

# **CITY OF MANCHESTER, NEW HAMPSHIRE**

4/24/12

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## ***Stormwater Management Program***

**Annual Report**

**May 1, 2011 through April 30, 2012**

**Kevin A. Sheppard, P.E.**  
Public Works Director

**Timothy J. Clougherty**  
Deputy Public Works Director

**Frederick J. McNeill, P.E.**  
Chief Engineer



**Commission**  
Raymond Hebert  
Harold Sullivan  
Rick Rothwell  
Bill Skouteris  
Philip Hebert

**CITY OF MANCHESTER**  
*Highway Department*  
*Environmental Protection Division*

April 20, 2012  
#12-06-EPC

Ms. Glenda Velez  
USEPA – Region 1  
5 Post Office Square, Suite 100  
Mail Code OEP06-01  
Boston, MA 02109-3912

Re: **NPDES Phase II Small MS4 General Permit Annual Report**  
**EPA NPDES Permit Number: NHR041017**

Dear Ms. Velez:

The City of Manchester respectfully submits the Stormwater Management Program Annual Report for the year ending April 30, 2012. This document completes the annual program reporting requirements for the ninth year of the program.

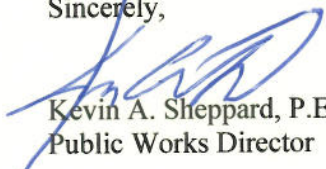
Included are updates and new information regarding the Six Minimum Controls and the Best Management Practices as required in the approved program.

Attached is a sheet with each task description, the status of the BMP and the completion date if applicable. All the required tasks as outlined in the original program have been implemented.

This annual report requires an assessment of the BMPs to determine the degree of effectiveness. This information is contained throughout the report.

If you have any questions in regards to this report, please give our Stormwater Program Coordinator, Robert Robinson, a call at (603) 665-6899.

Sincerely,

  
Kevin A. Sheppard, P.E.  
Public Works Director

Cc: Jeff Andrews – NHDES  
Frederick J. McNeill, P.E. – EPD  
Robert Robinson, P.E. – EPD

## Manchester's Stormwater Management Program Summary

### BMP Task Listing and Current Status for 2012

BMP#	Description	Develop	Implement	End Date	Priority	Completed
1-1	Assign SW Coordinator	8/1/2003	5/17/2003	7/30/2004	Completed	5/17/2003
1-2	Add SW Info to City's Website	10/1/2004	Ongoing	3/21/2004	Completed	10/7/2003
1-3	Outreach with Local watershed groups	10/1/2004	Ongoing	7/30/2004	Completed	Ongoing
1-4	Brochures available DPW & library	7/1/2004	Summer 2004	7/1/2006	Completed	Summer 2004 / Ongoing
1-5	Signage @ Urban Ponds (Reposted as Needed)	9/1/2003		3/21/2004	Completed	9/25/2003
1-6	Pet Waste Brochure & Signage	7/30/2004	Draft done 3/2004	7/1/2006	Completed	1/28/2005
2-1	Comply with State Public Notice	Complied with Ordinance and Regulations Notices				City Protocol
2-2	Annual Household Haz-waste Day	Yearly - Info provided by Recycling Coordinator			Completed	May 14 & Oct 8
2-3	Collect Used Oil, batteries & tires	Yearly - Info provided by Recycling Coordinator			Completed	12/31/2011
2-4	Urban Forestation "Green Street Program"	Mike Baer			Completed	12/31/2011
2-5	Stormwater & Combined Sewer Hotline	665-6899	7/30/2004		Completed	8/26/2003
3-1	Present Draft Storm Sewer Ordinance	Adopted	7/30/2005	7/30/2006	Completed	8/2/2006
3-2	Dry weather screening of outfalls 2X/5yrs		Summer 2004	9/30/2005	Completed	Completed / Ongoing
3-3	Develop & implement illicit Discharge Protocol	1/1/2004	Ongoing	7/30/2008	Completed	8/1/2003
3-4	Map Outfalls & Receiving Waters	Ongoing updates of City's GIS			Completed	12/12/2005
4-1	Ordinance - Erosion, Sediment & Construction Material	12/1/2003	Adopted Ordinance & Regulations		Completed	8/2/2006 - 12/5/2006
4-2	Develop Procedure for Public Comment	9/1/2003	Outline City Protocol for SWMP		Completed	8/1/2003
4-3	Check Erosion & Construction Material Onsite	(Developed winter of 2003) List used at inspections			Completed	In Use
5-1	Ordinance for Runoff Controls for Developments	12/1/2003	Adopted Ordinance & Regulations		Completed	8/2/2006 - 12/5/2006
5-2	Recommend BMP Manual for Planners & Developers	8/1/2003	Outlined in Regulations - 6(A), 1-4		Completed	12/5/2006
6-1	Install Silt Fence Around Snow Dump	9/30/2003	11/1/2005	Annually	Completed	11/14/2006
6-2	Track CB Cleaning Program, Priority Basins Annually	8/1/2003	9/15/2003	Ongoing	Completed	12/31/2011
6-3	Sweep Streets 3X Annually	9/1/2003	Before Phase II	Ongoing	Completed	Min 3X/yr.
6-4	SOPs for Disposal of CB and Street Sweeping Residuals	8/1/2003	Visit 6/26/2003	In Practice	Completed	Ongoing
6-5	Minimize Salt Usage, Maintain Cover Over Salt Storage	12/1/2003 (1)	11/1/2005	Ongoing	Completed	12/31/2011
6-6	Program to Clean Pond Inlets and Trash Racks	8/15/2003	Tank Inspections	Annually	Completed	Ongoing
6-7	Develop/Implement Employee Education Program	9/1/2003	Nutt Pond / Tannery Brook	Ongoing	Completed	Ongoing
6-8	Design & Construct Pond Specific P2 Projects	8/31/2003	Spring / Summer 2004	Ongoing	Completed	Completed / Ongoing
6-9	BMPs for Derryfield Country Club	12/31/2003		7/30/2006	Completed	8/1/2004

(1) Although the City covers salt piles, calibrates sander/salt spreaders and provides snow fence around snow dumping areas, there is no formal salt reduction program. Salt is applied as needed and completely weather dependant. The City has done a pilot study in the Nutt Pond sub watershed to determine sand and salt application rates and what can be done to reduce this impact. A pollutant-load watershed model was developed for this watershed. The Nutt Pond Watershed Sediment Loading Reduction brochure was developed and was sent to all the commercial property owners to try and reduce the loadings to Nutt Pond. A follow-up survey was conducted to determine the effectiveness of the program. A one page informational brochure was developed to provide residents with additional information on how they can protect the pond. This informational brochure is posted at the kiosk.

**City of Manchester, New Hampshire**  
**Stormwater Management Program Annual Report**  
**May 1, 2011 through April 30, 2012**

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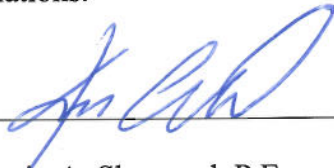
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## Certification Statement

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.



Date: 4-20-12

Keyin A. Sheppard, P.E.  
Public Works Director

## **BMP #1 Public Education and Outreach**

### **# 1-1, Assign Stormwater Coordinator – (BMP Completed)**

**Current Status:** The City of Manchester hired the stormwater coordinator on May 17, 2003. The title for this position is Environmental Permits Coordinator.

**BMP Effectiveness Evaluation:** The Coordinator position allows the City to review, implement and enforce requirements of the stormwater program effectively. The responsibility of the position meets, but in many cases exceeds the level of expectations of the regulatory agencies. The hiring of the Coordinator has fulfilled all the requirements of the five-year program, one year ahead of schedule.

**Future Goals:** To continue to carry out the requirements of the stormwater program. To expand the program through implementation of stormwater practices that goes beyond the five-year program requirements and to meet the requirements of the next permit.

The Coordinator will continue the inter-departmental efforts between the Planning, Parks & Recreation, Health and Highway Departments to enhance the existing stormwater program.

To utilize the City's engineering inspection staff to a greater degree when they do construction site inspections related to infrastructure. Each year they learn more about the stormwater program and implementation of BMPs for erosion and sediment control. Training was conducted on April 12<sup>th</sup> and 13<sup>th</sup>.

### **# 1-2, Add Stormwater Information to the City's Website – (BMP Completed)**

**Current Status:** The City of Manchester uploaded the initial stormwater website on October 7, 2003 consisting of four pages. Since then the website has expanded considerably. The total number of pages accessible within the stormwater site is well over fifty, which includes outside pages, related to stormwater, and associated PDF files.

The Urban Pond website is a site linked and referenced throughout the stormwater website. The stormwater website is also linked through the Urban Pond website. The Urban Pond site is an example of how stormwater controls can improve and enhance the quality of local ponds and lakes. The websites for stormwater and urban ponds were updated this reporting year.

**BMP Effectiveness Evaluation:** This BMP continues to be a highly effective means of providing stormwater information for public access. Several cities and towns within New Hampshire and New England have reviewed and commented on the extensiveness and material included in Manchester's website.

**Future Goals:** To update the websites for changes to the stormwater program based on the next MS4 permit requirements. More pages will be added to inform the public of the status of the required tasks as outlined in the program.

**# 1-3, Conduct Outreach with Local Watershed Organizations – (BMP Implemented & Ongoing)**

**Current Status:** The City has provided funds for kiosk maintenance supplies for 10 kiosks, equipment, and water analyses for the two watershed organizations (Crystal Lake Preservation Association – CLPA and the Pine Island Pond Environmental Society – PIPES) and the part-time acting coordinator of the Manchester Urban Ponds Restoration Program (Jen Drociak). This commitment will continue through the tenth year of the Stormwater Program.

The formal, full-time City-funded Urban Pond Restoration Program Coordinator position was terminated in February of 2005 and was carried within the Planning Department through December 2005 when it was subsequently eliminated. There is no longer anyone assigned to coordinate these activities.

Without a formal full-time Urban Pond Restoration Program Coordinator, outreach has continued through the Environmental Permits Coordinator and also the acting coordinator, who works on a seasonal, part-time basis with funding through the Environmental Protection Division.

The acting coordinator performs website and outreach material updates, annual kiosk maintenance at 10 kiosks, coordinates pond cleanups twice per year, and monitors water quality at four ponds three times during the summer. Please see the attached link for the cleanup events this year.

<http://www.manchesternh.gov/website/Departments/EnvironmentalProtection/SEPP/PondRestoration/CleanUpEvents/tabid/1034/Default.aspx>

The City has budgeted for total phosphorus analysis, while all other sampling is performed in the field and / or analyzed at no cost at the NHDES Limnology Center under the umbrella of the NH Volunteer Lake Assessment Program (VLAP). The level of sampling and analysis that was done when the Urban Pond Coordinator was with the City has remained the same. This work is being completed by members of the watershed organizations along with the Environmental Permits Coordinator and the Urban Ponds Restoration Program acting coordinator.

The acting coordinator updates the Urban Pond Restoration Program website and posts the results of the sampling on the City's website for the public to view. Please see below the attached link.

<http://www.manchesternh.gov/website/LinkClick.aspx?fileticket=8MwC2HtxcxE%3d&tabid=1035>

**BMP Effectiveness Evaluation:** The outreach was highly effective. The City's Environmental Permits Coordinator, the acting coordinator and Conservation Commission will continue various aspects of the Urban Pond Program in the absence of the Urban Pond Coordinator.

The Manchester Urban Ponds Restoration Program received an Environmental Merit Award from the EPA on May 11, 2011. It was an honor to have that award bestowed on our program, a program that is supported by both our volunteers and our staff.

**Future Goals:** To continue the support for the watershed organizations and the acting coordinator, support the sampling and analyses efforts, and continue to update the website.

The City of Manchester is working with the New Hampshire Rivers Council as a project partner along with other organizations on the McQuesten Brook Watershed Management Plan.

**# 1-4, Make Brochures Available at the DPW and Public Libraries – (BMP Completed)**

**Current Status:** The City has a limited number of previously developed brochures that are still available. These will be used for the continued education of the public. These brochures will be targeted toward individuals/groups that would best benefit from this information.

The City continues to stock a moderate supply of bookmarks, EPA children's crossword place mats, rulers with 10 "Earth Care Tips" and pencils. These are distributed at Earth Day events and other environmental days.

The City has developed and printed brochures explaining the "Wastewater Treatment Process" (provided in the first stormwater report), when visiting classrooms to teach students. These will continue to be given during classroom educational sessions.

**BMP Effectiveness Evaluation:** There have been no surveys or feedback forms developed to gauge the effectiveness of this BMP. The department has received limited feedback from its citizens.

**Future Goals:** To continue the outreach to the students. The City will continue to provide tours of the WWTP and training with students on wastewater and stormwater from the three different high schools in Manchester. This program was started in 2007 and has become an annual event. We also had sessions with students from Hesser College and with some middle school students. The EPD has also participated in the Science Fair judging with the Manchester Water Works.



To develop and provide informational brochures that can be mailed with the 24,000 customer accounts during the tenth year of the program. The mailer will advertise the website, stormwater hotline, and places where information can be obtained.

**# 1-5, Develop, Install & Maintain Signage at Urban Ponds – (BMP Completed)**

**Current Status:** The signage information that was presented in the first report is still applicable. There are issues with vandalism, but these signs are repaired in the spring when the Parks & Recreation department begins to prepare the Urban Pond areas for public usage. During the 2008 spring and summer seasons the signs at the ponds were replaced. Some new informational signs were added. The Plexiglas was replaced with some new Lexan which is more durable and will stand up to vandalism better. The kiosks were repainted. A kiosk at Nutts Pond was vandalized in the spring of 2009, 2010, 2011, and again in 2012 and each time the kiosk was repaired.

**BMP Effectiveness Evaluation:** It is difficult to gauge the effectiveness of this BMP. The signs are only effective if read. The kiosks are at the popular entrance areas of each pond and are easily accessible. The individuals who frequent the area most will probably maintain more of the sign's information through subconscious familiarity. The renewed kiosks will be more effective getting the message across.

**Future Goals:** The goal is to maintain these signs in serviceable and readable condition. The kiosks will be updated, repaired, and painted as needed to help get information to the residents that are using the ponds. They are inspected on an annual basis for the maintenance that needs to be performed.

**# 1-6, Distribute Pet Waste Brochures with Dog Licenses & Increase Signage at Parks – (BMP Completed)**

**Current Status:** There are signs for "No Fouling By Pet Waste" erected at the entrances of the urban ponds and also at City Parks. These signs reference the City ordinance that enforces this law.

In 2005, 10,500 brochures were mailed to all registered dog owners within the City of Manchester. The City Clerk has additional brochures that are given to all newly registered dogs. Residents who are renewing their dog licenses do not receive an additional brochure.

There is also signage at the ponds that indicate it is improper to feed ducks. This will help prevent geese and birds from fouling the shores of the ponds that the residents frequent.

**BMP Effectiveness Evaluation:** Studies have been undertaken in several metropolitan areas to determine the effectiveness of "Pet Waste" brochures. It has been determined that approximately 65 percent of the dog owners will clean up after their pets regardless of whether or not they have been informed via a brochure. Twenty percent of dog owners can be encouraged to pick up after their pets where they didn't previously through the

encouragement of informational brochures. There will always be 15 percent of dog owners who will continue to ignore the law even if provide information on a continuing basis.

Manchester is hoping that the original brochures encouraged the uninformed 20 percent (approximately 2,000 dog owners to clean up after their pets) where they hadn't before.

Our department continues to be encouraged and hopeful that dog owners are responding as there has been little evidence of animal waste during our shoreline surveys for illicit discharges and the pond cleanups.

**Future Goals:** To keep residents informed in regards to their obligations handling their pet waste. Resupply the City Clerk's office with brochures when requested. I recently checked with them on their supply of brochures and their supply is sufficient.

Continue visual field observations for problem areas when higher amounts of pet waste are noted. Review kennels and animal shelters for compliance with pet waste disposal practices

## **BMP #2 Public Participation**

### **# 2-1, Comply with State Public Notification Laws – (BMP Implemented & Ongoing)**

**Current Status:** The City of Manchester continues to comply with all Public Notification Laws regarding the Stormwater Management Program process. The meetings that EPD scheduled in the early stages of ordinance development, with the Planning Board, and the Highway Commission, were announced on the weekly agenda for those perspective meetings, posted at City Hall, the Highway Department, and posted on the City's website.

Examples of public announcements announced in the local newspaper were included in previous year's reports.

Manchester went beyond the newspaper public notice and mailed agendas and draft documents to developers, contractors and engineering firms that usually do business within the City. The City incorporated many of the comments into the draft Ordinance and the Regulations.

In addition to the Public Notification Law, the City of Manchester has a guide that all departments, boards, committees and the Mayor and Aldermen must abide by. It references the rules on Meetings, the Formation of Committees, and Rules for Ordinances, Resolutions and Orders, Access to Public Records and Meetings, and Minutes and Records Available for Public Inspection. These Rules comply with the State of New Hampshire Public Notification Laws as outlined in RSA 47:6, and RSA 91-A:1 through RSA 91-A:6. This guidebook is available in all departments for reference should questions arise in regards to the implementation of Public Notice Law regulations.

**Future Goals:** To continue the public notification policy whenever any changes are made to the ordinance, or when substantial changes are made to the Regulations.

### **# 2-2, Hold Annual Household Hazardous Waste Day – (BMP Implemented & Ongoing)**

**Current Status:** The City of Manchester held two Household Hazardous Waste Days in Manchester during 2011. These dates have always fallen on the second Saturday of May and the second Saturday of October. The first collection was held on May 14, 2011 and the second was held on October 8, 2011. The date of collection is mentioned on the City's website, announced on flyers at the Highway Department, and various other kiosks throughout the City, and also announced in the newspaper the week of the collection. On the City's website is an alternative household products list. This list was included in the 2009 Annual Report.

The City also sends out residential yard waste curbside collection schedules via sewer and /or water billing. It is also posted on the City's website. This helps prevent residents disposing of their leaves and yard wastes in brooks, streams and wetlands. The City provides information on yard waste and composting on the City's website. This information was included in the 2011 Annual Report.

**The following amounts of wastes were collected during 2011:**

<b>Waste Description</b>	<b>Quantity Collected</b>
Universal Waste (TVs, CRTs, and computer peripherals)	195.7 Tons
Refrigerators	266 Units
Air Conditioning Units	387 Units

**Spring HHW Collection:** Hazardous materials consisting of the following components:

<b>Waste Description</b>	<b>Quantity Collected (Pounds)</b>
Waste Paint Related Material (Oil Based Paints)	700
Non DOT Regulated Material (Latex Paint)	5,000
Waste Aerosols	1,500
Waste Flammable Liquids	4,800
Waste Oxidizing Solid	150
Waste Oxidizing Liquid	150
Waste Pesticides Solid	500
Waste Pesticides Liquid	1,500
Waste Corrosive Liquids	800
Waste Corrosive Liquid, Acidic, Organic	100
Waste Caustic Alkali Liquids	400
Waste Corrosive Solids	200
Waste Mercury	50
Asbestos	200
Waste Ammonia Solutions	200
Batteries	500
Universal Waste (CFL)	100
Non DOT Regulated Material (Fluorescent Light Bulbs)	500
<b>Total</b>	<b>17,350</b>

**Fall HHW Collection:** Hazardous materials consisting of the following components:

Waste Description	Quantity Collected (Pounds)
Waste Paint Related Material (Oil Based Paints)	6,600
Waste Aerosols	500
Waste Flammable Liquids	2,800
Waste Oxidizing Solid	200
Waste Oxidizing Liquid	85
Waste Pesticides Solid	500
Waste Pesticides Liquid	1,000
Waste Corrosive Liquids	350
Waste Caustic Alkali Liquids	300
Waste Mercury	5
Waste Ammonia Solutions	50
Batteries	20
Universal Waste (CFL)	40
Non DOT Regulated Material (Fluorescent Light Bulbs)	250
<b>Total</b>	<b>12,700</b>

**BMP Effectiveness Evaluation:** The collection of universal wastes this reporting year has decreased by 14 Tons compared to last year's report.

The household hazardous waste collection is possibly the most successful environmental program conducted semi-annually throughout Manchester. This program recovers a huge waste stream that could potentially be dumped in off road areas near brooks and ponds.

The City notifies all residents who receive a sewer bill regarding the pick up of yard waste and spring clean ups. It is also posted on the City's website. This notification should help in the prevention of people dumping leaves and grass-clippings along roadsides and brooks, which help reduce nutrients that move into the Merrimack River from the tributary streams.

**Future Goals:** Manchester will hold two hazardous waste collection days during the 2012 calendar year. The first one will be held on May 12<sup>th</sup> and the other on October 13<sup>th</sup>.

**# 2-3, Continue Regular Used Oil, Battery and Tire Collection – (BMP Ongoing)**

**Current Status:** The City of Manchester continues to collect used oil, batteries, and tires. These are collected during normal business hours. These wastes are not reserved for the Household Hazardous Waste Days. The amount of wastes that were collected and shipped is listed in the next table.

**The City collected the following amounts of wastes during 2011:**

Waste Description	Quantity Collected
Tires	57 Tons
Batteries	8,890 Pounds
Used Motor Oil	1,475 Gallons

**Future Goals:** Continue the same level of accessibility and collection hours as currently established.

**# 2-4, Continue Urban Forestation through “Green Streets” Program – (BMP Ongoing)**

**Current Status:** The City of Manchester, through the Parks and Recreation “Green Streets Program,” sold and installed 40 trees during 2011. There were twenty-eight fewer trees planted this year than in the previous year. The number of trees planted each year has been trending downwards. We expect this trend to continue based on the current economy.

A Green Roof was installed in September of 2007 on the roof at City Hall using the GreenGrid system. The plants were sampled for heavy metals as a baseline to help determine uptake. The only metal that was detected was zinc. This is due to the zinc orthophosphate in the drinking water used for corrosion control. The plants were sampled on October 12, 2011 for heavy metals. There were two metals that were detected during this sampling event. Please see the table below. In 2010 there were three metals that were detected.

**GREEN ROOF SAMPLING RESULTS**

Parameter	2009 Results in ug/g	2010 Results in ug/g	2011 Results in ug/g
Antimony	1.3	BDL	BDL
Arsenic	4.0	2.1	BDL
Beryllium	0.3	BDL	BDL
Cadmium	0.8	BDL	BDL
Chromium	12	BDL	BDL
Copper	35	BDL	BDL
Lead	2,400	2.9	3.8
Mercury	BDL	BDL	BDL
Nickel	7	BDL	BDL
Selenium	BDL	BDL	BDL
Silver	BDL	BDL	BDL
Thallium	BDL	BDL	BDL
Zinc	460	30	40

**BDL = Below Detectable Limits**

**Future Goals:** To continue the program as currently established. Assure the public is aware of the availability of this service through the City of Manchester. The City will continue to sample the plants on the Green Roof for metal uptake on an annual basis.

**# 2-5, Publicize & Maintain Stormwater & Combined Sewer Hotline – (BMP Ongoing)**

**Current Status:** The City established the Stormwater / CSO Hotline on August 26, 2003. The phone number is (603) 665-6899. The City previously sent envelope stuffers with the 24,000 bills (residential, commercial and industrial customers) informing these users of the storm water hotline and how it can be used to address environmental concerns. Information on the hotline will be provided anytime a stormwater flyer is mailed with the residential billing. The hotline number is also provided on the City's stormwater website and on the Environmental Permits Coordinator's business cards. The hotline is the Environmental Permits Coordinator's main phone number.

**BMP Effectiveness Evaluation:** This BMP is effective after the residents receive a flyer in the mail. The impact of the flyer drops significantly a few weeks after receipt. Staff that answers the phones provides the stormwater hotline phone number or a direct transfer when a concern is received by any citizen. By having the hotline number as the Environmental Permits Coordinator's main phone number this should help with the overall effectiveness of the hotline.

**Future Goals:** To continue using the website, flyers, brochures and other methods to inform the public of the stormwater hotline.

## **BMP #4 Construction Site Runoff Controls**

### **# 4-1, Develop & Present Ordinance to Require Erosion & Sediment Control Plan (to include construction material management plan and plan review for sites disturbing more than one acre) – (BMP Completed)**

**Current Status:** The Ordinance was drafted, reviewed, modified and adopted on August 1, 2006. A copy of the booklet containing both the Ordinance and Regulations is at the end of section three. The Board of Mayor and Aldermen authorized the Director of Public Works to develop a set of Regulations to expand upon and detail the content of the Ordinance. These Regulations were adopted by the Director of Public Works with approval by the Highway Commission on December 5, 2006.

**BMP Effectiveness Evaluation:** Manchester was possibly the first City in New England, and certainly New Hampshire that has adopted a specific Stormwater Ordinance and supporting Regulations. These documents will promote compliance at construction sites with subsequent enforcement capability should the contractor neglect Stormwater Pollution Prevention Plan requirements.

**Future Goals:** The same goal would apply here as that outlined in BMP # 3-1.

### **# 4-2, Develop Procedure for Receipt and Consideration of Public Comment – (BMP Completed)**

**Current Status:** The attachments outlined in BMP # 2-1 illustrate how the City processes public comment. All comments are taken seriously, the citizens are contacted, the issues discussed and if the suggestion is sound, incorporated into the stormwater management program.

Manchester will continue to receive suggestions via the website, phoned comments, statements made at hearings, and by letter.

**BMP Effectiveness Evaluation:** The process used during the public hearing regarding the Stormwater Ordinance was well received and most of the comments were incorporated into the adopted Ordinance (August 1, 2006). This process is working well.

**Future Goals:** The goal is to continue following the City's protocol with any future changes to the adopted Stormwater Ordinance or the approved Regulations.

### **# 4-3, Check Erosion Control Measures and Construction Material Management, Onsite Inspection – (BMP Implemented and Ongoing)**

**Current Status:** The City developed an inspection checklist for site visits. This inspection sheet has proven to be a comprehensive document when referring back to conditions that existed at a particular time during project development.



The inspection sheet includes information regarding the site, weather conditions since the last inspection, and the conditions of BMPs.

The inspection of BMPs is gauged against the Erosion and Sediment Control Plan and SWPPP that was submitted by the developer during the site plan approval process. Any deviance from the plan is noted and a clean typed copy is made from the field inspection notes. The clean copy is signed by the inspector and delivered to the contractor for action. Pictures taken at the site are referenced by link on the sheet and can be easily retrieved in the computer to evaluate the current findings with those from previous reports. An example of a completed site inspection form was included in the 2011 Annual Report.

Since the adoption of the Ordinance, the City has developed a two-part “Notice of Violation” that can be used in the enforcement process. An example of this report was included in the 2007 Annual Report. The inspection report serves as the first notice to the contractor that they need to come in compliance with their Stormwater Pollution Prevention Plan or Best Management Practices for site disturbances. A time frame for correction is outlined in the inspection report.

If the non-compliance has not been corrected at the time of the second inspection, a “Notice of Violation” is prepared and sent via certified mail, return receipt requested. A copy of the notice is presented to the site superintendent. More stringent time limitations are included for compliance.

If upon reinspection, the site non-compliance has not been corrected, the enforcement actions proceed, with associated fines and penalties, as outlined in the Ordinance.

**BMP Effectiveness Evaluation:** The field inspection checklist, “Notice of Violation,” Regulations and Ordinance provide the City with all the tools needed for compliance and enforcement regarding the Stormwater Program. The compliance at the construction sites has been well above average. Some violations were noted during this past year. Contractors and developers have been quick to correct issues found. If they are present during the inspection I will show them the violations so that they can correct them right away.

**Future Goals:** The future goal is to make use of the tools available for inspection and enforcement. Also, to follow up on minor enforcement actions to assure that these issues are corrected. Without follow up, the process of escalating enforcement would not be possible. The sites will be inspected each month during the year. We are finding that with the climate changes that more sites are active year round. This requires inspection during the winter months that were traditionally non – active months.

## **BMP #3 Illicit Discharge Detection and Elimination**

### **# 3-1, Develop & Present Draft Storm Sewer Ordinance – (BMP Completed)**

**Current Status:** The presentation of the Stormwater Ordinance was done October 4, 2005. Comments were received, reviewed and where appropriate, incorporated. The Ordinance was approved by the Board of Mayor and Aldermen on August 1, 2006.

**BMP Effectiveness Evaluation:** The adoption of the ordinance and regulations has given the City the ability to cite codified references for enforcement actions.

**Future Goals:** To continue to make full use of the Ordinance and Regulations to assure that the Stormwater Program is being enforced and managed properly. To review and update the ordinance when the stormwater utility is implemented and for changes made to EPA and DES regulations.

### **# 3-2, Continue Dry Weather Screening of Outfalls – (BMP Completed)**

**Current Status:** The requirement of two inspections during the five-year program was completed.

The ponds were sampled for phosphorous, alkalinity, conductivity, pH, turbidity, temperature, dissolved oxygen, and zooplankton / phytoplankton as part of the VLAP (Volunteer Lake Assessment Program).

The ponds and sections of the rivers are sampled each week during the summer months by the City of Manchester Health Department for recreational purposes. When the water results are greater than 88 E-Coli per 100 milliliters of water the area is usually posted and it may get closed for swimming depending on the location in accordance with NH RSA 485-A, Class B waters.

The Merrimack River was sampled for aluminum four times a month for a year. The sampling program was completed. A wet weather increase for the aluminum concentration has been observed.

The outfalls at the Wastewater Treatment Facility and at the Drop-Off Facility have been monitored according to the Multi Sector General Permit (MSGP).

**BMP Effectiveness Evaluation:** The City has catalogued observable outfalls along the Merrimack and Piscataquog River along with the ponds. The City has collected samples from outfalls that run in dry weather (usually the result of small streams), has tested them and has found that only background levels of bacteria are present. During the rare occasion of elevated bacteria counts follow-up sampling and investigations were conducted.

The urban ponds, being more environmentally sensitive, have several pollutants tested during the course of the summer. Please refer to the list of pollutants above.

**Future Goals:** The City will conduct dry weather screening per the requirements in the next permit. The new numbering system for our collection system as outlined in BMP # 3-4 will be used for the outfall identification when conducting the screening.

Continue sampling the urban ponds during the course of the summer for the pollutants listed above. Sample the outfalls at the Wastewater Treatment Facility and the Drop-Off Facility according to the MSGP.

### **# 3-3, Develop and Implement System for Detection & Elimination of Illicit Discharges – (BMP Completed)**

**Current Status:** This program was developed and submitted with the first year's report. The program has been a good baseline document for detecting illicit discharges. The New Hampshire Seacoast Coalition developed a document entitled "Guidelines and Standard Operating Procedures" for IDDE. Manchester did review this manual and included some of the procedures and suggestions into our developed Illicit Discharge Program.

**BMP Effectiveness Evaluation:** This BMP is effective in providing guidance when trying to determine the source of an illicit discharge that proves to be a difficult source to locate.

**Future Goals:** Our goal is to continue to aggressively respond to illicit discharges as they are found. The City will conduct illicit discharge investigation and monitor the outfalls per the requirements in the next permit.

### **# 3-4, Map Outfalls and Receiving Waters – (BMP Completed)**

**Current Status:** The City's engineer mapped the outfalls from earlier engineering studies in 2001. An extensive GIS mapping system was developed for the City to include both sewage and drainage systems. This mapping has been extended to include tax maps, City assessing information and the water department's infrastructure.

The City's engineering department inputs all the new growth and sewer extension updates into the GIS to assure it is a dynamic mapping system rather than a dated static system. The City's engineering department or our consultant does periodic updates of the GIS from work that has been completed by City crews, City projects, and our CMOM program.

Errors to the developed GIS system continue to be found in the field. The discrepancies are noted and brought to the City's engineering staff so the GIS information can be updated and corrected.

A new numbering system for the collection system features was instituted during the previous reporting year. The new numbering system links to the old numbering system.

**BMP Effectiveness Evaluation:** This tool has proven invaluable to our Stormwater Management Program. It is being used to track cleaning of lines, location of baffle tanks, sectioning off catch basin cleaning areas, and for review to determine potential locations for illicit discharges.

**Future Goals:** The department is taking advantage of more of the capabilities available with the GIS system. The GIS system is being populated by our consultant with information from system maintenance, system inspections, and other vital information. We plan to implement an Asset Management system this year as part of our CMOM program. This system will be used to track the condition and maintenance of the system.

The staff will continue to review the existing aerial photographs before a construction project is started and reference these against the construction as it progresses. A complete flyover of Manchester was completed in April of 2010. The GIS system was updated with the new aerials.

## **BMP #5 Post-Construction Stormwater Management in New Development & Redevelopment**

### **# 5-1, Develop Ordinance to Require Runoff Controls for New & Re-Development for Projects Disturbing > One Acre – (BMP Completed)**

**Current Status:** This requirement is incorporated in the approved Ordinance and adopted Regulations.

Post construction consists of maintaining BMPs and structures that have been installed within a development after the contractor has left. The City spent many hours reviewing documents that required long-term maintenance for installed BMPs.

The department developed a “Long-Term Maintenance Agreement” to be signed by any new developments that are completed within the City. This will assure that the structures that are installed are maintained. The maintenance of structures after the construction was completed has always been the achilles heel throughout the country. Manchester will register this document with the Hillsboro County Registry of Deeds to be part of an Associations’ covenants that will assure that these structures are being maintained. An example of a Long-Term Maintenance Agreement was included in the 2009 Annual Report.

**BMP Effectiveness:** It is early to determine the effectiveness of this document. If it is signed, registered, and carried by the Association it should prove to be a highly effective means of assuring maintenance of BMPs long after the development is completed.

**Future Goals:** To assure that this agreement is signed by the owner and registered by the City before issuing the final certificate of occupancy for all future developments within the City of Manchester. The Coordinator will follow up on the agreements to ensure the maintenance is being performed. This will include an annual report to the City documenting that the maintenance was done, followed up by an inspection by City staff to verify that the maintenance was done.

### **# 5-2, Recommend BMP Manual for Use by Planners and Developers – (BMP Completed)**

**Current Status:** The suggested manuals referenced are outlined in the approved Regulations. These manuals are:

- New Hampshire Department of Environmental Services Sediment and Erosion Control Manual, (Rockingham County “Stormwater Management and Erosion Control Handbook for Urban and Developing Areas”);
- Manchester’s “Standard Specifications for Road, Drain & Sewer Construction”;

- Innovative Stormwater Treatment Technologies BMP Manual, NHDES, May 2003;
- New Hampshire DOT Guidelines for Temporary Erosion and Sediment Control and Stormwater Management – NHDOT Bureau of Construction.

Other reference manuals and materials are mentioned on the website. These have not been incorporated into the Regulations, but warrant a mention on the website. The listing of references mentioned on the website is listed below:

[EPA's BMPs for Stormwater Phase II](#)

[State of New Hampshire BMPs](#)

[International Stormwater BMP Database](#)

[California Stormwater Quality Associations' Handbook for Construction Site BMPs](#)

[U.S. DOT Guide to BMPs](#)

[EPA Guide to Developing a SWPPP](#)

[Overview of Minnesota's Construction Stormwater Permit](#)

[National Resource Defense Council Stormwater Fact Sheet](#)

**BMP Effectiveness:** These references are voluntary guidance. The manuals can be an effective approach as most New Hampshire contractors are familiar with the contents of these manuals and refer to these guidelines when developing their sediment and erosion control plans.

**Future Goals:** Continue to review other manuals to determine if these would be suitable for reference within the Stormwater Regulations. The NHDES has developed a three volume Stormwater Manual. This manual will be added during the next revision.

## **BMP #6 Pollution Prevention / Good Housekeeping for Municipal Operations**

### **# 6-1, Install Silt Fence Around Snow Dump Area – (BMP Ongoing)**

**Current Status:** Silt fences continue to be erected around the snow dumping areas in Manchester. The erection of these fences is verified during the month of November and early December.

In the spring after the snow has melted, any accumulated trash, debris and the silt fence is removed from the site until the next season.

During the previous years the City used a snow-melter to reduce the congestion caused by accumulating snow. This practice helped in reducing the spring peak runoff as the snow was melted during the colder days.

**BMP Effectiveness:** The silt fence keeps the trash and sand that is collected with the plowed snow from entering the waterways.

**Future Goals:** Continue with the existing program and assure silt fence is erected in areas where first time snow dump areas are set up.

### **# 6-2, Catch Basin Cleaning Program, Including Priority Catch Basins – (BMP Ongoing)**

**Current Status:** The City's catch basin cleaning program was on a high priority listing before the Stormwater Phase II program was initiated. The City contracts annually to have catch basins cleaned by a private company. The amount of funding dedicated to catch basin cleaning during Fiscal Year 2012 was \$30,000. The contract that we signed with the CB cleaning contractor is for 1,100 basins per year. The contract also required the contractor to inspect each catch basin after cleaning them.

We cleaned 1,643 catch basins over this reporting year. The catch basins were cleaned by the CB cleaning contractor or by the City's crews. An estimate of 0.4 cubic yards of material per basin is assumed. That would equate to 657 cubic yards of material that was removed from catch basins over the reporting year. The listing of catch basins cleaned is included as Attachment A.

During this reporting year we had issues with both truck numbers 701 and 567. Truck number 701 is our newest truck and truck number 567 is the old truck. Truck number 701 was down for 30 working days straight, it also was down for other maintenance issues. Truck number 567 was down for 12 working days straight, and like 701 it was also down for other maintenance issues.

There is a listing of priority catch basins adjacent to the Urban Ponds in the City that must be inspected annually, it maybe twice if the condition warrants. City personnel inspect these in the spring and City equipment cleans these at least once during the reporting year. If additional cleaning is needed, a City crew is dispatched to clean these basins more frequently. These were all cleaned at least once during 2011 by City of Manchester personnel or by the CB cleaning contractor. The priority status for these basins assures that a significantly reduced pollutant load enters the ponds. The Urban Pond Priority CB Inspection and the Urban Pond Priority CB Cleaning List are included as Attachments B and C respectively. The catch basins surrounding the urban ponds receive top priority.

Sewer calls are tracked to determine if roots, grease or other maintenance issues are the cause of the blockages.

**BMP Effectiveness:** This process continues to work well. The current schedule of CB cleaning is helping to minimize the pollutants getting to the ponds. The ongoing development of the problem areas listing sheet allows the City to trend areas that need more attention and response.

The sewer problem areas are noted and inspected on a minimum of an annual basis and sometimes more frequently, depending on the type and/or frequency of the problem. Approximately 60 percent of the City's sewer system is combined. Heavy rains will cause sewer problems beyond maintenance issues.

The City continues to inspect our sewer manholes in the combined areas through our CMOM program. We are also inspecting combined sewer lines using CCTV and zoom camera technologies. The City is still in negotiations with the EPA on our CSO Long Term Control Plan; this plan outlines our future separation efforts. The first portion of the of the Phase II program as proposed by Manchester will cost \$165 million over 20 years and remove 70 percent of the CSO quantity from the system.

**Future Goals:** To continue designation of the urban pond catch basins as a priority for cleaning. To reinforce to the City the need to finance the private contractor to clean additional catch basins within the City. Increase the number of catch basins cleaned by our crews, hopefully through less down time by our trucks and to address sewer problems through our CMOM program.

### **# 6-3, Sweep Streets Three Times Annually – (BMP Ongoing)**

**Current Status:** The City continues to follow a schedule of street sweeping presented in the first year's report. This year's winter was a typical winter with little sweeping performed during this season. The City has two vacuum and three mechanical sweepers.

Most of the sand found on City streets comes from winter sanding and some small amounts of sediment from erosion on residential lawns. Sand is applied to sidewalks and



schoolyards during snowstorms. Salt is applied to the highways during snowstorms. A sand / salt mix is used during icing conditions or ice storms.

The amount of sand applied varies yearly. It is all weather dependent. The sweepers will pick up aluminum cans, cigarette butts, leaves, paper cups, plastics, and articles of discarded clothes, footwear, and a host of material that is not sand related. When sand is mostly absent from the streets these items make up the bulk of the material collected by the sweeper. When sand is present it may make up the bulk of the material.

Most of the sand is collected off the streets during the first few neighborhood runs immediately after the winter storm season. Otherwise, most of the material collected is what is listed above. Therefore, it would be difficult to determine the amount of sand collected.

**BMP Effectiveness:** This BMP continues to be quite effective as some sections of the inner City business district are swept three times per week and others are swept twice a week. Some other sections of the City are swept once a month. The current sweeping schedule assures all City streets are swept more than three times annually. A copy of the schedule was included in the 2009 Annual Report.

**Future Goals:** To continue the street sweeping program at its current rate.

#### **# 6-4, Continue to Follow SOPs for Disposal of Catch Basin Cleaning and Street Sweeping Residuals – (BMP Ongoing)**

**Current Status:** The City continues to place street sweeping debris and catch basin debris up in the rear lot of the recycling facility. The street sweepings are placed on a concrete pad with three-sided cement block walls. These sweepings are dried out, mixed with the gravel / asphalt pile and eventually ground up to make road base for streets and sidewalks.

The catch basin waste is piled across from the street sweeping debris in a compacted depression. This catch basin waste is allowed to evaporate to a certain extent then it is also mixed with the gravel / asphalt pile and eventually ground up to also make road base for streets and sidewalks.

During 2011 the catch basin cleanings were tested for RCRA 8 Metals, Poly Aromatic Hydrocarbons (PAHs), and Volatile Organic Carbons (VOCs) according to NHDES Management of Street Wastes fact sheet WMD-SW-32. The material met the requirements to be reused in the production of base and sub-base aggregate except for the arsenic and Benzo(a)pyrene results being slightly over. The material is being resampled.

**BMP Effectiveness:** This BMP is effective as designed and provides a reuse for the material collected that would otherwise be sent to landfill.

**Future Goals:** Monitor the catch basin disposal area for evidence of pollution to the surrounding area. Take any BMP measures necessary to assure pollution is contained. Continue annual testing of the catch basin cleanings as required by WMD-SW-32.

**# 6-5, Minimize Salt Usage and Maintain Cover over Salt Storage Area – (BMP Ongoing)**

**Current Status:** The majority of the salt the City uses for highway treatment in the winter is kept under cover at the Highway Garage. There is also a satellite location up at Dunbarton Road that is active during the winter period. This salt pile is covered with a tarp.

All salting trucks are calibrated once annually before the winter sand/salt application season begins to assure the greatest efficiency and minimal salt use during spreading. The amount of salt added in any season is dependent to the number of snowstorms, the amount of freezing rain received and the nightly refreeze conditions of early spring. The State of New Hampshire is leading an effort to control salt application in the area of Interstate 93. On January 22, 2009 the NHDOT received approval from the EPA on four TMDL studies. The State also has a Salt Reduction Workgroup to ensure that the recommendations of the TMDL are implemented. There are other factors playing a role in the full implementation of this BMP.

The State of New Hampshire is working with communities along the Interstate 93 corridor to reduce the use of salt. They are signing salt reduction agreements with these communities.

The State of New Hampshire brought forward HB 1676 – FN during this legislative session. This bill would have required the certification of commercial road salt applicators. The bill was referred to an interim study. It never moved forward.

The State of New Hampshire brought forward HB 202 during the last legislative session. This bill would have required the certification of commercial road salt applicators. This bill was voted down by the Resources, Recreation and Development Committee of the House. This bill would have helped reduce the amount of chlorides being applied at commercial parking lots.

The certification will continue through the UNH Technology Transfer program (similar to their Road Scholars program). The program is called the Green SnowPro certification program and they have 175 people certified to date. The program includes BMPs for deicing operations and a tracking tool track salt usage. Although this is voluntary, the NHDES will promote this by highlighting cost savings through reduction of salt use, emphasizing the certified operators to parking lot owners and that this certification will be what would be required in future legislation.

The postings for the trainings will be at: <http://www.t2.unh.edu/>. The next training session is scheduled for April 25, 2012 in Derry, NH.

Manchester undertook a sub-watershed review around the Nutt Pond area for salting and sanding reduction. This pilot study used a model to see what improvements can be made to reduce the sand and salt application in this area and quantify the success. A sand reduction program was developed and distributed to the commercial property owners in the watershed.

**BMP Effectiveness:** Salt usage is weather dependent and it is hard to gauge effectiveness. Manchester can compare the current chloride analyses taken at the urban ponds and compare those to past years to determine if there is a reduction. The unknown factor is the number of homes around any pond that have water-softening units, which contribute chlorides to the water table.

A survey was conducted to gauge the effectiveness of the sand reduction program around Nutt Pond. Of the 50 commercial property owners that received copies of the sand reduction program and were asked to complete an online survey, only 2.5 surveys were completed. One facility only completed half of the survey.

The Nutt Pond Watershed Restoration Plan and modeling was completed in January, 2010. A copy of the plan was included in the 2010 Annual Report.

**Future Goals:** Implement recommendations in the Nutt Pond Watershed Restoration Plan.

**# 6-6, Develop / Implement Program for Cleaning Pond Inlets & Trash Racks – (BMP Ongoing)**

**Current Status:** The project at Nutts Pond was completed in 2007. The new structures have been added to the maintenance logs. The modification to the structure at the North Inlet allows the isolation of the structure from the pond by using the installed gates. This will allow the removal of sediment from the structure. During the retrofit 20 cubic yards were removed from this structure. A repair was made in 2010 in the wetlands at the East Inlet. One of the channels had some erosion. The channel was repaired and seeded. It was inspected this spring and the repair has held.

The City of Manchester completed another project in the Nutt Pond watershed. The project was referred to as the Woodgate Court Drainage Project. It was named this because the project starts at the end of Woodgate Court. A section of Tannery Brook at the end of Woodgate Court upstream of Nutt Pond was dredged and stabilized using natural vegetation, erosion control fabric, biologs, rock cross vanes, and natural seed mixes. Approximately 4,500 cubic yards of sediment were dredged from this channel. To protect this area from silting up again in the future a deep sump catch basin and a ten foot diameter deep sump drain manhole were installed. These two structures were added to the inspection list. They are inspected twice per year and cleaned at least once per year.

The dredging and stabilization of this channel should help reduce the loadings to the Nutt Pond East Inlet Forebay. The majority of the sediment that has been dredged from this forebay in the past originated from this channel and not from winter sanding operations.

The three, three-chamber baffle tanks at Dorrs Pond, the one, three-chamber baffle tank at Crystal Lake and the Vortech swirl concentrator at Douglas street have all been inspected. The City added a swirl concentrator to the listing in 2007 that was in the Hooksett Plaza.

The City continues to use the checklist for the spring and fall inspections of these units to assure they are cleaned when they begin to get filled with sediment. A Copy of the inspection forms is included as Attachment D.

There is a StormTreat™ System at Crystal Lake that the City is currently operating. It was restarted in May of 2005. The City cleaned the lines, retrofitted the baffle tank and now has the unit on the semi-annual inspection checklist. The system worked fine during 2009.

The work that was done at Crystal Lake was recognized by the EPA as a Nonpoint Source Program Success Story. Crystal Lake and Crystal Lake Beach are no longer listed as impaired for primary or secondary contact recreation for sedimentation / siltation. A copy of this article was included in the 2009 Annual Report.

**BMP Effectiveness:** The amounts of sediment that are removed from the various structures indicate that the program is highly effective.

**Future Goals:** To assure that the structures continue to be checked on a semi-annual basis and they are cleaned when they are partially full. The lilies will be checked each year and replaced as necessary.

The City of Manchester submitted a 319 Grant application in 2010 to continue to do work in the Nutt Pond watershed. The grant was approved by the NHDES and the EPA. We will select and engineer in 2012 and design the project. Construction will take place in 2013.

#### **# 6-7, Develop / Implement Employee Education Program – (BMP Ongoing)**

**Current Status:** The City continues to provide training to the staff who are involved with any aspect of stormwater management. A PowerPoint presentation on Best Management Practices (BMPs) and Low Impact Development (LID) Techniques and another PowerPoint on BMP Selection was conducted with the Engineering Group and the Sewer Crew on April 12<sup>th</sup> and the 13<sup>th</sup> of 2012. The training logs are included as Attachment E. The training this year included an overview of 2012 EPA Construction General Permit.

The City took part in the second annual New Hampshire Watershed Manager's Roundtable meeting held on October 20, 2011. The City of Manchester was not required to make a presentation during this meeting, but we did take part in the roundtable discussion and the tours. We will plan on taking part in the future meetings and will make presentations on projects when we are asked.

The SEPP funding has ended for the Merrimack River "MATTERS" Program. Our department will continue to make presentations at the schools in spite of the reduced program activity that results from the cutbacks. The Amoskeag Fishways also greatly reduced their involvement with the "MATTERS" Program.

To continue the outreach to the students. The City will continue to provide tours of the WWTP and training with students on wastewater and stormwater from the three different high schools in Manchester. This program was started in 2007 and has become an annual event. We also in the past had a session with a class from Hesser College and with some middle school students. This will also continue in the future.

We also participate in the Science Fair judging with the Manchester Water Works on an annual basis. The amount of funding dedicated to student outreach to promote the successful SEPP programs during Fiscal Year 2012 was \$7,000.

Manchester structures a training module for stormwater coordinators in surrounding communities during the coalition meetings. The latest meeting was held on February 14, 2012. Copies of the minutes and agendas of previous meetings and examples of the training are included in the enclosed CD.

Manchester set a participant to take part in the American Public Works Association (APWA) Global Solutions in Public Works Toronto Technical Tour that took place July 18<sup>th</sup> through the 19<sup>th</sup>. The focus of the technical tour was on stormwater management (SWM) and Combined Sewer Overflows (CSO). The international collaborative included participants from the New England (NE) and Maine chapters of the APWA. The Ontario Public Works Association (OPWA) hosted the collaborative along with the City of Toronto. The technical tour included technical sessions and tours with the City of Toronto Public Works, the Ministry of Environment, the Region of Peel Public Works, the OPWA, and the Toronto and Region Conservation Authority. The NE and Maine chapters learned about Toronto's approach to SWM and CSO, and did take this information back to their communities to best utilize it.

The trip helped establish a professional network for the communities involved to share ideas and approaches to issues that we all face. The trip was very successful. Robert Robinson from the City of Manchester and Eric Labelle from the City of Portland collaborated on an article about the technical tour that was published in the November 2011 edition of the APWA Reporter magazine, a copy of the magazine and the article is included in the enclosed CD.

**BMP Effectiveness:** This BMP continues to grow, and with previous experience, is more effective with each passing year. The only area that will see a decrease in training is the work with the middle school students. The high school students are now receiving training. Employees who work in the field and inspect construction sites are more familiar with the requirements of the Manchester's Stormwater Program.

**Future Goals:** To continue the outreach to the students and provide training on wastewater and stormwater. The EPD also participates in the Science Fair judging with the Manchester Water Works.

Continue the training of City staff regarding the stormwater program. Continue hosting the regional S.W.A.T. (Stormwater Assessment Team) meetings.

On May 15, 2012 we are scheduled to do a presentation on the following topic: Nutt Pond Watershed Restoration Plan and Case Studies. The City will continue to make presentations at other seminars.

Work with the SCA or other student groups to complete more environmental projects around the urban ponds.

**# 6-8, Design & Construct Pond Specific Pollution Prevention Projects – (BMP Completed)**

**Current Status:** All pond specific pollution projects have been designed in accordance with the five-year program and the Supplemental Environmental Projects Programs requirements. This is a completed task.

**BMP Effectiveness:** Many of the benefits of these pond specific projects are outlined in BMP # 6-6. These structures have removed several hundred cubic yards of material from the river and ponds that would have otherwise entered these water bodies.

**Future Goals:** Continue the upkeep and inspections of these structures. Please refer to BMP # 6-6.

**# 6-9, Best Management Practices for Derryfield Country Club – (BMP Completed)**

**Current Status:** This BMP was completed. The asphalt cart path has held up well and has almost eliminated erosion in a location that was previously heavily eroded.

**BMP Effectiveness:** This BMP reduces the amount of sediment contributed from the second hole at the Country Club. Each year approximately 10 to 15 cubic yards of fill was brought in to repair the erosion caused by the winter snowmelt in this area. Since the installation of the asphalt cart path this has not been necessary.

**Future Goals:** There are no future goals regarding this BMP.

## Stormwater Catch Basin Cleaning Program

### Program year May 2011 through April 2012

In accordance with the City of Manchester's Stormwater Management Program, the City is required, under BMP #6-2, to track the catch basins that are cleaned. This is a listing of the streets where catch basins have been cleaned throughout the City. During this reporting year over 1,643 catch basins (657 cubic yards of material) were cleaned in the below listed streets by the private contractor and by the City of Manchester personnel. Manchester is using .4 cubic yards as an estimate for each basin cleaned for material removed. Additional basins are being cleaned this spring and will be included in next year's report.

During this reporting year we had issues with both truck numbers 701 and 567. Truck number 701 is our newest truck and truck number 567 is the old truck. Truck number 701 was down for 30 working days straight, it also was down for other maintenance issues. Truck number 567 was down for 12 working days straight, and like 701 it was also down for other maintenance issues.

It is important to note that not all catch basins on the named streets may have been cleaned. If a vehicle is parked over a catch basin that particular catch basin is skipped. An outside contractor cleaned most of the catch basins on the listed streets below. City of Manchester personnel cleaned all the catch basins around the ponds and additional basins in certain areas in the City.

The listing of streets that were cleaned during the contract period of April 1, 2011 through December 31, 2011.

#### **West Side of the Merrimack River in the City of Manchester**

- Boynton Street
- Second Street
- South Main Street
- Sheridan Street
- Harriman Street
- Glenwood Avenue
- Patterson Street
- Abbott Street
- Salem Street
- Oneida Street
- Almond Street
- Marston Street
- Dunlap Street
- West Erie Street
- Erie Street
- Coburn Street
- Shawmut Street
- Allen Street

- Donald Street
- Pasture Drive
- Leandre Street
- Lewis Street
- Milford Street
- Huntress Street
- Balch Avenue
- Ann Avenue
- Newgate Circle
- Harvelle Street
- Bank Street
- A Street
- B Street
- C Street
- Prince Street
- Woodbury Street
- Bowman Street
- Grondin Street
- Frederick Street
- Hill Street
- Schiller Street
- Master Street
- Poor Street
- Thorp Street
- McQuesten Street
- Wentworth Street
- School Street
- School Street South Back
- Fourth Street
- Fourth Street East Back
- Third Street
- Bath Street
- Drummond Street
- Ferry Street
- Turner Street
- Blaine Street
- Rockland Avenue
- St. James Avenue
- Stewart Street
- Austin Street
- Worthley Road
- Mast Road
- Brock Street
- Becker Street
- Kingston Street



- Geneva Street
- Warner Street
- George Street
- Summerside Avenue
- Gates Street
- Cartier Street
- Amory Street
- Putnam Street
- Bartlett Street
- Winter Street
- Granite Street
- Cumberland Street
- Columbus Street
- Essex Street
- Laval Street
- Boutwell Street
- Sullivan Street
- Riddle Street
- Head Street
- Varney Street
- Dubuque Street
- West Street
- Conant Street
- Notre Dame Avenue
- Kelley Street
- Queen City Avenue
- Tilton Street
- Allard Drive
- Foundry Street
- Walker Street
- Douglas Street
- Quincy Street
- Gilford Street
- Tilton Street
- Carroll Street
- Bismark Street
- Rochelle Avenue
- Forest Street
- Precourt Street
- Sylvester Street
- Ingalls Street
- Demers Street
- Charleston Avenue
- Reed Street
- Youville Street

- Alsace Street
- Joliette Street
- Whipple Street
- Monitor Street
- Kearsarge Street
- Morgan Street
- Thornton Street
- Janelle Avenue
- Lafayette Street

The following is a listing of streets, they were determined to be priority streets in the Phase I Malcolm-Pirnie study, around the City of Manchester's Urban Ponds. City personnel inspect these in the spring and City equipment cleans these at least once during the reporting year. If additional cleaning is needed, a City crew is dispatched to clean these basins more frequently. These were all cleaned at least once during 2011 by City of Manchester personnel.

**Stevens Pond**

- Pennsylvania Avenue
- Delaware Avenue
- Beaver Street (to Bridge Street)
- Maplehurst Street (to Bridge Street)
- Ohio Avenue

**Maxwell Pond (Black Brook)**

- English Village Road
- Garden Road
- Greeley Street (CB 3950 to CB 3948)

**Dorrs Pond**

- Apple Court
- Hooksett Road (CB 1277 to 1272)
- Poplar Street
- Juniper Street
- Shady Lane
- Campbell Street (Shady Lane to Poplar Street)
- Bicentennial Drive (CB 1289 to CB 1284)
- Crosbie Street (Pickering Street to Hooksett Road)
- Day Street (Fairfield Street to Hooksett Road)
- Pickering Street (Barrett Street to Crosbie)
- Livingston Park / Pool lots

**McQuestan Pond**

- South Main Street (Intersection of Second Street to Oneida Street)
- South Main Street (Newgate Circle to Balch Ave.)
- Erie Street

**Nutt Pond**

- Driving Park Road
- Leclerc Circle
- March Avenue (from Gold Street to John E. Devine Drive)
- John E. Devine (From South Willow Street)
- McGrail Circle
- Bradley Street
- Beech Hill Ave. (Beech Hill Street to Bradley Street)
- Beech Hill Drive (To Bradley Street)
- Titus Ave. (east from South Beech Street)
- Mystic Street (From Ruggles Street to Fowler Street)
- Ruggles Street
- Fowler Street

**Pine Island Pond**

- Goffs Falls Road (Gosselin Road to Pond Drive)
- Pond Drive
- Kennedy Street

**Crystal Lake**

- Corning Road (CB 3053 to 3049)
- Corning Road (Intersection of Bryant Road up toward Bodwell Road)
- West Shore Avenue

ATTACHMENT B

## Urban Pond Priority CB Inspection

<p><b>Nutts Pond</b> - Map 4G                      March Avenue - 11 CBs                      Driving Park Road - 8 CBs                      John E. Devine - 8 CBs</p>	<p><u>April, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      Inspected, clean in the fall.</p>
<p><b>Crystal Lake</b> - Map 6H                      Corning Road - 9 CBs</p>	<p><u>April, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      Inspected, clean in the fall.</p>
<p><b>Dorrs Pond</b> - Map - 4C                      Juniper Street - 7 CBs                      Poplar Street - 14 CBs                      Arah Street - 20 CBs                      Bicentennial Drive - 6 CBs                      Day Street - 8 CBs                      Crosbie Street - 6 CBs                      Hooksett Road - 6 CBs</p>	<p><u>October, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      Inspected, already cleaned in June.</p>
<p><b>Pine Island Pond</b> - Map 4I                      Goffs Falls Road - 11 CBs                      Kennedy Street - 2 CBs                      Pond Drive - 10 CBs</p>	<p><u>October, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      Inspected, already cleaned in May.</p>
<p><b>Maxwell Pond</b> - Map 2D  <b>(Black Brook)</b>                      Garden Drive - 9 CBs                      English Village Road - 11 CBs                      Greeley Street - 2 CBs</p>	<p><u>October, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      Inspected, already cleaned in May.</p>
<p><b>McQuesten Pond</b> - Map 2G                      Erie Street - 10 CBs                      South Main Street - 18 CBs (Newgate to Ann Ave)                      South Main Street - 10 CBs (Second to Oneida)</p>	<p><u>October, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      Inspected, already cleaned in June.</p>
<p><b>Stevens Pond</b> - Map 5E &amp; 6E                      Maplehurst Avenue - 5 CBs                      Beaver Street - 3 CBs                      Bridge Street - 4 CBs                      Pennsylvania Avenue - 5 CBs                      Delaware Avenue - 5 CBs</p>	<p><u>April, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      Inspected, clean in the fall.</p>

ATTACHMENT C

## Urban Pond Priority CB Cleaning List

<p><b>Nutts Pond</b> - Map 4G                      March Avenue - 11 CBs                      Driving Park Road - 8 CBs                      John E. Devine - 8 CBs</p>	<p><u>September, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      V-567</p>
<p><b>Crystal Lake</b> - Map 6H                      Corning Road - 9 CBs</p>	<p><u>September, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      V-567</p>
<p><b>Dorrs Pond</b> - Map - 4C                      Juniper Street - 7 CBs                      Poplar Street - 14 CBs                      Arah Street - 20 CBs                      Bicentennial Drive - 6 CBs                      Day Street - 8 CBs                      Crosbie Street - 6 CBs                      Hooksett Road - 6 CBs</p>	<p><u>June, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      V-567</p>
<p><b>Pine Island Pond</b> - Map 4I                      Goffs Falls Road - 11 CBs                      Kennedy Street - 2 CBs                      Pond Drive - 10 CBs</p>	<p><u>May, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      V-567</p>
<p><b>Maxwell Pond</b> - Map 2D  <b>(Black Brook)</b>                      Garden Drive - 9 CBs                      English Village Road - 11 CBs                      Greeley Street - 2 CBs</p>	<p><u>May, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      V-701</p>
<p><b>McQuesten Pond</b> - Map 2G                      Erie Street - 10 CBs                      South Main Street - 18 CBs (Newgate to Ann Ave)                      South Main Street - 10 CBs (Second to Oneida)</p>	<p><u>June, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      Felix Septic, CB Contract Cleaning</p>
<p><b>Stevens Pond</b> - Map 5E &amp; 6E                      Maplehurst Avenue - 5 CBs                      Beaver Street - 3 CBs                      Bridge Street - 4 CBs                      Pennsylvania Avenue - 5 CBs                      Delaware Avenue - 5 CBs</p>	<p><u>October, 2011</u>                      Name of Crew: _____</p>	<p>Date Work Completed                      V-567</p>

**Tank Name - Crystal Lake STS** Date: 08/12/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

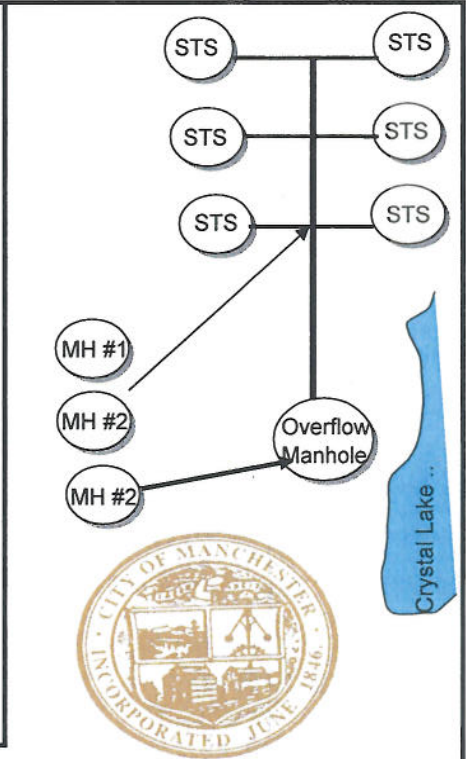
**1st Inspection Port Information**  
 Water Appearance in 1st Port: [ ] dry [ ] odor [ ] oily [X] H2O depth/in. - 1 - 2 ft  
 Depth of sand: [ ] 1"- 3" [ ] 4"- 6" [X] 7"- 9" [ ] 10"- 12" [ ] 1 - 2 feet [ ] > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom? [ ] YES [X] NO  
 Structural Condition: [X] Excellent [ ] Very Good [ ] Good [ ] Fair [ ] Poor [ ] Repair  
 Weed/brush growth around tank: [ ] None [X] Little [ ] Moderate [ ] Heavy

**2nd Inspection Port Information**  
 Water Appearance in 1st Port: [ ] dry [ ] odor [ ] oily [X] H2O depth/in. 1 - 2 ft  
 Depth of sand: [ ] 1"- 3" [X] 4"- 6" [ ] 7"- 9" [ ] 10"- 12" [ ] 1 - 2 feet [ ] > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom? [ ] YES [X] NO  
 Structural Condition: [X] Excellent [ ] Very Good [ ] Good [ ] Fair [ ] Poor [ ] Repair

**3rd Inspection Port Information**  
 Water Appearance in 1st Port: [ ] dry [ ] odor [ ] oily [ ] H2O depth/in.  
 Depth of sand: [X] 1"- 3" [ ] 4"- 6" [ ] 7"- 9" [ ] 10"- 12" [ ] 1 - 2 feet [ ] > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom? [?] YES [ ] NO  
 Structural Condition: [X] Excellent [ ] Very Good [ ] Good [ ] Fair [ ] Poor [ ] Repair

Recommendations: Cleaned both chambers.

If cleaned, how much sand/grit was removed? 0.5 Cubic Yards



**Tank Name Corning Road** Date: 8/12/2011  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

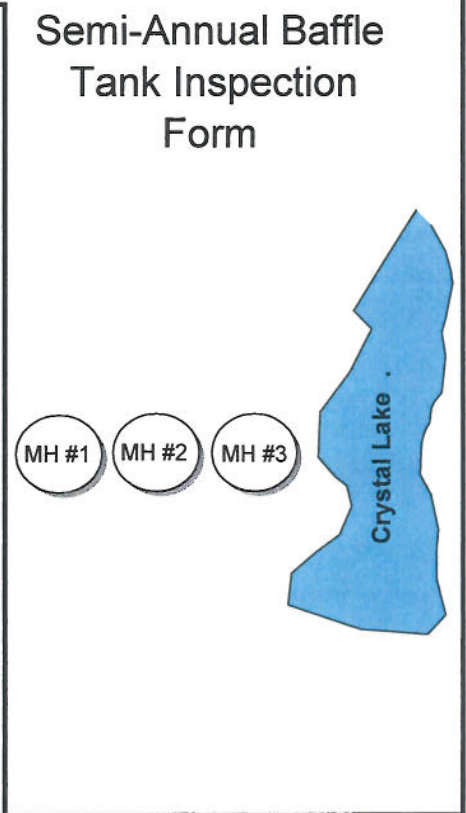
**1st Inspection Port Information** Elev. To rim 12.ft  
 Water Appearance in 1st Port: [ ] dry [ ] odor [ ] oily [X] H2O depth/in. 2 ft  
 Depth of sand: [X] 1"- 3" [ ] 4"- 6" [ ] 7"- 9" [ ] 10"- 12" [ ] 1 - 2 feet [ ] > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom? [X] YES [ ] NO  
 Structural Condition: [X] Excellent [ ] Very Good [ ] Good [ ] Fair [ ] Poor [ ] Repair  
 Weed/brush growth around tank: [X] None [ ] Little [ ] Moderate [ ] Heavy

**2nd Inspection Port Information** Elev. To rim 11.5 ft.  
 Water Appearance in 1st Port: [ ] dry [ ] odor [ ] oily [X] H2O depth/in. 2 ft  
 Depth of sand: [X] 1"- 3" [ ] 4"- 6" [ ] 7"- 9" [ ] 10"- 12" [ ] 1 - 2 feet [ ] > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom? [X] YES [ ] NO  
 Structural Condition: [X] Excellent [ ] Very Good [ ] Good [ ] Fair [ ] Poor [ ] Repair

**3rd Inspection Port Information** Elev. To rim 11 ft.  
 Water Appearance in 1st Port: [ ] dry [ ] odor [ ] oily [X] H2O depth/in. 2 ft  
 Depth of sand: [X] 1"- 3" [ ] 4"- 6" [ ] 7"- 9" [ ] 10"- 12" [ ] 1 - 2 feet [ ] > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom? [ ] YES [ ] NO  
 Structural Condition: [X] Excellent [ ] Very Good [ ] Good [ ] Fair [ ] Poor [ ] Repair

Recommendations: Cleaned the first chamber.

If cleaned, how much sand/grit was removed? 0.25 Cubic Yard



Tank Name Dorrs Pond - Opp Papa Gino's - Site 4 Date: 08/12/11 17' 5"  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

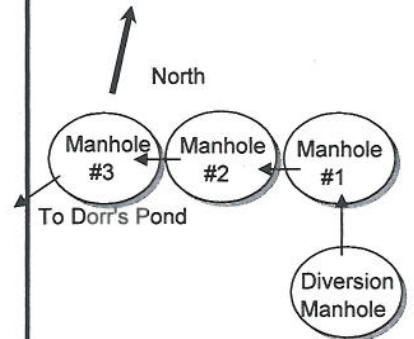
**Inspect Diversion Manhole** Sand Depth  <6"  <12"  Full  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**1st Inspection Port Information**  
 Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

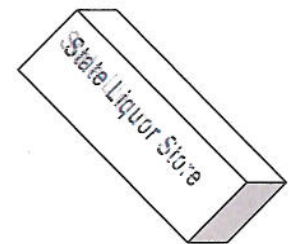
**2nd Inspection Port Information**  
 Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

**3rd Inspection Port Information**  
 Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy  
 Recommendations: Clean the first chamber.

If cleaned, how much sand/grit was removed? 0.0 Cubic Yards



### Semi-Annual Baffle Tank Inspection Form



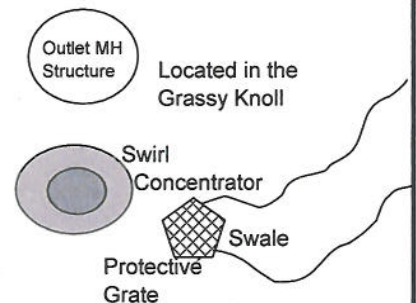
Tank Name Hooksett Plaza- across from State Liquor Store Date: 08/12/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

**1st Inspection Port Information - Inspection Port over Swirl Concentrator**  
 Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

**2nd Inspection Port Information**  
 Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**3rd Inspection Port Information**  
 Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Recommendations: The structure was cleaned.

If cleaned, how much sand/grit was removed? 0.0 Cubic Yards



Tank Name Dorrs Pond - KFC - 16' - Site 5 Date: 08/12/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

Inspect Diversion Manhole Sand Depth  <6"  <12"  Full  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**1st Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

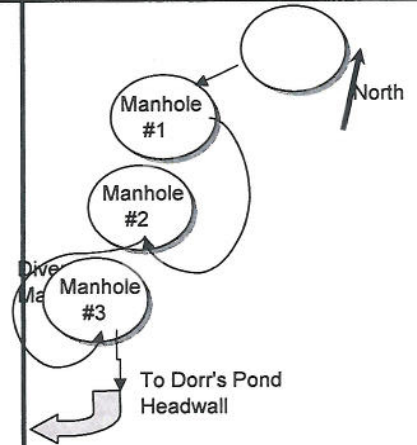
**2nd Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

**3rd Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy  
 Recommendations: Cleaned all three chambers.

If cleaned, how much sand/grit was removed? 3.0 Cubic Yards



**Semi-Annual Baffle Tank Inspection Form**

Tank Name Dorrs Pond - Headwall - 12' - Site 6 Date: 08/12/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

Inspect Diversion Manhole Sand Depth  <6"  <12"  Full  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**1st Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

**2nd Inspection Port Information**

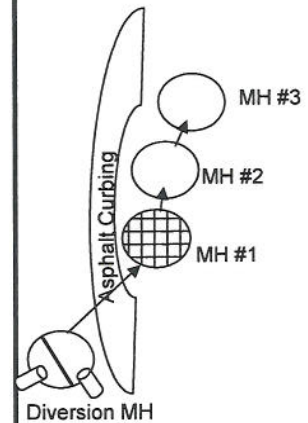
Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**3rd Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

Recommendations: Cleaned all three chambers.

If cleaned, how much sand/grit was removed? 3.0 Cubic Yards





ATTACHMENT D

Tank Name Douglas St. - Vortechincs Date: 08/12/11 17' 5"  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

**Inspect Diversion Manhole** Sand Depth  <6"  <12"  Full  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**1st Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

**2nd Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

**3rd Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy  
 Recommendations: Cleaned the first two chambers.

If cleaned, how much sand/grit was removed? 3.0 Cubic Yards



**Semi-Annual  
 Vortechincs  
 Inspection Form**

**Tank Name** Nutts Pond South Inlet **Date:** 08/12/11  
**Inspector(s):** Rob Robinson & Jean Paul Gilbert

**Baffle Tank**  
 Water Appearance:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

Recommendations: Removed the floatables. The structure cannot be fully cleaned because it cannot be isolated from the pond. The Henry's / South Inlet Forebay will capture the solids.

If cleaned, how much sand/grit was removed? N/A Cubic Yards



**Semi-Annual Baffle Tank Inspection Form**

**Tank Name** Nutts Pond North Inlet **Date:** 08/12/11  
**Inspector(s):** Rob Robinson & Jean Paul Gilbert

**Baffle Tank**  
 Water Appearance:  dry  odor  oily  H2O depth/in. 3 - 4 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

Recommendations: The sediment and floatables are in the first chamber. The rod needs to be straightened again. It was damaged again. We will try a sleeve around it. Removed the floatables.

If cleaned, how much sand/grit was removed? 0.0 Cubic Yards

**Tank Name** Nutts Pond East Inlet Forebay **Date:** 08/12/11  
**Inspector(s):** Rob Robinson & Jean Paul Gilbert

**Forebay**  
 Water Appearance:  dry  odor  oily  H2O depth/in. 3 - 4 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the forebay bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

Recommendations: The forebay needs to be cleaned. The secondary forebay needs to be cleaned.

If cleaned, how much sand/grit was removed? 0.0 Cubic Yards



**Semi-Annual Forebay Inspection Form**

**Tank Name** Nutts Pond Henry's / South Inlet Forebay **Date:** 08/12/11  
**Inspector(s):** Rob Robinson & Jean Paul Gilbert

**Forebay**  
 Water Appearance:  dry  odor  oily  H2O depth/in. 3 - 4 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the forebay bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

Recommendations: The forebay needs to be cleaned.

If cleaned, how much sand/grit was removed? 0.0 Cubic Yards

ATTACHMENT D



Semi-Annual  
Inspection Form

Tank Name Woodgate Court 10' Dia. DMH Date: 08/12/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

**Baffle Tank**

Water Appearance:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

Recommendations: Cleaned the DMH and removed the floatables.

If cleaned, how much sand/grit was removed? 1.0 Cubic Yards

Tank Name Woodgate Court DS CB Date: 08/12/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

**Baffle Tank**

Water Appearance:  dry  odor  oily  H2O depth/in. 3 - 4 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

Recommendations: Cleaned the CB.

If cleaned, how much sand/grit was removed? 0.5 Cubic Yards

**Tank Name - Crystal Lake STS** Date: 11/28/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

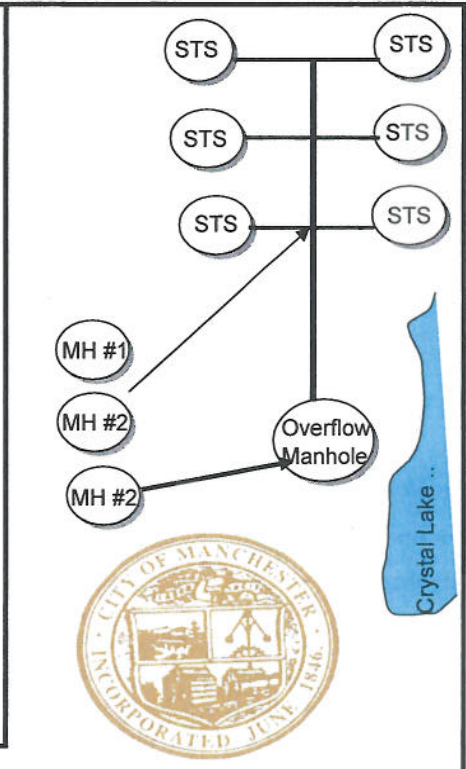
**1st Inspection Port Information**  
 Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. - 1 - 2 ft  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

**2nd Inspection Port Information**  
 Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 1 - 2 ft  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**3rd Inspection Port Information**  
 Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

Recommendations: Okay till spring.

If cleaned, how much sand/grit was removed? 0.0 Cubic Yards



**Tank Name Corning Road** Date: 11/28/2011  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

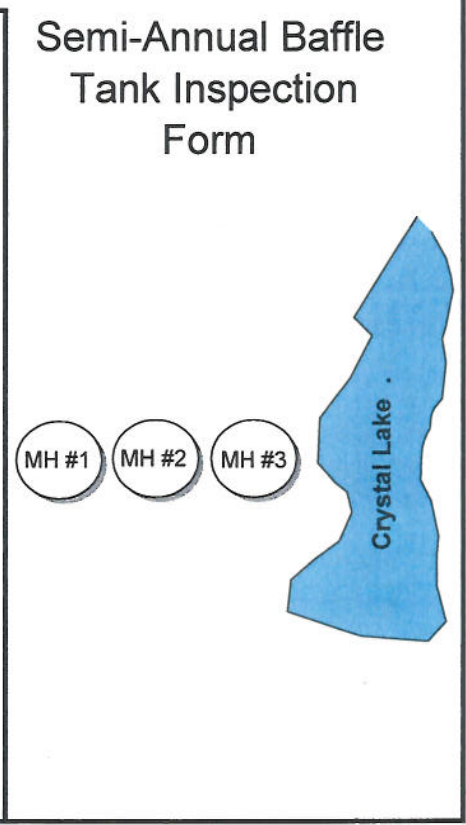
**1st Inspection Port Information** Elev. To rim 12 ft  
 Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 ft  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

**2nd Inspection Port Information** Elev. To rim 11.5 ft.  
 Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**3rd Inspection Port Information** Elev. To rim 11 ft.  
 Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

Recommendations: Okay till spring.

If cleaned, how much sand/grit was removed? 0.0 Cubic Yard



Tank Name Dorris Pond - Opp Papa Gino's - Site 4 Date: 11/28/11 17' 5"  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

Inspect **Diversion Manhole** Sand Depth  <6"  <12"  Full  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**1st Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

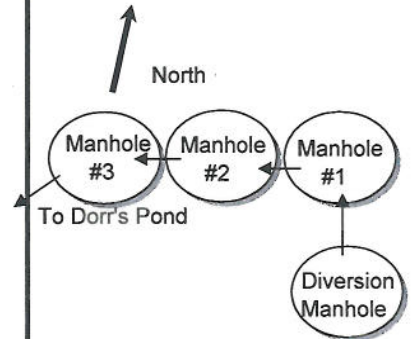
**2nd Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

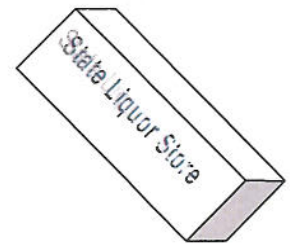
**3rd Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy  
 Recommendations: Cleaned the first chamber.

If cleaned, how much sand/grit was removed? 1.0 Cubic Yards



**Semi-Annual Baffle Tank Inspection Form**



Tank Name Hooksett Plaza- across from State Liquor Store Date: 11/28/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

**1st Inspection Port Information - Inspection Port over Swirl Concentrator**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

**2nd Inspection Port Information**

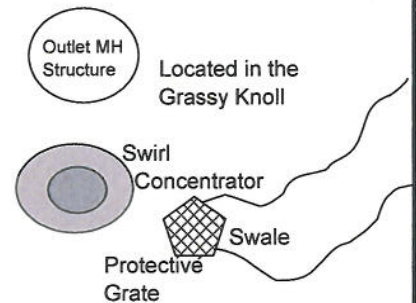
Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**3rd Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

Recommendations: Cleaned the structure. Removed the oil and grease.

If cleaned, how much sand/grit was removed? 0.0 Cubic Yards



Tank Name Dorrs Pond - KFC - 16' - Site 5 Date: 11/28/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

Inspect **Diversion Manhole** Sand Depth  <6"  <12"  Full  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**1st Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

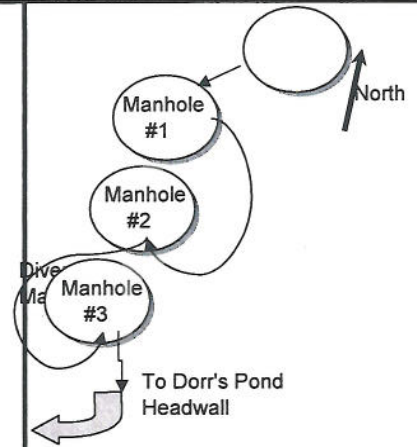
**2nd Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

**3rd Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy  
 Recommendations: Clean all three chambers. One chamber was cleaned, will clean the other chambers in the spring.

If cleaned, how much sand/grit was removed? 1.0 Cubic Yards



**Semi-Annual Baffle Tank Inspection Form**

Tank Name Dorrs Pond - Headwall - 12' - Site 6 Date: 11/28/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

Inspect **Diversion Manhole** Sand Depth  <6"  <12"  Full  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**1st Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

**2nd Inspection Port Information**

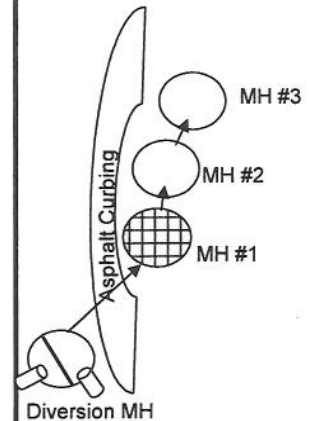
Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**3rd Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

Recommendations: Okay till spring.

If cleaned, how much sand/grit was removed? 0.0 Cubic Yards



ATTACHMENT D

Tank Name Douglas St. - Vortechincs Date: 11/28/11 17' 5"  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

**Inspect Diversion Manhole** Sand Depth  <6"  <12"  Full  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair

**1st Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

**2nd Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

**3rd Inspection Port Information**

Water Appearance in 1st Port:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy  
 Recommendations: Okay till spring.

If cleaned, how much sand/grit was removed? 0.0 Cubic Yards



Semi-Annual  
 Vortechincs  
 Inspection Form

Tank Name Nutts Pond South Inlet Date: 11/28/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

**Baffle Tank**  
 Water Appearance:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

Recommendations: Removed the floatables. The structure cannot be fully cleaned because it cannot be isolated from the pond. The Henry's / South Inlet Forebay will capture the solids.

If cleaned, how much sand/grit was removed? N/A Cubic Yards



Semi-Annual Baffle  
 Tank Inspection  
 Form

Tank Name Nutts Pond North Inlet Date: 11/28/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

**Baffle Tank**  
 Water Appearance:  dry  odor  oily  H2O depth/in. 3 - 4 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

Recommendations: The sediment and floatables are in the first chamber. Need to isolate by using the gates. Removed the floatables.

If cleaned, how much sand/grit was removed? 0.0 Cubic Yards

Tank Name Nutts Pond East Inlet Forebay Date: 11/28/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

**Forebay**  
 Water Appearance:  dry  odor  oily  H2O depth/in. 3 - 4 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the forebay bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

Recommendations: The forebay was cleaned on 1/9/12.

If cleaned, how much sand/grit was removed? 60.0 Cubic Yards



Semi-Annual  
 Forebay Inspection  
 Form

Tank Name Nutts Pond Henry's / South Inlet Forebay Date: 11/28/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

**Forebay**  
 Water Appearance:  dry  odor  oily  H2O depth/in. 3 - 4 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the forebay bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

Recommendations: The forebay was cleaned on 1/9, 1/10, and 1/11/12.

If cleaned, how much sand/grit was removed? 144.0 Cubic Yards



ATTACHMENT D

Tank Name Woodgate Court 10' Dia. DMH Date: 11/28/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

**Baffle Tank**

Water Appearance:  dry  odor  oily  H2O depth/in. 2 - 3 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

Recommendations: Cleaned the DMH and removed the floatables.

If cleaned, how much sand/grit was removed? 0.0 Cubic Yards

Tank Name Woodgate Court DS CB Date: 11/28/11  
 Inspector(s): Rob Robinson & Jean Paul Gilbert

**Baffle Tank**

Water Appearance:  dry  odor  oily  H2O depth/in. 3 - 4 ft.  
 Depth of sand:  1"- 3"  4"- 6"  7"- 9"  10"- 12"  1 - 2 feet  > 2ft.  
 Does the sand seem to be evenly distributed throughout the tank bottom?  YES  NO  
 Structural Condition:  Excellent  Very Good  Good  Fair  Poor  Repair  
 Weed/brush growth around tank:  None  Little  Moderate  Heavy

Recommendations: Okay till spring.

If cleaned, how much sand/grit was removed? 0.0 Cubic Yards



**Semi-Annual  
 Inspection Form**

ATTACHMENT E



1 Hour

**Stormwater Training Program  
Sewer Crew and Engineering Staff**

1. 2012 EPA Construction General Permit;
2. Wrap Up

Date	Day	Time	Location
(1) 4/12/2011	Thursday	8:30 AM	Highway
(2) 4/13/2011	Friday	8:30 AM	Highway

**Training Session # Year 9 - Training**

Name of People Attending:

Bruce Thomas \_\_\_\_\_

Bob Ryan \_\_\_\_\_ Dick Mays \_\_\_\_\_

Rick DeBlase \_\_\_\_\_ John C. ... \_\_\_\_\_

Ned Desimini \_\_\_\_\_ Paul ... \_\_\_\_\_

Jay DAYINI \_\_\_\_\_

Don ... \_\_\_\_\_

Rick ... \_\_\_\_\_

ATTACHMENT E



1 Hour

**Stormwater Training Program  
Sewer Crew and Engineering Staff**

1. 2012 EPA Construction General Permit;
2. Wrap Up

Date	Day	Time	Location
(1) 4/12/2011	Thursday	8:30 AM	Highway
(2) 4/13/2011	Friday	8:30 AM	Highway

**Training Session # Year 9 - Training**

Name of People Attending:

<u>Tim Perkins</u>	<u>Dennis Anttil</u>
<u>Robert Johnson</u>	<u>B F Farnsworth</u>
<u>NATE VALLEY</u>	<u>David Winston</u>
<u>Jay Lorenz</u>	<u>Myky</u>
<u>Tom Moran</u>	<u>Tom Cronin</u>
<u>Marc Montville</u>	<u>Steve Walsh</u>
<u>Shaun Maurice</u>	