10417	-72.59816	MassDOT	8028	0	8028	Gravel Wetland
607731	MA34-05	Gravel Wetland No. 2	Proposed	42.10454	-72.59895	MassDOT	23681	0	23681	Gravel Wetland
607731	MA34-05	Gravel Wetland No. 3	Proposed	42.10469	-72.59917	MassDOT	7506	0	7506	Gravel Wetland
607731	MA34-05	Gravel Wetland No. 4	Proposed	42.10468	-72.59917	MassDOT	6218	0	6218	Gravel Wetland
607731	MA34-05	Gravel Wetland No. 5	Proposed	42.10468	-72.59916	MassDOT	8273	0	8273	Gravel Wetland
604488	MA96-12	Country drainage style system	Proposed	41.69541	-70.16984	Other Agency	30361320	169187040	199548360	Infiltration Swale
604675	MA81-32	Modified Rock Fill	Proposed	42.37369	-71.82802	MassDOT	933	0	933	Other
604675	MA81-32	Modified Rock Fill	Proposed	42.37349	-71.82761	MassDOT	1115	0	1115	Other
604675	MA81-32	Modified Rock Fill	Proposed	42.37341	-71.8277	MassDOT	935	0	935	Other
607839	MA71-02	StormTech SC-740 or Approved Equivalent	Proposed	42.43081	-71.10775	Municipality	9261	6812	16073	Underground Infiltration Structure/System
607321	MA35-08	Vegetated Grass Strips	Existing	42.605	-72.06805	Other	9750	8100	17850	Vegetated Filter Strip
607321	MA35-08	Deep Sump Catch Basin	Proposed	42.605	-72.06805	MassDOT	9750	8100	17850	Infiltration Basin
606417	MA32-04	Vegetated slope maintained	Existing	42.4406	-72.92616	MassDOT	0	0	0	Other
605883	MA72-07	Level Spreader	Proposed	42.27101	-71.19093	Municipality	7843	2212	10055	Other
605883	MA72-07	Level Spreader	Proposed	42.27101	-71.19082	Municipality	5530	1489	7019	Other

Appendix F: Design Public Hearings Table

Date	Event	Event Type	Location
4/1/2014	Silver Line Gateway Design Public Hearing (Planning)	Design Public Hearing	Chelsea City Hall, 500 Broadway
4/1/2014	CHELSEA- BRIDGE REPLACEMENT, C-09-001, WASHINGTON AVENUE OVER THE MBTA AND B&M RAILROAD	Public Hearing	Chelsea City Hall, 500 Broadway, Chelsea, MA 02150
4/2/2014	WINCHESTER - Four Locations On Cambridge Street And Church Street	Design Public Hearing	Winchester Town Hall, Winchester Room 71 Mount Vernon Street Winchester, MA 01890
4/9/2014	MassDOT Board of Directors Meeting	Public Meeting	MassDOT Board Room, 10 Park Plaza, Room 3830, Boston, MA
4/9/2014	GreenDOT Advisory Group Meeting	Public Meeting	10 Park Plaza, Boston, MA, 02116 . Room 4150, Boston Common Conference Room.
4/10/2014	BOSTON- DECK RECONSTRUCTION OF THE BOSTON VIADUCT ON I-90 (B-16-359, MM 131.0-131.5, STR 111)	Public Information Meeting	The Jackson Mann Community Center Auditorium, 300 Cambridge Street, Allston, Massachusetts, 02134
4/16/2014	FALL RIVER- NEW BEDFORD- BRIDGE REPLACEMENTS, F-02-091, COUNTRY CLUB ROAD OVER MAC RR, F-02-029, MAC	Public Hearing	Heritage State Park Visitors Center, 200 Davol Street, Fall River, MA 02720
4/16/2014	WEST BROOKFIELD - Reconstruction on Rte 9, Rte 67 And Intersections At School Street	Design Public Hearing	Town Hall, Lower Level Conference Room 2 East Main Street West Brookfield, MA 01585
4/16/2014	BOSTON - Improvements Along Gainsborough And St. Botolph Streets	Design Public Hearing	YMCA Gymnasium, 316 Huntington Avenue Boston MA 02115
4/17/2014	FALL RIVER- NEW BEDFORD- BRIDGE REPLACEMENTS, F-02-091, COUNTRY CLUB ROAD OVER MAC RR, F-02-029,	Public Hearing	Brooklawn Park Community Center, 1997 Acushnet Avenue, New Bedford, MA 02745
4/17/2014	SALISBURY - Reconstruction Of Route 1 (Lafayette Road)	Public Information	Salisbury Town Hall, Town Hall Meeting Room 5 Beach Road Salisbury, MA 01952
4/22/2014	RTA Council Public Meeting	Public Meeting	Massachusetts Transportation Building, Secretary's Conference Room, 10 Park Plaza, 4th Floor, Room
4/29/2014	BOSTON - Construction Of New Parking Facility, Lot 5 Under Interstate 93	Design Public Hearing	MassDOT, 10 Park Plaza 2nd Floor, Conference Room 2 & 3 Boston, MA 02116
5/6/2014	BOSTON- LEVERETT CIRCLE PEDESTRIAN BRIDGE OVER ROUTE 28, I-93 RAMPS & STORROW DRIVE	Public Information	The West End Museum, 150 Staniford Street, Boston, MA 02114

5/7/2014	FALMOUTH-Intersection Improvements@N.Falmouth Hwy, Rte 28A & Nathan Ellis Hwy (Rte 151)	Public Information Meeting	Falmouth Main Library, in the Herman Meeting Room 300 Main Street, Falmouth, MA, 02540
5/9/2014	SCCCT Quarterly Meeting	Public Meeting	Ten Park Plaza (Transportation Building), 2nd floor conference rooms (5-6)
5/12/2014	Callahan Tunnel Vent Building Rehabilitation Project	Public Meeting	Maverick Landing Community Room, 31 Liverpool Street, East Boston
5/13/2014	MassDOT Energy Expo and Conference	Public Meeting	State Transportation Building 2nd Floor Atrium 10 Park Plaza Boston MA 02116
5/14/2014	MassDOT Board of Directors Meeting	Public Meeting	Lynn Council Chambers, 3 City Hall Sq, Lynn, MA 01901
5/14/2014	Community Path Public Meeting	Public Meeting	Holiday Inn, 30 Washington Street, Somerville
5/15/2014	READING - Reconstruction Of West Street From Woburn C.L. To Summer Ave/Willow Street	Public Information Meeting	Walter S. Parker Middle School 45 Temple Street Reading, MA 01867
5/20/2014	Project Selection Advisory Council - Public Hearing	Public Hearing	Berkshire Regional Planning Commission, 1 Fenn Street, Suite 201, Pittsfield, MA 01201
5/20/2014	Worcester- Public Meeting on the proposed changes to three RMV fees	Public Meeting	Central Mass. Regional Planning Commission, 2 Washington Square, 2nd Floor, Worcester, MA 01604
5/20/2014	Springfield-Design Public Hearing for the proposed Interstate I-91 Viaduct Rehabilitation Project	Public Hearing	Basketball Hall of Fame 1000 Hall of Fame Avenue Springfield, MA 01105-2538
5/21/2014	Public Private Partnership Oversight Commission Meeting	Public Meeting	State Transportation Building, 10 Park Plaza, Suite 3830, Boston, MA
5/22/2014	Boston-Public Hearing on the proposed changes to three RMV Fees	Public Hearing	State Transportation Building, 10 Park Plaza, 3rd Floor – MBTA Board Room, Boston, MA 02116
5/22/2014	CAMBRIDGE COMMON/FLAGSTAFF PARK PUBLIC MEETING	Public Information Meeting	Harvard's Larsen Hall, 1st floor 14 Appian Way, Cambridge MA 02138
5/22/2014	Boston-Public Meeting on the proposed changes to three RMV Fees	Public Meeting	State Transportation Building, 10 Park Plaza, 3rd Floor – MBTA Board Room, Boston, MA 02116

5/22/2014	ATTLEBORO - Ramp Reconstruction & Realignment From I-95 (SB) To I-295	Public Hearing	Attleboro City Hall 77 Park Street Attleboro, MA 02703
5/27/2014	Springfield-Public Meeting on the proposed changes to three RMV Fees	Public Meeting	Pioneer Valley Planning Commission 60 Congress Street Springfield, MA 01104
5/27/2014	WEST BRIDGEWATER- BRIDGE REPLACEMENT, W-18-012, ROUTE 106 (WEST CENTER STREET) OVER THE HOCKOMOCK RR	Public Hearing	The Howard School Cafeteria, 70 Howard Street, West Bridgewater, MA 02379
5/29/2014	Amherst,Northampton,Southampton,West Brookfield-Sidewalk And Wheelchair Ramp Construction	Public Information Meeting	Norris Elementary School 34 Pomeroy Meadow Road Southampton, Massachusetts 01073
5/29/2014	WORCESTER - Reconstruction of Grafton Street (Route 122)	Design Public Hearing	Central Massachusetts Regional Planning Commission 2 Washington Square, Union Station Worcester, MA 01604
6/3/2014	SOMERVILLE - Reconstruction of Beacon Street	Public Information Meeting	John F. Kennedy Elementary School 5 Cherry Street Somerville, MA 02144
6/3/2014	TAUNTON - Reconstruction on County St.(Rte 140) From Rte 24 (SB off-Ramp) Northerly To Mozzone Blvd.	Design Public Hearing	MassDOT, District 5, Training Room 1000 County Street Taunton, MA 02780
6/3/2014	Public Meeting on Closure of Berkley's Padelford Street Bridge	Public Meeting	Berkley Middle School 21 North Main Street, Berkley, MA
6/3/2014	WORCESTER - Blackstone River Bikeway (Segment 7) Including Bridge Reahabilitation W-44-041	Design Public Hearing	Central Mass Regional Planning Commission Worcester Union Station 2 Washington Square Worcester, MA 01604-4016
6/9/2014	HADLEY - Signal And Intersection Improvements At Route 9 And Route 47	Design Public Hearing	Hadley Senior Community Center at Hooker School 46 Middle Street Hadley, MA 01035
6/10/2014	RTA Council Meeting	Public Meeting	Massachusetts Transportation Building MassDOT Boardroom 10 Park Plaza, 3rd Floor, Room 3830 Boston, MA 02116

6/11/2014	Public Informational Meeting on New Bedford-Fairhaven Bridge Corridor Study	Public Information Meeting	New Bedford Public Library 3rd Floor Meeting Room 613 Pleasant Street, New Bedford
6/16/2014	Public Information Meeting Reconstruction of Massachusetts Avenue in East Arlington	Public Information Meeting	Thompson School Gymnatorium 187 Everett Street, Arlington
6/18/2014	MassDOT Board of Directors Meeting	Public Meeting	MassDOT Boardroom 3rd Floor, Suite 3830 Boston, MA 02116
6/18/2014	SOUTHBOROUGH - Reconstruction Of Main Street (Rte 30) From Sears Road To Park Street	Design Public Hearing	P. Brent Trottier Middle School 49 Parkerville Road Southborough, MA 01772
6/19/2014	SOUTHBRIDGE- BRIDGE PRESERVATION, S-21-002, SR 131 (MAIN STREET) OVER QUINEBAUG RIVER	Public Hearing	Southbridge Town Hall, Rice Conference Room, 41 Elm Street, Southbridge, MA 01550
6/19/2014	NORTON- BRIDGE REPLACEMENT, N-23-017, PLAIN STREET OVER THE CANOE RIVER	Public Hearing	Community Room, Norton Public Library, 68 East Main Street, Norton, MA 02766
6/26/2014	Public Meeting on Greenway Ramp Parcel Study	Public Meeting	Boston City Hall, 9th Floor, Board Room
7/9/2014	LAWRENCE - Union Crossing Pedestrian Improvement Project	Design Public Hearing	Lawrence Public Library, Main Library, 3rd Floor 51 Lawrence Street Lawrence, MA 01841
7/10/2014	Informational Meeting on The Morton Street Bridge Project	Public Information Meeting	Economy Plumbing Training Room 875 Morton Street Mattapan, MA
7/16/2014	MassDOT Board of Directors Meeting	Public Meeting	Lawrence Public Schools Building, 255 Essex St, Lawrence, MA 01840
7/17/2014	McGrath Highway/ McCarthy Boulevard Project Public Info Meeting	Public Information Meeting	The Argenziano School Cafetorium 290 Washington Street, Somerville
7/17/2014	REHOBOTH- EMERGENCY REPAIR OF CULVERT R-04-002 ON WHEELER STREET	Design Public Hearing	Rehoboth Senior Center, 55 Bay State Road, Rehoboth, MA 02769
7/17/2014	DARTMOUTH - Faunce Corner Road	Design Public Hearing	Dartmouth Town Hall, Selectboard Meeting Room 400 Slocum Road Dartmouth, MA 02747

7/21/2014	Info Meeting: I-90 Median Barrier Replacement and Commonwealth Ave Bridge	Public Information Meeting	Boston University's CGS Auditorium (Jacob Sleeper Auditorium) Room 129 871 Commonwealth Ave, Boston
7/23/2014	NORTH ATTLEBOROUGH - East Washington Street (Route 1)	Public Hearing	North Attleborough Police Department 102 South Washington Street North Attleborough, MA 02760
7/23/2014	ORLEANS -2 Intersection Improvements, Route 28@ Main Street & Route 6A@ Main Street	Design Public Hearing	Orleans Town Hall, Nauset Meeting Room 19 School Street Orleans, MA 02653
7/24/2014	LANCASTER- BRIDGE REPLACEMENT, L-02-018, JACKSON ROAD OVER ROUTE 2	Design Public Hearing	Lancaster Senior Center, 695 Main Street, Lancaster, MA 01523
7/29/2014	Project Selection Advisory Council	Public Information Meeting	10 Park Plaza Conference Rooms 2 & 3 Second Floor Boston, Massachusetts 02116
8/6/2014	CHICOPEE - Riverwalk And Bikeway	Design Public Hearing	Boys and Girls Club 580 Meadow Street Chicopee MA 01013
8/6/2014	SALEM - Reconstruction of Canal Street	Design Public Hearing	Sullivan A&B Training Rooms, Enterprise Center at Salem State University 121 Loring Avenue Salem, MA 01970
8/13/2014	Task Force meeting on the I-90 Allston Interchange Improvement Project	Public Meeting	Fiorentino Center. 123 Antwerp Street Allston, MA 02134
8/18/2014	Public Information Meeting Silver Line Gateway	Public Information Meeting	Chelsea City Hall, Council Chambers 500 Broadway, Chelsea MA
9/3/2014	I-90 Allston Interchange Improvement Project - Task Force Meeting	Public Meeting	Fiorentino Community Center, 123 Antwerp Street, Allston, Massachusetts, 02134
9/9/2014	Fares Policy Meeting	Public Meeting	MassDOT Boardroom 10 Park Plaza, Suite 3830 Boston, MA 02116
9/11/2014	DARTMOUTH - Padanaram Bridge Causeway Reconstruction Over Bridge Street	Design Public Hearing	Dartmouth Town Hall, Selectboard Meeting Room, Room 304 400 Slocum Road Dartmouth, MA 02747
9/15/2014	MBTA PUBLIC INFORMATION MEETING: Blue Hill Ave Station Construction Contract	Public Information Meeting	Mattapan Branch Library 1350 Blue Hill Avenue, Mattapan, MA 02126

9/16/2014	RTA Council Meeting	Public Meeting	Cranwell Resort 55 Lee Street, Route 20 Lenox, MA 01240
9/16/2014	The Project Selection Advisory Council	Public Meeting	Springfield – Pioneer Valley Planning Commission, 60 Congress Street Springfield, MA 01104
9/17/2014	MassDOT Board of Directors Meeting	Public Meeting	Chelsea City Hall City Council Chambers 500 Broadway, Room #306 Chelsea, MA 02150
9/18/2014	Performance and Asset Management Advisory Council	Public Meeting	MassDOT Board Room, 10 Park Plaza, Suite 3830 Boston, MA 02116
9/18/2014	GreenDOT Advisory Group Meeting	Public Meeting	Department of Transportation Building 10 Park Plaza, 2nd Floor Conference Room 1 Boston, MA 02116
9/18/2014	I-90 Allston Interchange Improvement Project - Notice of Design Public Information Meeting	Public Information Meeting	The Jackson Mann Community Center Auditorium, 500 Cambridge Street, Allston, Massachusetts, 02134
9/19/2014	Postponed - Statewide Coordinating Council on Community Transportation Quarterly Meeting	Public Meeting	Ten Park Plaza, 2nd floor conference rooms 2-3
9/24/2014	The Project Selection Advisory Council	Public Meeting	Room 301 at Haverhill City Hall, 4 Summer Street, Haverhill, MA, 01830
9/25/2014	MATTAPOISETT - Multi-Use Construction From Neck Road To Depot St., Phase 1B	Design Public Hearing	The Cafeteria Old Hammondtown School 20 Shaw Street Mattapoisett, MA 02739
9/30/2014	Public Meeting Central Artery Ramp Parcel Study	Public Meeting	Boston City Hall, 9th Floor, BRA Board Room
10/6/2014	"2014 Annual SIP Report Public Meeting"	Public Hearing	MassDEP Washington Street Conference Center, 2nd Floor, Rooms A, B, and C One Winter Street, Boston, MA 02108
10/7/2014	VALUE CAPTURE COMMISSION	Public Meeting	MassDOT Board Room 10 Park Plaza, Suite 3830 Boston, MA 02116
10/7/2014	NATICK- SUPERSTRUCTURE REPLACEMENT, N-03-003, MARION STREET OVER MBTA	Design Public Hearing	Edward H. Dlott Meeting Room, 13 East Central Street, Natick, MA 01760
10/8/2014	I-90 Ramps Study - PLEASE NOTE NEW DATE	Public Information Meeting	Boston Public Library 700 Boylston St Boston, MA

10/8/2014	Public Meeting Up-Coming Request for Proposals On Parcel 11A & 128 North Street	Public Meeting	Nazzaro Community Center 30 North Bennet Street
10/22/2014	MassDOT Board of Directors Meeting	Public Meeting	MassDOT Boardroom 10 Park Plaza, Suite 3830 Boston, MA 02116
10/22/2014	Design Public Information Meeting: Parking Lot 5 under I-93 project in Boston, MA.	Public Information Meeting	MassDOT, 10 Park Plaza 2nd Floor, Conference Room 2 & 3 Boston, MA 02116
10/23/2014	MILTON - Safe Routes To School Improvements Project	Design Public Hearing	Glover School Elementary school Cafeteria 255 Canton Ave Milton, MA 02186
10/24/2014	Statewide Coordinating Council Quarterly Meeting	Public Meeting	Massachusetts Transportation Building, 10 Park Plaza, Boston, MA 2nd Floor, meeting rooms 1-3
10/28/2014	EZ-ID License Plate Task Force Public Meeting	Public Meeting	Central Mass. Regional Planning Commission 2 Washington Square 2nd Floor, Worcester, MA 01604
11/5/2014	I-90 Allston Interchange Improvement Project - Task Force Meeting	Public Meeting	Fiorentino Community Center, 123 Antwerp Street, Allston, Massachusetts, 02134
11/10/2014	Rededication of the Callahan Tunnel	Press Release	128 North Street Boston, MA
11/13/2014	WESTFIELD - Columbia Greenway North Rail Trail And Bridge Project	Design Public Hearing	Westfield City Hall City Council Chambers 59 Court Street Westfield, Massachusetts 01085
11/18/2014	Public Hearing for South Station Expansion Project Draft Environmental Impact Report	Public Hearing	Boston Children's Museum Dewey Conference Room, 5th Floor 308 Congress Street, Boston (please use this entrance)
11/18/2014	Bowker Overpass Study Meeting, presentation of Alternatives Analysis	Public Meeting	Boston Public Library The Commonwealth Salon 700 Boylston St, Boston, MA Tel. (617) 247-8980
11/18/2014	DEERFIELD- BRIDGE PRESERVATION, D-06-023, MCCLELLAN FARM ROAD OVER THE B&M RAILROAD	Design Public Hearing	Deerfield Municipal Offices, Main Meeting Room, 8 Conway Street, South Deerfield, MA 01373
11/18/2014	The Back Bay Ramps Transportation Study Public Meeting	Public Meeting	Boston Public Library – Commonwealth Salon 700 Boylston Street, Copley Square Boston, MA 02116
11/19/2014	MassDOT Board of Directors Meeting	Public Meeting	MassDOT Boardroom State Transportation Building 10 Park Plaza, Suite 3830 Boston, MA 02116

11/19/2014	WARREN - Resurfacing & Related Work on Route 67 at West Warren Town Centers	Design Public Hearing	Shepard Building, Selectmen Meeting Room 48 High Street Warren, MA 01083
11/19/2014	Hingham - Intersection Improvements at Derby Street, Whiting Street (Route 53) and Gardner Street Pr	Design Public Hearing	Hingham Town Hall South Hearing Room (3rd floor) 210 Central Street Hingham, MA 02043
11/20/2014	WOBURN - Bridge Replacement W-43-003, Salem Street Over MBTA Project	Design Public Hearing	Woburn Town Hall 10 Common St Woburn, MA 01801
12/1/2014	Public Informational Meeting on Proposed Bourne CapeFlyer station	Public Information Meeting	Bourne Veterans Memorial Community Center 239 Main Street Bourne, MA 02532
12/3/2014	BROOKLINE - Intersection & Signal Improvements @ Rte 9 Village Sq. (Gateway East)	Public Information Meeting	Board of Selectmen's Hearing Room. 6th Floor Brookline Town Hall 333 Washington Street Brookline, MA
12/4/2014	Standing Committee on Audit and Finance	Public Meeting	MassDOT Boardroom 10 Park Plaza, Suite 3830 Boston, MA 02116
12/4/2014	Public Informational Meeting Route 44 Middleborough Rotary Improvements project	Public Information Meeting	John T. Nichols Jr. Middle School 112 Tiger Drive, Middleborough, MA
12/9/2014	LEOMINSTER - Reconstruction of Mechanic Street	Design Public Hearing	Leominster Public Library 30 West Street Leominster, MA 01453
12/10/2014	MEDFORD - Clippership Drive Park At Medford Senior Center Project	Design Public Hearing	Medford City Hall, Room 201 85 George P. Hassett Drive Medford, MA 02155
12/11/2014	MassDOT Board of Directors Meeting	Public Meeting	MassDOT Boardroom Suite 3830 10 Park Plaza Boston, MA
12/11/2014	WESTBOROUGH - Intersection And Signal Improvements At Route 9 And Lyman Street	Design Public Hearing	Senior Center 4 Rogers Road Westborough, MA 01581
12/12/2014	Special Meeting of the MassDOT Board of Directors	Public Meeting	MassDOT Boardroom Suite 3830, 3rd Floor 10 Park Plaza Boston, MA 02116
12/15/2014	GreenDOT Advisory Group	Public Meeting	Transportation Library 2nd floor 10 Park Plaza Boston, MA 02116
12/17/2014	WINCHESTER, WOBURN And STONEHAM - Tri-Community Bikeway	Public Information Meeting	Stoneham Town Hall Auditorium 35 Central Street Stoneham, MA 02180

12/18/2014	Advisory Council meeting on Asset and Performance Management.	Public Meeting	Transportation Building 10 Park Plaza Conference Room 1 Boston, MA 02116
12/18/2014	WINCHENDON- SUPERSTRUCTURE OR BRIDGE REPLACEMENT, W-39-001, HARRIS ROAD OVER TARBELL BROOK	Design Public Hearing	Winchendon Town Hall, 2nd Floor Auditorium, 109 Front Street, Winchendon MA 01475
12/18/2014	BOSTON - Intersection Improvements At Gallivan Blvd (Rte 203) And Morton Street	Design Public Hearing	Taylor Elementary School 1060 Morton Street Boston, MA 02126
12/22/2014	Needham/ Wellesley I-95 Add-a-Lane Public Meeting	Public Meeting	Needham Town Hall Auditorium 1471 Highland Avenue Needham, MA 02492
12/22/2014	BARNSTABLE - Intersection Improvements And Rte 28 (Falmouth Rd.) And Bearses Way Project	Design Public Hearing	Barnstable Town Hall, Hearing Room 367 Main Street Hyannis, MA 02601
12/31/2014	Public Meeting on Proposed Amendments for Vehicle Registration Requirements	Public Meeting	State Transportation Building 10 Park Plaza, 2nd Floor Conference Rooms 1,2, & 3 Boston, MA 02116
1/2/2015	Public Meeting on Proposed Amendments for Vehicle Registration Requirements	Public Meeting	State Transportation Building 10 Park Plaza, 2nd Floor Conference Rooms 1,2, & 3 Boston, MA 02116
1/6/2015	Standing Committee Meeting on Finance and Audit	Public Meeting	MassDOT Boardroom 10 Park Plaza, Suite 3830 Boston, MA 02116
1/8/2015	Central Artery Ramp Parcel Study	Public Meeting	Boston City Hall, 9th Floor, BRA Board Room
1/8/2015	MANSFIELD - Safe Routes To School Improvements For Jordan/Jackson Elementary Project	Design Public Hearing	Mansfield Town Hall, 3rd Floor Meeting Room 3A/3B 6 Park Row Mansfield, MA 02048
1/8/2015	NEEDHAM-NEWTON - Reconstruction Of Highland Ave, Needham St, Winchester St, Charles River Bridge N-0	Design Public Hearing	Countryside School Auditorium 191 Dedham Street Newton, MA
1/14/2015	DUDLEY- BRIDGE REPLACEMENT, D-12-009, CARPENTER ROAD OVER ABANDONED RR	Public Information Meeting	Municipal Complex, Room 321, 71 West Main Street, Dudley, MA 01571
1/15/2015	BEDFORD - Maintenance Facility Construction Project	Public Information Meeting	Bedford Town Hall, Multi-Purpose Room 10 Mudge Way Bedford, MA 01730

1/15/2015	Cape Cod Canal Area Transportation Study Public Information Meeting	Public Information Meeting	Admirals Hall on the Massachusetts Maritime Academy Campus, 101 Academy Drive in Bourne. Directional signs will be posted on the campus.
1/20/2015	MassDOT Board of Directors Meeting	Public Meeting	MassDOT Boardroom Suite 3830 10 Park Plaza Boston, MA
1/20/2015	HUDSON- BRIDGE REPLACEMENT, H-25-003, STATE ROUTE 85 (WASHINGTON STREET) OVER THE ASSABET RIVER	Design Public Hearing	Hudson Town Hall Auditorium, 78 Main Street, 2nd Floor, Hudson, MA 01749
1/21/2015	First Construction Update Meeting Casey Arborway Project	Public Information Meeting	Boston English High School Auditorium 144 McBride Street, Jamaica Plain, MA
1/22/2015	WORCESTER - Stormwater Improvements Associated With Tatnuck Brook Along Route 122	Public Information Meeting	Tatnuck School Library 1083 Pleasant Street Worcester, MA 01602
1/28/2015	NORTH ANDOVER - Safe Routes To School Project	Design Public Hearing	Stevens Memorial Library Community Room 345 Main Street North Andover, MA 01845
1/29/2015	LEICESTER - Route 56 (Paxton Street) Roadway Improvements	Design Public Hearing	Leicester Town Hall, Select Board Conference Room 3 Washburn Square Leicester, MA 01524
2/5/2015	Standing Committee Meeting on Finance and Audit	Public Meeting	MassDOT Boardroom 10 Park Plaza, Suite 3830 Boston, MA
2/5/2015	WESTBOROUGH - Intersection And Signal Improvements At Route 9 And Lyman Street	Design Public Hearing	Senior Center 4 Rogers Road Westborough, MA 01581
2/11/2015	MassDOT Board of Directors Meeting	Public Meeting	MassDOT Boardroom Suite 3830 10 Park Plaza Boston, MA
2/11/2015	Public Info Meeting New Bedford-Fairhaven Bridge Corridor Study	Public Information Meeting	Seaport Inn and Marina 110 Middle Street, Fairhaven
2/12/2015	GREENFIELD - Intersection Improvements At Route 5/10 And Cheapside Street	Design Public Hearing	Greenfield Community College Downtown Campus 270 Main Street Greenfield, MA 01301
2/13/2015	Special Meeting MassDOT Board of Directors Meeting	Public Meeting	MassDOT Boardroom Suite 3830 10 Park Plaza Boston, MA

2/19/2015	CHATHAM - Improvements On West Main Street (Rte 28) From George Ryder Road To Barn Hill Road	Design Public Hearing	Town Offices Annex – Large Meeting Room 261 George Ryder Road Chatham, MA
2/19/2015	SAVOY- SUPERSTRUCTURE REPLACEMENT, S-06-004, RIVER ROAD OVER THE WESTFIELD RIVER	Design Public Hearing	Town Hall, 720 Main Road, Savoy, MA 01256
2/24/2015	BOSTON- BROOKLINE- SUPERSTRUCTURE REPLACEMENT, B-16-055, COMMONWEALTH AVENUE OVER I-90 & MBTA & DEC	Design Public Hearing	Boston University's CGS Auditorium, Room 129, 871 Commonwealth Avenue, Boston, MA 02116
2/24/2015	SALISBURY - Reconstruction of Route 1	Design Public Hearing	Hilton Senior Center 43 Lafayette Road Salisbury, MA 01952
2/25/2015	NORWOOD - Intersection Improvements At Rte 1A & Upland Rd/Washington, Prospect & Fulton Streets	Design Public Hearing	Norwood Civic Center- Willett Room (2nd FL) 165 Nahatan Street Norwood, MA 02062
2/25/2015	NORTH ANDOVER - Safe Routes To School	Design Public Hearing	Stevens Memorial Library Community Room 345 Main Street North Andover MA, 01845
2/26/2015	Performance and Asset Management Advisory Council Meeting	Public Meeting	MassDOT Board Room, 10 Park Plaza, 3rd Floor, 3830
2/26/2015	ATTLEBORO- BRIDGE REPLACEMENT, A-16-053, I-95 (NB & SB) OVER NORTH AVENUE	Design Public Hearing	Attleboro City Hall, Council Chambers, 77 Park Street, Attleboro, MA 02703
3/3/2015	Standing Committee Meeting on Finance and Audit	Public Meeting	MassDOT Boardroom 10 Park Plaza, Suite 3830 Boston, MA 02116
3/4/2015	SOMERVILLE - Safe Routes To School	Design Public Hearing	Healey School School Cafeteria 5 Meacham Street Somerville, MA 02145
3/10/2015	GREAT BARRINGTON- BRIDGE REPLACEMENT, G-11-005, SR 183 (PARK STREET) OVER HOUSATONIC RIVER	Design Public Hearing	Great Barrington Fire Department Building Training Room, 37 State Road, Great Barrington, MA 01230
3/11/2015	Standing Committee on Labor and Compensation Meeting	Board Meeting	MassDOT Boardroom 10 Park Plaza, Suite 3830 Boston, MA 02116
3/11/2015	MassDOT Board of Directors Meeting	Public Meeting	MassDOT Boardroom Suite 3830 10 Park Plaza Boston, MA
3/11/2015	SOUTHBOROUGH - Reconstruction Of Main Street (Route 30) From Sears Road To Park Street	Public Information Meeting	Southborough Senior Center 9 Cordaville Road Southborough, MA 01772

3/17/2015	LOWELL - Market Street Bridge (L-15-045) Replacement Over The Western Canal	Design Public Hearing	Pollard Memorial Library, Meeting Room 401 Merrimack Street Lowell, MA 01852
3/18/2015	Project Selection Advisory Council	Public Meeting	Boston Common Conference Room 10 Park Plaza, Suite 4150 Boston, MA 02116
3/19/2015	Amesbury – Bridge Replacement, A-07-026, Route I-495 (NB&SB) over the Bikeway (Abandoned B&M RR Line	Design Public Hearing	City Hall Auditorium, 62 Friend Street, Amesbury, MA 01913
3/19/2015	MATTAPAN - Intersection Improvements At Gallivan Boulevard (Rte 203) And Morton Street	Design Public Hearing	Mildred Avenue K-8 School, 5 Mildred Avenue Mattapan, MA 02126
3/25/2015	BOSTON- BRIDGE REHABILITATION, B-16-237, MASSACHUSETTS AVENUE (ROUTE 2A) OVER COMMONWEALTH AVENUE	Design Public Hearing	Boston Central Library, Commonwealth Salon, 700 Boylston Street, Copley Square, Boston, MA 02116
3/26/2015	WORCESTER - Blackstone Visitor Center At Worcester Phase I	Design Public Hearing	Quinsigamond School (Cafeteria) 14 Blackstone River Road Worcester, MA 01607
3/30/2015	Public Private Partnership Oversight Commission Meeting	Public Meeting	State Transportation Building MassDOT Boardroom 10 Park Plaza, Suite 3830 Boston, MA 02116
3/31/2015	LAWRENCE - Lawrence Street/Park Street Intersection	Design Public Hearing	Lawrence City Council Chambers 200 Common Street Lawrence, MA 01840
4/2/2015	Holden - Bridge Replacement, H-18-020, River Street over Quinapoxet River	Design Public Hearing	Memorial Hall, 1196 Main Street, Holden, MA 01520
4/6/2015	Franklin - Pedestrian Bridge Construction, F-08-005, Old Sr 140 over MBTA/CSX	Design Public Hearing	Council Chambers, 2nd Floor, Municipal Building, 355 East Central Street, Franklin, MA 02038
4/9/2015	Standing Committee Meeting on Finance and Audit	Public Meeting	MassDOT Boardroom 10 Park Plaza, Suite 3830 Boston, MA 02116
4/15/2015	MassDOT Board of Directors Meeting	Public Meeting	MassDOT Boardroom Suite 3830 10 Park Plaza Boston, MA
4/15/2015	Public Meeting on the Central Artery Ramp Parcel Study	Public Meeting	Boston City Hall, 9th Floor, BRA Board Room
4/15/2015	SOUTHWICK - Intersection Improvements At 4 Locations On Route 57	Design Public Hearing	Southwick Town Hall Auditorium 454 College Highway Southwick, MA 01077



Appendix G: Active MassDOT Construction NOIs in Permit Year 12

Application Type	Tracking Number	Project/Site Name	Status	Date Submitted To EPA	Updated Date	Project City
NOI	MAR12AM09	Whittier Bridge Replacement	Active	11/7/2014	11/21/2014	Newburyport
NOI	MAR12AT56	DRACUT ROADWAY RECONSTRUCTION ARLINGTON AND METHUEN STS	Active	4/15/2014	4/29/2014	DRACUT
NOI	MAR12AT81	Bridge Replacement (Br.No. B-26-002) at Fiskdale Rd	Active	4/25/2014	5/9/2014	Brookfield
NOI	MAR12AU22	LYNNFIELD WAKEFIELD I-95 RESURFACING	Active	5/5/2014	5/19/2014	LYNNFIELD
NOI	MAR12AU37	BURLINGTON HAZARDOUS WASTE REMEDIATION I-95	Active	5/9/2014	5/23/2014	BURLINGTON
NOI	MAR12AU89	Bridge Rehabilitation Interstate 291 over Page Boulevard	Active	5/28/2014	6/11/2014	Springfield
NOI	MAR12AW61	DANVERS, LIBERTY ST ROADWAY RECONSTR	Active	7/3/2014	7/17/2014	DANVERS
NOI	MAR12AX15	ARLINGTON ROADWAY RECONSTRUCTION MASS AVE	Active	7/9/2014	7/23/2014	ARLINGTON
NOI	MAR12AX72	SOMERVILLE ROADWAY RECONSTRUCTION BROADWAY	Active	7/23/2014	8/6/2014	SOMERVILLE
NOI	MAR12AY53	ROADWAY RECONSTRUCTION ON ROUTE 110 MERRIMAC	Active	8/13/2014	8/22/2014	MERRIMAC
NOI	MAR12AY54	Tyringham Road Reconstruction	Active	8/13/2014	8/27/2014	Lee
NOI	MAR12AY55	I-90 Culvert Replacement	Active	8/13/2014	8/27/2014	Blandford
NOI	MAR12AZ22	ROADWAY RECONSTRUCTION ON ROUTE 129 LYNN	Active	8/29/2014	9/11/2014	LYNN
NOI	MAR12AZ91	Savoy Route 116 Resurfacing	Active	9/16/2014	9/29/2014	Savoy
NOI	MAR12B051	Chesterfield - Route 143 Resurfacing	Active	10/7/2014	10/20/2014	Chesterfield
NOI	MAR12B101	ROADWAY RECONSTRUCTION LEBANON STREET	Active	10/23/2014	11/6/2014	MELROSE
NOI	MAR12B110	BRIDGE REPLACEMENT ROUTE 28 OVER GILMAN STREET	Active	10/24/2014	11/7/2014	SOMERVILLE
NOI	MAR12B180	Great Barrington Roadway Repairs	Active	11/20/2014	12/2/2014	Great Barrington
NOI	MAR12B194	ROADWAY RECONSTR ON DASCOMB RD AND EAST ST	Active	12/1/2014	12/15/2014	ANDOVER
NOI	MAR12B362	AMESBURY ROADWAY RECONSTRUCTION ROUTE 150	Active	2/13/2015	2/27/2015	AMESBURY



Appendix H: Maintenance Schedule Summary

Summary of Compliance with Maintenance Matrix - Statewide Permit Year 12

							Permit Year 12 Statewide	
Drainage Asset	Area/ Note	Activity Schedule					Was Schedule Met?	Comments
		Mow	Sweep	Inspect	Clean	Repair		
	Maintenance Facilities/ Material Storage Yards	Annually	ANI	Annually	--	ANI	Yes	Some districts have the HazMat coordinator inspect monthly.
Roads	Roads/ Weigh Stations/ Rest Areas	Annually	Annually	Annually	--	ANI	Yes	Some districts perform maintenance on an as needed basis.
STORMWATER BMPs								
	Maintenance Facilities/ Material Storage Yards	--	--	Annually (after snow melt)	ANI	ANI	Yes	Maintenance and repairs done on an as needed basis.
Catch Basins	Roads/ Weigh Stations/ Rest Areas	--	--	Annually	ANI	ANI	Yes	
	Maintenance Facilities/ Material Storage Yards	Annually	--	Annually (after snow melt)	ANI	ANI	Yes	Not applicable to all Districts.
Extended Detention Basins	Roads/ Weigh Stations/ Rest Areas	Annually	--	Annually	ANI	ANI	Yes	Not applicable to all Districts. In one district roads only.
	Maintenance Facilities/ Material Storage Yards	--	--	Annually (after snow melt)	ANI	ANI	Yes	In one district, maintenance and repairs done on an as needed basis. Not applicable to all Districts.
Water Quality Swales (including dry swales, bio-filter swales, and wet swales)	Roads/ Weigh Stations/ Rest Areas	--	--	Annually	ANI	ANI	Yes	
	Maintenance Facilities/ Material Storage Yards	--	--	Annually (after snow melt)	ANI	ANI	Yes	
Sediment Forebays	Roads/ Weigh Stations/ Rest Areas	Twice per year	--	Annually	ANI	ANI	Yes	
Channel Systems		Annually	--	--	Annually	ANI	Yes	Not applicable to all Districts.
Outlet Sediment Traps		--	--	Annually	ANI	--	Yes	Not applicable to all Districts.
Vegetated Filters Strip		Annually	--	Annually	ANI	ANI	Yes	Not applicable to all Districts.
Wet Pond		--	--	Annually	ANI	ANI	Yes	Not applicable to all Districts.
Enhanced Wet Pond		--	--	Annually	ANI	ANI	Yes	Not applicable to all Districts.
Constructed Storm Water Wetlands		--	--	Annually	ANI	ANI	Yes	Not applicable to all Districts.
Recharge Basin		--	--	Twice per year	ANI	ANI	Yes	Maintenance and repairs done on an as needed basis.
Leaching Catch Basins		--	--	Annually	ANI	ANI	Yes	Maintenance and repairs done on an as needed basis.
Subsurface Recharge Systems		--	--	Twice annually	ANI	ANI	Yes	Not applicable to all Districts.
Recharge Trenches and Beds		--	--	Annually	ANI	ANI	Yes	Not applicable to all Districts
Recharge Dry Wells and Galleys		--	--	Annually	ANI	ANI	Yes	Not applicable to all Districts
Filter Systems		Regular Raking	--	Annually	Annually	ANI	N/A	None known
Sand Filters		--	--	Annually	ANI	ANI	N/A	None known
Organic Filters		--	--	Annually	ANI	ANI	N/A	None known
Water Quality Inlet		--	--	Annually	Annually	ANI	Yes	Not applicable to all Districts.
Flow Splitters		--	--	Annually	ANI	ANI	N/A	None known
Impoundment Structures		--	--	Annually	ANI	ANI	N/A	None known
Check Dams		--	--	Annually	ANI	ANI	Yes	Not all inspected, repaired and cleaned as needed in one district.

Summary of Compliance with Maintenance Matrix - Statewide Permit Year 12

Drainage Asset	Area/ Note	Activity Schedule					Permit Year 12 Statewide	
		Mow	Sweep	Inspect	Clean	Repair	Was Schedule Met?	Comments
OTHER								
Oil/ Water Separators	Self-test alarm, if so equipped	--	--	Weekly	--	--	Yes	Maintenance and repairs done on an as needed basis.
Holding Tanks - UST	Gauge tank to determine if greater than 75% full.	--	--	Weekly	--	--	Yes	Some districts perform repairs/maintenance as needed or quarterly instead of weekly inspections (based on historic review and usage). Tanks Equipped with High-Level Alarms
Holding Tanks - AST	Gauge tank to determine if greater than 75% full.	--	--	Monitor and set appropriate schedule	--	--	Yes	
Septic System	Record water meter readings and report to DHC.	--	--	Quarterly	--	--	Yes	In one District cleaned annually.
NPDES Construction Site - Site Inspections		--	--	Weekly	--	--	Yes	Both by MassDOT and Construction Contractor as required by SWPPP.
NPDES Construction Site - Repair of erosion controls		--	--	Weekly	ANI	--	Yes	Both by MassDOT and Construction Contractor as required by SWPPP.
NPDES Construction Site - Cleaning of storm water structures		--	--	Weekly	ANI	--	Yes	Both by MassDOT and Construction Contractor as required by SWPPP.
District 3 Specific Maintenance Requirements								
Roads	Quinsigamond and Flint Pond Watershed Leesville Pond in Kettle Brook Sub-basin; Mill Brook Tributary Basin; and Monoosnoc Basin	Annually	Annually	Annually	--	ANI	Yes	
	Salisbury Pond Watershed	Annually	Annually	Annually	--	ANI	Yes	
Catch Basins	Roads within Quinsigamond and Flint Pond Sub-basin; Leesville Pond in Kettle Brook Sub-basin; Mill Brook Tributary Basin; and Monoosnoc Basin	--	--	6 months	ANI	ANI	Yes	
	Roads within Salisbury Pond Watershed	--	--	6 months	ANI	ANI	Yes	
Extended Detention Basins	Roads within Quinsigamond and Flint Pond Sub-basin; Leesville Pond in Kettle Brook Sub-basin; Mill Brook Tributary Basin; and Monoosnoc Basin	Annually	--	6 months	ANI	ANI	Yes	
	Roads within Salisbury Pond Watershed	Annually	--	6 months	ANI	ANI	Yes	
Water Quality Swales (including dry swales, bio-filter swales, and wet swales)	Roads within Quinsigamond and Flint Pond Sub-basin; Leesville Pond in Kettle Brook Sub-basin; Mill Brook Tributary Basin; and Monoosnoc Basin	--	--	6 months	ANI	ANI	Yes	
	Roads within Salisbury Pond Watershed	--	--	6 months	ANI	ANI	Yes	
Sediment Forebays	Roads within Quinsigamond and Flint Pond Sub-basin; Leesville Pond in Kettle Brook Sub-basin; Mill Brook Tributary Basin; and Monoosnoc Basin	--	--	6 months	ANI	ANI	Yes	
	Roads within Salisbury Pond Watershed	--	--	6 months	ANI	ANI	Yes	

Appendix I: Public Well Supply Matrix and Salt Remediation Program

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<i>Property Owner</i>	<i>Owner/Town</i>	<i>Address</i>	<i>Date of Initial Complaint</i>	<i>Last Data Point (mg/l)</i>	<i>General Comment Section</i>
Andover	Andover	Chris Cronin, Acting Director Department of Public Works 397 Lowell Street Andover, Ma 01810-4416 Telephone (978) 623-8350	2/22/2000	February 2015 Raw: Na=47, Cl=82 Finished: Na=47, Cl=86	Poly style storage was constructed in 2001 where there previously was no outside storage from 1998 through 2001. Based on monthly sampling, Town requested a reduced salt zone along I-93 and I-495 and relocation of the salt storage shed via July 2004 correspondence. Section of I-495 and 93 has been designated as a reduced salt zone (RSZ). The RSZ was first implemented in 2005-2006 winter season. New salt shed at Andover River Road/93 was in use for the 2014/2015 winter season. I-93/I-495 has been decommissioned as an active depot.
Cambridge	Cambridge Reservoir	David Kaplan, Watershed Protection Supervisor, Cambridge Water Dept. 250 Fresh Pond Parkway Cambridge, MA 02138 (671) 349-4799	Regular monitoring began 1987	February 2015 Hobbs Brook (at intake), Na=162, Cl=230 Stoney Brook (at intake) Na =134, Cl= 181 Fresh Pond(at intake) Na=75, Cl=171	Reservoir is adjacent to 128 in Towns of Lexington, Lincoln, Waltham, and Weston. There is a designated reduced salt zone for this area covering 24.6 linear miles and 177.8 lane miles in the vicinity of the water supply covering sections of Route 2, 2A and 128. MassDOT met with Cambridge Water Department in 2014.
Dedham/ Westwood	Dedham/West wood	Eileen Commene Executive Director Dedham-Westwood Water Dept. 50 Elm Street, Dedham, MA 02027-9137 Telephone (781) 329-7090	File alluded to 3/7/88 correspondence from DWWD requesting MHD refrain from using salt along sections of Rt 128. 12/19/97 telecon b/w Sam Pollock and Mark Hollowell of Anderson-Nichols regarding DEP req'd monthly monitoring and concerns for White Lodge Well #5	July 28, 2014 Well #5, Na = 108 Cl = 236	Concern is over municipal well located to the North of I-95/128 near University Avenue. The well is located in Fowl Meadow Aquifer that recharges White Lodge Well No. 5. Correspondence written in March 2004 indicating that we would monitor salt application. MassDOT with UMass has installed monitoring wells and stormwater outfall monitors to evaluate NaCl sources to Fowl Meadow. MassDOT and UMass have been conducting monthly sampling of well network. The town contacted MassDOT following completion of the study in 2010 to request a RSZ. The results of a mass- balance study indicate that MassDOT's contribution of NaCl is 78%. On Dec 17, 2011 we held tailgate training at the Dedham depot, we identified an overlap, and have committed equipment with closed -loop controllers to this section of I-95. Additionally, MassDOT met with DWWD in November 2011 and explained that with improved BMP's, new technology and operational improvements, we should see a significant reduction in NaCl without designating a RSZ, however it may take a few years to validate. The DWWD sent us a letter in February 2012 stating that although they appreciate the changes we've made, they are still requesting a RSZ. A tailgate training session was held at the Westwood depot on Dec 1, 2012. MassDOT committed to monitor BMPs and look for opportunities to improve our operations. Most

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					recent tailgate training 12/2014.
North Chelmsford	North Chelmsford	Bruce J. Harper Superintendent North Chelmsford Water District 64 Washington Street PO Box 655 North Chelmsford, MA 01863-0655 Telephone (978) 251-3931	mid 1980s	2/4/2015 # 1 Na=156, Cl=291 # 2 Na=91, Cl=187 # 3 Na=141, Cl=281 # 4 Na=171, Cl=334	There is a reduced salt zone in East and North Chelmsford for 153 lane miles consisting of section of Route 3, 3A, 4 and Lowell Connector. High arch gambrel salt shed constructed in fall 2011.
Rousselot, Peabody Inc. Formerly Eastman Gelatin	Peabody	Scott Smith, HSE Mgr. 227 Washington St. Peabody, MA 01960 (978) 573-3774	~1965	5/2012 Pumphouse 2A, Cl=121Pumphouse 4A, Cl=171 Pumphouse 6, Cl=274 Pumphouse 11, Cl=200 Pumphouse 11A, Cl=228	Rousselot has industrial wells in close proximity to I-95. This area is within a reduced salt zone. Data is collected by Rousselot. In the 2011-2012 winter season MassDOT began pre-treating this section of I-95 with liquid magnesium chloride. Tailgate training session held at Peabody depot on Nov 3, 2012. Most recent training 12/2014.
Hanover	Hanover	Neil Merritt, Water Supervisor Hanover Water Dept. 40 Pond Street Hanover, MA 02339 (781) 826-3189	Being sampled for baseline data due to roadway project	1/29/2014 Inlet (raw): Na=57, Cl=100	Sampling began as a result of a response to comments in the 1998 EIR for the construction of additional travel lanes along Route 53. In the EIR MassDOT agreed to sample for 2 years post construction. We concluded testing in 2014.

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Middleboro	Middleboro	Joseph Silva, Water Superintendent Dept. of Public Works 48 Wareham Street Middleboro, MA (508) 946-2482	8/15/1989 & 2/91	February 2015 Miller Na =38 Cl = 60 Rock 1 Na = 56 Cl = 99 Rock 2 Na =72, Cl=132 Tispaquin Na=59, Cl=97 East Grove Na=96, Cl=191	3/20/06 mtg between District 5 and Env. Personnel to discuss town wells and operational improvements. 3/29/06 letter forwarded to water district. MassDOT continues to implement reduced salt zone in the area for 40 lane miles of Route 28 and 495. Tailgate training session held in Middleboro on 11/21/13. Meeting between Town and MassDOT Ops/Env to discuss operation in the vicinity of the PWS wells held on 1/24/14.
Wilmington	Wilmington	Shelly Newhouse, R.S. Director of Public Health 12 Glen Road, Wilmington, MA 01887 (978) 658-4298	4/29/2005 & 10/19/2011	December 2014 Browns Crossing (raw) Na=124, Cl=235 Barrows (raw) Na=166, Cl=340	Applied for RSZ in 2005 but it was noted that MassDOT wasn't the primary source. The Town reached out to MassDOT again in 2011 with concerns regarding elevated sodium in their PWS. MassDOT sent a letter to Wilmington in December 2011 and explained that with improved BMP's, new technology and operational improvements, we should see a significant reduced use of NaCl without designating a RSZ.. Due to the highly developed area we have expressed to Wilmington that they should also explore BMPs to address NaCl concentrations. We held a tailgate training in January to discuss the BMP's. On March 15, 2012 a meeting was held with the BOH, MassDOT, and MassDEP to discuss their concerns, and MassDOT agreed to improved BMP's, and a follow up meeting in the fall. MassDEP has also expressed that BMP's seem appropriate and should be given an opportunity to work. However, despite our efforts they submitted another request for a reduced salt zone. A meeting was held with the Town of Wilmington and DEP on Nov 26, 2012 and we held a tailgate training on Dec 8, 2012 to discuss BMPs. Another meeting between the Town, DEP and MassDOT was held on 11/19/2013. Most recent training 12/2014.

Appendix J: TMDL Review Table

Appendix J Final TMDL Information

Basin/TMDL Name	Pollutant of Concern	WLA Included?	MassDOT relevant BMP recommendations included?	If yes, what are the recommendations?	How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?
Multi-State /Final Bacteria and Total Phosphorus TMDL Report for the Kickemuit River (Rhode Island-Massachusetts)	Bacteria, Phosphorus	Yes	Yes	MassDOT will need to comply with MS4 regulations. Phase II Stormwater Management Plans submitted and general permits as required which include six minimum measures and prioritization of outfalls for BMP construction. MassDOT needs educational programs on pollution prevention and good housekeeping practices.	MassDOT has received full authorization to discharge under the general permit. The NOI submitted with the application for coverage includes many educational programs on pollution prevention and good housekeeping practices. MassDOT and EPA continue to work together to finalize the programs included in the Storm Water Management Plan.
Multi-State/ Northeast Regional Mercury Total Maximum Daily Load	Mercury	Yes	No	--	
Blackstone River/Final TMDLs of Phosphorus for Indian Lake (BMP 7K)	Phosphorus	Yes	Yes	TMDL suggests that MassDOT implement the following: 1. Reduce impervious surfaces, institute increased street sweeping and catch basin cleaning; install detention basins, etc. 2. Comply with a new Phase II Stormwater discharge permit. In addition, the Regional DEP office in Worcester has submitted a written request to the Regional office of MassDOT to give the roads in the Mill Brook drainage area (including parts of Indian Lake Watershed) priority for increased Best Management Practices such as sweeping and catch basin cleaning.	MassDOT's Impaired Waters Program include the review of the need for BMPs to address the TMDL. MassDOT has received authorization from EPA to discharge storm water under the general permit for discharges in this watershed.
Blackstone River/ Final TMDLs of Phosphorus for Lake Quinsigamond and Flint Pond (BMP 7P)	Phosphorus	Yes	Yes	1. MassDOT should begin the Storm Water Management Plans required under Phase II to reduce discharge of pollutants to the "maximum extent practicable." 2. MassDOT will also be required to apply for the EPA Phase II General Stormwater NPDES Permit by March 10 of 2003. 3. The regional office of MassDOT has offered to target high priority watersheds in the region of higher frequency of BMPs and maintenance. 4. Visually inspect the roads monthly and sweep as needed. At a minimum, roads must be swept at least twice a year as soon after snowmelt as possible or by April 1st of each year and again in the fall. 5. Inspect catch basins at least twice a year and any other settling or detention basins once a year to measure depth of solids. If solids are one half or more of design volume for solids, then completely remove all solids. 6. Inspect and maintain all structural components of stormwater system on a yearly basis. 7. Develop methodology to calculate loadings from highways. 8. Conduct pilot project to assess loadings and test BMPs on highways 9. Initiate twice yearly sweeping and catch basin inspection and cleaning program along I-290 and other roadways. Install additional BMPs as needed to address pollutant loadings identified above.	MassDOT has received authorization from EPA to discharge storm water under the general permit for discharges in this watershed. MassDOT's Impaired Waters Program includes the review of the need for BMPs to address the TMDL. District 3 has agreed to increased maintenance schedule within this watershed. In a letter written to DEP and dated June 19, 2002, District 3 committed to an increased schedule of inspection of catch basins every six months, with cleaning as determined necessary in inspections, and annual sweeping of roads in this watershed. Projects are reviewed through MassDOT's Impaired Waters Program and the assessment methods have been developed and reviewed with EPA. See response above (#7). See response above (#4) regarding CBs. MassDOT's Impaired Waters Program includes the review of the need for BMPs to address the TMDL.

Appendix J Final TMDL Information

Basin/TMDL Name	Pollutant of Concern	WLA Included?	MassDOT relevant BMP recommendations included?	If yes, what are the recommendations?	How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?
Blackstone River/ Final TMDLs of Phosphorus for Leesville Pond (BMP 7L)	Phosphorus	Yes	Yes	TMDL suggests that: 1. MassDOT should conduct loading study and develop methodology to calculate loadings from highways. 2. MassDOT and towns of Auburn, Leicester, Paxton, and Millbury and City of Worcester should initiate twice yearly sweeping and catch basin inspection and cleaning program along I-290 and other roadways and install additional BMPs as needed to address pollutants loadings identified above. 3. MassDOT and towns of Auburn, Leicester, Paxton, and Millbury should prepare Storm Water Management Plan for Phase II. 4. MassDOT and town or city Dept of Public Works should reduce impervious surfaces, institute street sweeping program, catch basin cleaning, install detention basin etc.	USGS performed a loading study for MassDOT. The results have been used in the SELDM FHWA/ USGS model. Projects are reviewed through MassDOT's Impaired Waters Program and the assessment methods have been developed for the program and reviewed with EPA. MassDOT District 3 has committed to an increased schedule of inspection of catch basins every six months, with cleaning as determined necessary in inspections, and annual sweeping of roads in this watershed. District 3 has committed to inspection and cleaning, if necessary, of all sumped drainage structures twice a year and more often if necessary; inspection/ cleaning of drainage outlet locations where sediment build up is evident; and inspection and repair of damaged and/or clogged drainage conveyances. MassDOT's Impaired Waters Program will include the review of the need for BMPs to address the TMDL. MassDOT has received authorization from EPA and DEP to discharge storm water under the general permit for discharges in this watershed. See response above (#2).
Blackstone River/TMDLs of Phosphorus for Selected Northern Blackstone Lakes (BMP 7N)	Phosphorus	Yes	Yes	TMDL suggests that MassDOT should regulate road sanding, salting, regular sweeping, and installation of BMPs (for these impaired waterbodies).	MassDOT regulates road sanding and salting through its Snow and Ice Program and the procedures approved in the GEIR. Roads are swept on an annual basis after winter deicing applications.
Blackstone River/ Final TMDLs of Phosphorus for Salisbury Pond (BMP 7O)	Phosphorus	Yes	Yes	TMDL indicates that: 1. MassDOT should develop methodology to calculate loadings from highways and conduct pilot projects to assess loadings and test BMPs on highways. 2. MassDOT and town or city Dept. Public Works should reduce impervious surfaces, institute more frequent street sweeping and catch basin cleaning, install detention basins, dredge and maintain storm water detention basins, etc. 3. MassDOT will also be required to apply for the EPA Phase II General Stormwater NPDES Permit by March 10 of 2003.	USGS performed a loading study for MassDOT. The results were used in the SELDM FHWA/ USGS model. Projects are reviewed through MassDOT's Impaired Waters Program and the assessment methods were developed for that program and reviewed with EPA. MassDOT has committed to DEP in its January 23, 2002 letter that streets will be swept at least once a year (usually in spring) and more often if necessary. All sumped drainage structure will be inspected and cleaned, if necessary, twice a year and more often if necessary. MassDOT will inspect/ clean drainage outlet locations where sediment build-up is evident. MassDOT will inspect and repair damaged and/ or clogged drainage conveyances. MassDOT has received authorization from EPA and DEP to discharge storm water under the general permit for discharges in this watershed.

Appendix J Final TMDL Information

Basin/TMDL Name	Pollutant of Concern	WLA Included?	MassDOT relevant BMP recommendations included?	If yes, what are the recommendations?	How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?
Boston Harbor/ Final TMDLs of Bacteria for Neponset River Basin (BMP 7Q)	Bacteria	Yes	Yes	Regulated municipalities should prepare Storm Water Management Plans for Phase II.	MassDOT has received full authorization to discharge under the general permit and continues to respond to EPA suggestions in finalizing their Storm Water Management Plans.
Final Pathogen TMDL for the Buzzards Bay Watershed	Pathogens	Yes	Yes	Development of comprehensive storm water management programs including identification and implementation of BMPs Bacteria Source Tracking: TMDL identifies potential sources of bacteria as illicit sewer connections and stormwater runoff, among others. Recommendations are to prioritize dry weather bacteria source tracking. Further recommendations include evaluating impaired waterbody segments for BMPs starting with intensive application of less costly non-structural practices such as street sweeping and monitoring of their success.	MassDOT has reviewed 20% of TMDL watersheds across the state each year for the need for additional BMPs to meet the TMDL recommendations starting in 2010. When the need for additional BMPs are identified, they are included in future construction projects. MassDOT has reviewed outfalls for potential illicit discharges and found that the linear nature of their roads leads to minimal chances for illicit connections. MassDOT has focused on education of staff and following up on potential illicit connections and focusing reviews on sensitive receiving waters.
Cape Cod / Final Pathogen TMDL Report for the Cape Cod Watershed	Pathogens	Yes	No	1. Development of comprehensive stormwater management programs, particularly in close proximity to each embayment, including identification and implementation of BMPs. 2. Illicit discharge detection and elimination (where applicable).	MassDOT has reviewed 20% of TMDL watersheds across the state each year for the need for additional BMPs to meet the TMDL recommendations starting in 2010. When the need for additional BMPs are identified, they are included in future construction projects. MassDOT has reviewed outfalls for potential illicit discharges and found that the linear nature of their roads leads to minimal chances for illicit connections. MassDOT has focused on education of staff and following up on potential illicit connections and focusing reviews on sensitive receiving waters.
Cape Cod/ Final Nutrient TMDL for Centerville River/East Bay	Total Nitrogen	Yes	No	--	
Cape Cod /Final Nitrogen TMDL for Little Pond	Total Nitrogen	Yes	No	--	
Cape Cod/ Final Nitrogen TMDL for Oyster Pond	Total Nitrogen	Yes	No	--	
Cape Cod/ Final Nitrogen TMDL for Phinneys Harbor	Total Nitrogen	Yes	No	--	
Cape Cod/Final Nitrogen TMDL for Pleasant Bay System	Total Nitrogen	Yes	No	--	
Cape Cod/Final Nitrogen TMDL Report for Five Sub-Embayments of Popponesset Bay	Total Nitrogen	Yes	No	--	

Appendix J Final TMDL Information

Basin/TMDL Name	Pollutant of Concern	WLA Included?	MassDOT relevant BMP recommendations		How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?
			included?	If yes, what are the recommendations?	
Cape Cod/Final Nitrogen TMDL Report for the Quashnet River, Hamblin Pond, Little River, Jehu Pond, and Great River in the Waquoit Bay System	Total Nitrogen	Yes	No	--	
Cape Cod/Final Bacteria TMDL Report for the Three Bays System	Pathogens	Yes	Yes	The Massachusetts Highway Department should determine the Route 28 roadway drainage area discharging to the Marstons Mills River and install best management structures and/or operational practices to the maximum extent practicable and at a minimum, be designed to meet the water quality standard for bacteria in SA waters. Given this is a waterway with an approved TMDL, the MHD must meet the requirements of EPA's NPDES General Permit for Stormwater Discharges from Small MS4s (Phase II), Part I D(1-4), as it pertains to approved TMDLs. Infiltration structures and devices that have been installed to control the road runoff from Route 28 into the Marstons Mills River should be inspected to determine their performance and condition. MassDOT should also continue to identify and implement to the maximum extent practicable best management practices so that the water quality standard for bacteria in SA waters is met.	MassDOT has reviewed 20% of TMDL watersheds across the state each year for the need for additional BMPs to meet the TMDL recommendations. If additional BMPs are identified, they are included in future construction projects. MassDOT has reviewed 20% of TMDL watersheds across the state each year for the need for additional BMPs to meet the TMDL recommendations. If additional BMPs are identified, they are included in future construction projects.
Cape Cod/ Final Nitrogen TMDL Report for the Three Bays System	Total Nitrogen	Yes	No	--	
Cape Cod/Final Nitrogen TMDL for West Falmouth Harbor	Total Nitrogen	Yes	No	--	
Cape Cod/Final Nitrogen TMDL Report for Five Chatham Embayments (Stage Harbor, Sulphur Springs, Taylors Pond, Bassing Harbor and Muddy Creek)	Total Nitrogen	Yes	No	--	
Cape Cod /Final TMDL Report of Bacteria for Frost Fish Creek, Chatham (BMP 7F)	Bacteria	Yes	Yes	The Massachusetts Highway Department should determine the Route 28 roadway drainage discharging to Muddy Creek and install best management structures and/or operational practices to the maximum extent practicable with a goal of meeting the water quality standard for bacteria in SA waters. Given this is a waterway with an approved TMDL, the MHD must meet the requirements of EPA's NPDES General Permit for Stormwater Discharges from small MS4s (Phase II), Part i D(1-4), as it pertains to approved TMDLs." MassDEP has not deferred to the Route 28 reconstruction project since we do not have any information about the extent or the time schedule for it. MassDEP also suggests that the MassDOT Dept. work with the Town of Chatham to work out a reasonable schedule for these activities.	MassDOT has reviewed 20% of TMDL watersheds across the state each year for the need for additional BMPs to meet the TMDL recommendations. If additional BMPs are identified, they are included in future construction projects.
Cape Cod/Final TMDLs of Nitrogen for Great, Green, and Bourmes Pond Embayment Systems	Total Nitrogen	Yes	No	--	

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Basin/TMDL Name	Pollutant of Concern	WLA Included?	MassDOT relevant BMP recommendations included?	If yes, what are the recommendations?	How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?
Cape Cod/ Final TMDL Report of Bacteria for Muddy Creek, Chatham (BMP 7G)	Bacteria	Yes	Yes	The Massachusetts Highway Department should determine the Route 28 roadway drainage discharging to Muddy Creek and install best management structures and/or operational practices to the maximum extent practicable with a goal of meeting the water quality standard for bacteria in SA waters. Given this is a waterway with an approved TMDL, the MHD must meet the requirements of EPA's NPDES General Permit for Stormwater Discharges from small MS4s (Phase II), Part i D(1-4), as it pertains to approved TMDLs." MassDEP has not deferred to the Route 28 reconstruction project since we do not have any information about the extent or the time schedule for it. MassDEP also suggests that the MassDOT Dept. work with the Town of Chatham to work out a reasonable schedule for these activities.	MassDOT has reviewed 20% of TMDL watersheds across the state each year for the need for additional BMPs to meet the TMDL recommendations. If additional BMPs are identified, they are included in future construction projects.
Charles River/Final Phosphorus TMDL Report for the Lower Charles River Basin	Total Phosphorus	Yes	Yes	TMDL suggests MassDOT: 1. Collect source monitoring data and additional drainage area information to better target source areas for controls and evaluate the effectiveness of on-going control practices. 2. Enhance existing stormwater management programs to optimize reductions in nutrient loadings with initial emphasis on source controls and pollution prevention practices.	MassDOT' s Impaired Waters Program will include the review of the need for BMPs to address the TMDL.
Charles River / Final Pathogen TMDL Reports for the Charles River Watershed	Pathogens	Yes	No	--	
Chicopee River/Final TMDLs of Phosphorus for Quaboag and Quacumquasit Ponds	Total Phosphorus	Yes	Yes	The TMDL suggests that MassDOT: 1. Regulate road sanding, salting, regular sweeping, and installation of BMPs. 2. Perform roadway sweeping and catch basin inspection/cleaning twice a year. 3. MH along with the town of Spencer, control nonpoint source pollution targeting for State Routes 9, 31 and 49 by requiring roadway sweeping and catch basin inspection/cleaning twice a year or other approved BMPs. 4. MH and the town of Spencer must maintain or improve all existing BMPs or the permittee may install infiltration or other BMPs and document a total reduction of 29% of the total phosphorus loading to receiving waters to control the stormwater discharges within the watershed. To do this, MH and the town of Spencer must either conduct roadway sweeping in the spring and fall combined with annual catch basin inspection and cleanout to restore 80% or more of the solids storage volume anytime the available solids storage volume is less than 50%.	MassDOT regulates road sanding and salting through its Snow and Ice Program and the procedures approved in the GEIR. Roads are swept on an annual basis after winter deicing applications. MassDOT' s Impaired Waters Program will include the review of the need for BMPs to address the TMDL. MassDOT has proposed a catchbasin inspection and maintenance record system in its SWMP (BMP 6C-4). MassDOT has very limited maintenance budgets and staff, therefore we feel that the cost-effectiveness, and necessity of cleaning catch basins twice per year should be closely evaluated rather than arbitrarily set. MassDOT has proposed a catchbasin inspection and maintenance record system in its SWMP (BMP 6C-4). MassDOT has very limited maintenance budgets and staff, therefore we feel that the cost-effectiveness, and necessity of cleaning catch basins twice per year should be closely evaluated rather than arbitrarily set. MassDOT' s Impaired Waters Program will include the review of the need for BMPs to address the TMDL.

Appendix J Final TMDL Information

Basin/TMDL Name	Pollutant of Concern	WLA Included?	MassDOT relevant BMP recommendations included?	If yes, what are the recommendations?	How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?
Chicopee River /Final TMDLs of Phosphorus for Selected Chicopee Basin Lakes (BMP 7H)	Phosphorus	Yes	No	TMDL suggests MassDOT should regulate road sanding, salting, regular sweeping, and installation of BMPs for these ponds.	MassDOT regulates road sanding and salting through its Snow and Ice Program and the procedures approved in the GEIR. Roads are swept on an annual basis after winter deicing applications. MassDOT's Impaired Waters Program will include the review of the need for BMPs to address the TMDL.
Connecticut River/ Final TMDLs of Phosphorus for Selected Connecticut Basin Lakes (BMP 7I)	Phosphorus	Yes	No	TMDL suggests MassDOT and towns should develop Storm Water Management Plans for Phase II NPDES and initiate additional BMPs in critical areas. MassDOT should regulate road sanding, salting, regular sweeping, and installation of BMPs.	MassDOT regulates road sanding and salting through its Snow and Ice Program and the procedures approved in the GEIR. Roads are swept on an annual basis after winter deicing applications. MassDOT's Impaired Waters Program will include the review of the need for BMPs to address the TMDL.
French River/ Final TMDLs of Phosphorus for Selected French Basin Lakes (BMP 7J)	Phosphorus	Yes	Yes	TMDL suggests: 1. MassDOT conduct loading study and develop methodology to calculate loadings from highways. 2. MassDOT and local towns should initiate twice yearly sweeping and catch basin inspection and cleaning program along MassDOT I-395, and other roadways. 3. MS4s should install additional BMPs as needed to address pollutant loadings identified above. 4. MassDOT and the towns of Charlton, Leicester and Oxford should prepare Storm Water Management Plans for Phase II. (implementation activity specific to these impaired waterbodies) 5. MassDOT should regulate road sanding, salting, regular sweeping, and installation of BMPs (implementation activity specific to these impaired waterbodies).	USGS performed a loading study for MassDOT. The results will be used in the FHWA/ USGS model when updated. Projects will be reviewed through MassDOT's Impaired Waters Program and the assessment methods developed for that program and reviewed with EPA. MassDOT has proposed a catchbasin inspection and maintenance record system in its SWMP (BMP 6C-4). MassDOT has very limited maintenance budgets and staff, therefore we feel that the cost-effectiveness, and necessity of cleaning catch basins twice per year should be closely evaluated rather than arbitrarily set. A summary of maintenance activities across the state is included as Appendix E of the annual report. MassDOT's Impaired Waters Program will include the review of the need for BMPs to address the TMDL. MassDOT has received full authorization to discharge under the general permit and continues to respond to EPA suggestions in finalizing their Storm Water Management Plans. MassDOT regulates road sanding and salting through its Snow and Ice Program and the procedures approved in the GEIR. Roads are swept on an annual basis after winter deicing applications. MassDOT will review projects within this watershed for opportunities to include additional BMPs within proposed projects if MassDOT determines they will help address the pollutant loading issue. MassDOT believes that the most cost-effective approach to improving stormwater quality is to focus on source control measures, rather than end-of-pipe BMPs. Two important examples include reducing winter road sand application rates, and stabilizing shoulder areas that erode onto road surfaces. Source reduction measures are described in this NPDES Stormwater Management Plan.
Islands/Final TMDLs of Total Nitrogen for Nantucket Harbor	Total Nitrogen	Yes	No	--	
Millers River/Final TMDLs of Phosphorus for Selected Millers River Basin Lakes (BMP 7M)	Phosphorus	Yes	Yes	TMDL suggests that MassDOT should better manage road sanding, salting, regular sweeping, and installation of BMPs (specific to these impaired waterbodies).	MassDOT's Impaired Waters Program will include the review of the need for BMPs to address the TMDL.

Appendix J Final TMDL Information

Basin/TMDL Name	Pollutant of Concern	WLA Included?	MassDOT relevant BMP recommendations		How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?
			included?	If yes, what are the recommendations?	
Narragansett Bay/ Final Bacteria TMDL for Palmer River Basin	Bacteria	Yes	No	--	--
Nashua River/ Final TMDL for Bare Hill Pond	Nuisance Aquatic Plants	Yes	No	--	--
Shawsheen River/Final TMDLs of Bacteria for Shawsheen River Basin	Bacteria	Yes	No	--	--
South Coastal/ Final TMDLs of Bacteria for Little Harbor, Cohasset	Fecal Coliform	Yes	No	--	--
SuAsCo/Assabet River TMDL for Total Phosphorus	Phosphorus	Yes	No	--	--
SuAsCo/ Final TMDLs of Phosphorus for Lake Boon (Boons Pond)	Phosphorus	Yes	No	--	--
Buzzards Bay/Final TMDL of Total Phosphorus for White Island Pond	Phosphorus	Yes	No	--	--
Narragansett Bay/Final Pathogen TMDL for the Narragansett/Mt. Hope Bay Watershed	Pathogen	Yes	No	Segments that remain impaired during wet weather should be evaluated for stormwater BMP implementation opportunities starting with less costly non-structural practices first (such as street sweeping, and/or managerial approaches using local regulatory controls), and lastly, more expensive structural measures. Structural stormwater BMP implementation may require additional study to identify cost efficient and effective technology.	MassDOT's Impaired Waters Program includes the review of the need for BMPs to address impaired waters potentially impacted by MassDOT urban area roads.
Final Pathogen TMDL for the Taunton River Watershed	Bacteria	Yes	No	--	--
Approval of the Pathogen TMDL Addendum for the Cape Cod Watershed	Bacteria	Yes	No	--	--
Approval of the Northeast Regional Mercury TMDL: Addendum for Massachusetts	Mercury	Yes	No	--	--

Appendix J Final TMDL Information

Basin/TMDL Name	Pollutant of Concern	WLA Included?	MassDOT relevant BMP recommendations included?	If yes, what are the recommendations?	How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?
Final Pathogen TMDL for the North Coastal Watershed	Bacteria	Yes	No	--	--
Addendum: Final TMDL of Bacteria for Neponset River Basin (CN 121.5)	Bacteria	Yes	No	--	--
South Coastal	Pathogens	Yes		Development of comprehensive storm water management programs including public education and participation, illicit discharge detection and elimination, construction and post construction runoff control, and pollution prevention/good housekeeping. MassDOT is not specifically identified and the focus is instead on the municipalities within the watershed.	MassDOT has received full authorization to discharge under EPA's NPDES MS4 general permit. MassDOT's Storm Water Management Program (SWMP) includes comprehensive measures for each of the six minimum control measures. MassDOT's Impaired Waters Program includes the review of the need for BMPs to address impaired waters potentially impacted by MassDOT urban area roads.