

General Information

Name of Permittee: **Town of Goffstown**

Mailing Address: **404 Elm Street
Goffstown, NH 03045**

Contact Person: **Eric Gustafson, Engineering Technician**

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Reporting Period: **3/14-3/15**

Certification: I certify under penalty of law that I have personally examined and am familiar with the information submitted herein: and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. See 18 U.S.C. 1001 and 33 U.S.C. 1319.

Signatory requirements: All applications, reports, or information submitted to the Director shall be signed and certified (Part VI. G. of the MS4 Permit – 40 CFR 122.22)

Signature: 

Printed Name: Nicholas Campasano Title: vice-chairman

Date: 04-22-15

Town Of Goffstown
MS4-Storm Water Pollution Prevention Plan
Annual Report

Date: 4/2015

The following plan describes the measures the Town of Goffstown will implement in order to reduce the discharge of pollutants from the Municipal Separate Storm Sewer System (MS4). The plan will follow the requirements outlined in the MS4 general permit effective May 1, 2003. The format for the plan is based on the information supplied in the Notice of Intent submitted to EPA and the NHDES on July 25, 2003. The plan will be updated and modified based on the effectiveness of best management practices listed under the seven minimum control measures of the permit. A copy of the MS4 program and related details is available at the Department of Public Works (DPW) office located at 404 Elm Street, Goffstown, NH. This plan outline will also be used as the template to fulfill the MS4 annual report as required by permit. The annual report updates will be listed by the year of implementation and BMP/ID. Updates will focus on control measures that were scheduled to be implemented in the permit year 2014.

The focus of the plan applies the listed control measures and practices to reduce surface water pollution in the regulated "urbanized area" within the geographic limits of the Town. The urbanized area in Goffstown is concentrated around the Glen Lake and Piscataquog River watershed. These areas will be given priority when timing the implementation of best management practices. However, many of the practices can and will be implemented town wide in an effort to inform the community as a whole regarding storm water pollution control measures.

The MS4 general permit requires the use of the following seven control measures to meet the conditions of the permit.

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Storm Water Runoff Control
- Post Construction Storm Water Management in New Development and Redevelopment
- Pollution Prevention and Good Housekeeping in Municipal Operations
- BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA)

Additionally the MS4 general permit requires operators of the system to evaluate whether discharges from the storm sewer system will have any impact of federally listed threatened or endangered species or habitat. Initial inquiries indicate that there are no federally listed species within the urbanized area of the Town. However, the following species are listed by the State of NH as endangered and have been documented within the urbanized area of town;

- Brook Floater (*Alasmodonta varicosa*)
- Spotted Turtle (*Clemmys guttata*)

The Town will confer with the State of NH, National Heritage Bureau to determine if modification of management practices will be required to minimize the impact of storm water on these species.

Public Education (PE)

Educational materials will be distributed to the community in a number of different ways and will include information regarding what storm water is and what it should be (only rain in the drain). Outreach materials will be available on the Town website (<http://www.goffstown.com/storm-water.html>) and through distribution of published material by the Public Works office. Additionally the local public access channel will air informational videos on storm water. Public Works will be working with other departments and committees to determine the extent of current outreach efforts and how they may be used to benefit the program. Storm drain stenciling will be used for the dual purpose to raise awareness regarding where storm water goes after it enters the drain, and to increase public participation in the program.

The DPW (DPW) is very active with the local Goffstown schools and library. There are several annual events throughout the year that promote public education of the services provided by DPW and what kids can do to help. In the spring, there are several career day events at the high school level where representatives from the DPW attend to speak about the variety of services that the department provides and how our job helps to protect the environmental resources in Town. In May, during Public Works Week, we often do a short power point presentation to the elementary schools on what the DPW does and we sometimes bring equipment for the students to learn about. In the summer we work with the Goffstown library to hold a touch-a-truck event where we bring the big exciting equipment for the kids and also informational handouts for both kids and parents on protecting the environment.

2014 Annual Report Update:

PE-A- Storm Water Web page – During the 2014 permit period the Storm Water link on the Town Website was updated and links checked to verify access. The webpage continues to be reconfigured to allow ease of viewing/locating information and more information has been added regarding the Town's storm water program. A new section was added to the storm water page with "Do It Yourself" (DIY) links and tips called "Be Water Smart and Money Smart!" This link gives residents access to quick and easy information that they can do themselves to save water, and it results in money savings both indoors and outside. According to the Town IT Department, the storm water link was accessed 249 times during the 2014 permit period. During this time, people spent an average of 56 minutes looking at storm water related material. The address is <http://www.goffstown.com/storm-water.html>

PE-B- Newsletter – In 2014 the DPW did not develop a newsletter to distribute to the public. Instead DPW has posted several articles and links on the website for the public.

PE-C- Storm Drain Stenciling – During the summer of 2014 storm drain stenciling was performed. The marking paint originally used had faded to the point of needing repair. The DPW remarked all catch basins throughout the Town as needed. Maps from the original stenciling project were used to locate any basins that needed to be remarked. Additional catch basins were marked as they were found and the locations marked on a map for future touchups.

PE-D-Evaluate Existing Outreach – A construction survey was developed in 2012 and is sent out upon completion of each road construction project to all residents within the project limits for both Town and private construction projects. The surveys are mailed to residents, who are given the option of completing the form either online (via the Town’s website) or by mailing the provided hard copy back to DPW. The Town mailed out approximately 90 surveys to residents for projects on East Dunbarton Road, Addison Road, and New Boston Road in 2014. Out of the 90 surveys mailed out, 16 were returned and only 2 surveys were completed online. Attached is a sample survey form and the survey results for 2014. It is our hope to continue the program and encourage residents the use the online form.

DPW also hopes to develop a storm water survey to distribute to the public which would be posted on the Town’s website or via a survey tool like Survey Monkey. The goal is to obtain better direction from residents on where the department needs to focus its public education.

PE-E-Utilize GTV – The EPA “After the Storm” video was requested to be run on the local public access channel. The access channel ran the program seven times during 2014. This local programming channel is available on public TV to all Goffstown residents. We have discussed making a new video about storm water sampling and the importance of water quality with GTV in the next year or two.

Public Participation (PP)

The public has numerous opportunities to participate in the Town’s MS4 Program through the several organizations, committees and volunteer programs.

Storm Water Committee (SWA) - This committee focuses on developing storm water programs and evaluating public education and participation methods. The committee may also recommend policies and ordinances to the Board of Selectmen for approval.

Storm Water Hotline - A phone number is provided to the public and listed in outreach materials to give the public a way to contact DPW regarding discharge concerns or questions. The calls are monitored, followed up on and information gathered is used to correct discharge problems or modify outreach as required.

Adopt-A-Spot - The Adopt-A-Spot program minimizes roadside refuse that could end up in surface waters. Volunteer organizations requesting “spots” along rivers, streams and lakes are given first priority. The effectiveness of this BMP is evaluated by the number of bags collected by volunteers each year.

Internship Program - This is an opportunity to work with the local students and educators by providing another method of public participation. DPW will work with local schools and universities on a program to perform illicit discharge inspections in Goffstown. This program will take considerable coordination with school faculty and is expected to start during the third year of the permit.

Local Organizations – The Town shall join and participate in several local and regional organizations to help expand our public outreach and networking. These organizations provide a good format for distribution of outreach materials and information. Currently the DPW is involved with a Storm Water Group made up of local municipalities including Manchester, Bedford, Londonderry, Auburn and State DOT representative. This organization fosters cooperation between regulated communities and allows the communities to trade information regarding successes and failures of their existing programs.

2014 Annual Report Update:

PE-F-SWA Committee – The Town continues to be active in the Manchester Area Storm Water Group. The group meets every other month to discuss local storm water programs and initiatives. Rob Robinson from the City of Manchester is the chair of the group. The group continues as it had in the past; providing training and support for local storm water programs. The group was involved in developing and supporting legislation in the State of New Hampshire which will allow NH Municipalities to develop storm water utility regulations. The group has currently expanded its reach to allow Towns outside the Manchester to come to each meeting.

PE-G-Storm Water Hotline – The hotline was created in Feb 2005 and discontinued in 2012. Now the Town provides a phone number and direct extension to a staff member so that residents can report any storm water issues/concerns. The phone number is listed on any public stormwater documentation and also posted on the DPW web site. The reason for discontinuing a separate hotline was because the calls were quite minimal over the years and typically not related to stormwater, so it seemed appropriate to eliminate the separate phone line.

PE-H-Adopt A Spot – The Town continues to support the Adopt A Spot program. No new areas were adopted during the 2014 permit period. Volunteers provided cleanup services for the previously adopted areas.

PE-I-Internship Program - College engineering interns are hired each year to work on a variety of projects for the summer. The interns have been instrumental in assisting the Town with numerous storm water projects. Last year the interns repainted all of the storm drain stencils adjacent to catch basins, assisted with updating the GIS drainage layer, and performed water sampling, construction site inspections and outfall inspections. The internship is a very hands-on and unique experience for the college students.

PE-J-Local Organizations - The Town continues to work with the Piscataquog Water Shed Association (PWA), the Friends of the Goffstown Rail Trail (formally the “Green Way”) and the Greater Manchester Municipal Storm Water Group. During the 2014 permit period the Goffstown Town Engineer has spent considerable time working with the Friends of the

Goffstown Rail Trail to design rail trail improvements. The Town was awarded funds from the TE grant to complete three major road crossings and fill in an old gully to close a large gap in the trail system. Last year the project was final designed and the Town worked with abutters to obtain permission for any impacts on private property. Currently, the project is out to bid and is scheduled for construction this summer. DPW Engineering continues to be involved with the Safe Routes to School (SRTS) Committee. During the 2014 permit term the SRTS Committee met sparingly with little need for involvement from the engineering department.

Illicit Discharge Detection and Elimination

Research Existing Complaints - This BMP will include working with other Town offices to review illegal discharges reported, determine status and future actions required. Reported discharges will be used to pinpoint problem areas and to help develop ordinance changes regarding illicit discharge elimination.

Existing Drainage Layer – The Town created a “Master Utility File” back in 2003 which is now overlaid on the 2013 GIS base (flyover) maps. These maps are used on a daily basis to help resolve drainage issues throughout Town, address resident concerns, develop cleaning schedules for both sewer and drain pipes, assist in all engineering design of public roadway improvements or private subdivisions and property expansions.

Map Outfalls – Drainage outfalls are mapped on the Town’s “Master Utility File” which was started in 2003 and is now overlaid on the 2013 GIS base (flyover) maps. Using GPS equipment, the Town performs regular field verification of all new outfalls or drainage structures, which sometimes requires access to the lake and rivers either on foot or by boat. Outfall maps will be used in the future to develop drainage subcatchment maps.

Storm Water Ordinance - Currently the Goffstown Sewer Ordinance does not allow for floor drain connections to the sanitary sewer. A specific storm sewer ordinance may be developed using the current sanitary sewer ordinance as a template and presented to the Board of Selectman for approval. Ordinance development and changes require proposed rules go through the public hearing process. Ultimate approval of the ordinance will come from the Board of Selectmen. The ordinance may include a permit and approval process for any connection to an existing or new storm drainage system. Permitting would allow a tracking and inspection mechanism.

Illicit Discharge Detection and Elimination Plan (IDDE) - An illicit discharge detection plan will be developed to find and eliminate illicit discharge. The plan will be developed from the experience gained through the mapping and evaluation of existing discharge complaints. Generally it will include; prioritizing discharge points located in the urbanized area (i.e. Glen Lake waterfront, sections of the Piscataquog River located in the village and the Pinardville area). These areas will be given priority due to the density of residential and commercial properties. Screening for discharges will occur both randomly and scheduled during dry weather conditions. An ID inspection sheet will be developed to include date, time and location of the discharge. Information regarding the results of the visual inspection and whether or not the discharge point has been inspected prior to the documented survey will also

be included on the form. Dye and smoke testing may be used to determine the origin of the discharge. Each incident will be evaluated individually to determine the best method to correct the problem and monitored regularly to ensure elimination of the discharge.

2014 Annual Report Update:

ID-K- Existing Complaints- Currently the Town's Building and Health office has enforcement responsibilities regarding illegal dumping or health related concerns. In 2014 permit period, there was one instance related to a failed tank, system, illegal dumping or sewer concern. Any complaints are reported to the DPW for appropriate tracking and follow up. No contaminants made it to the storm water system. The problem was fixed and cleaned up by the homeowner and a report was filed to NHDES and EPA.

ID-L- Existing Drainage- The DPW continues the ongoing effort to map and update the drainage system. As of 2013, DPW has mapped all the drainage within the Town. With the use of these maps, we have been able to identify areas where it is unclear how the drainage is connected and where further investigation and possible use of the vaccon truck (for flushing purposes) is needed.

A considerable effort was put into developing and updating a list of detention ponds, treatment swales and private underground storage systems. The inventory includes map and lot number, system type, and owner. A book has also been created with all the drawings and easements for each pond. The book is used to quickly access information for maintenance or questions from abutters. The Town plans to scan and link this information into our asset management system. DPW will continue to update the spreadsheet and book as new detention ponds, underground systems and treatment swales are constructed on private and public sites. The information will be used to develop an inspection and maintenance plan for these facilities.

In 2013 DPW began to add detention ponds to the Capital Improvements Project (CIP) for maintenance or reconstruction. Two ponds on Tyler Drive and Maple Ave were successfully reconstructed during the 2014 construction season. DPW will continue to stress the importance of pond maintenance and/or reconstruction. All detention ponds were inspected by the summer engineering interns and photos taken to monitor the condition of the ponds and need for maintenance. A list was also created for detention ponds that require regular mowing. DPW will use summer help to get ponds mowed as necessary.

ID-M- Map Outfalls – The Town's Engineering Department continues to add to existing map data. DPW tracks outfall locations based on previously performed mapping efforts. This information has been used to develop a basic Illicit Discharge Detection plan. All outfalls were inspected to determine condition and check for any illicit flow or erosion. Based on inspection, any outfalls needing to be replaced or having erosion problems were added to a maintenance list for DPW to complete. See attached example of the outfall inspection form. DPW is continuing efforts with drawing catchment areas for all identified outfalls.

ID-N- Storm Water Ordinance- No activity related to this BMP occurred during the 2014 permit period.

ID-O- Illicit Discharge Detection and Elimination Plan (IDDE) - Considerable efforts have been completed under this section during the 2014 season. DPW hired a temporary Storm Water Technician, during late summer and fall to focus on establishing a plan for IDDE monitoring and establish a sampling schedule on all 303 (d) listed waters in Goffstown. Several samples were taken at outfalls and streams related impaired waters. Samples were taken to NHDES for testing and entered into their water quality database. Goffstown will continue to work with NHDES on impaired water and outfall monitoring. Neither the visual inspections nor sampling results from these impaired waters showed an indication of any new illicit discharges or concerns. The Town will continue to evaluate the existing impairments and investigate the potential source of contaminations and possible solutions. All other outfalls were visually inspected by the summer engineering interns and appear to be functioning normally with no signs of illicit discharge.

Construction Site Runoff Control

Review/Revise Storm Water Ordinance in the Planning Rules - Existing storm water rules are detailed in the Town's Development Regulations. The rules will be reviewed and converted to an ordinance if required. The ordinance will apply to construction projects greater than one acre, or less than one acre if part of a larger project, that discharge into the MS4 and are located within the urbanized area of town.

Create Details for Control Measures - Details regarding BMPs for storm water runoff will be generated. The controls will assist planners, developers and Town officials in choosing, implementing and developing inspection criteria for appropriate erosion control measures.

Site Plan Procedure – Work with the Planning Board to ensure that proposed site and subdivision plans are providing the proper erosion control procedures on their plan set and obtaining the proper permits.

Implement Inspection Procedure - Formalize an inspection program that follows the details of the approved sediment and erosion control plan. Forms and inspection points will be determined during the planning stages of the project. The Planning Board makes approval conditions for most public and private sites that they be inspected by an engineer for erosion control measures. This has been helpful in keeping contractors compliant with Town and State regulations.

2014 Annual Report Update:

CS-P-Review/Revise Ordinance – The inability to appropriately manage construction projects that do not require Planning Board approval has been corrected with the acceptance of new zoning amendments as detailed in ID-N- Storm Water Ordinance 2008 update. The Town Building and Planning Departments have the ability to manage small construction site storm water activities under the new rules. The Town continues to be involved in the Building to Occupancy Committee; this allows different departments to voice their concerns to potential developers or about existing projects.

CS-Q-Details for Control Measures – The Town updates CADD details regularly for use on in-house construction projects. These details can also be used by the Planning Board for future integration into their Development Regulations when they complete an update.

CS-R-Site Plan Procedure – Currently, the Town Engineer reviews all projects developed within the Town. The Planning Board also makes approval conditions that require most public and private sites to be inspected by the Town Engineer or a private engineering consultant. Inspections help ensure plan conformance, erosion control and proper installation of BMP's. This will also help reduce the amount of maintenance DPW will have after the Town accepts the road/site from the developer.

CS-S-Inspection and Tracking of Erosion Control Measures – In 2014 there was one large residential condo development that was inspected by a private consultant for sediment and erosion control among other items. It should be noted that these inspections do not take the place of inspections required under the CGP by the developer or owner.

Currently the Engineering Department inspects all proposed public roads/projects to check for proper installation and effectiveness of various erosion control measures. Daily field reports are written for each inspection. The engineer provides feedback to the contractors on areas that require additional attention or repair. The engineers have been working on designing standard details for all projects. The goal is to help contractors understand what types of erosion control methods are acceptable within the Town.

Post Construction Storm Water Management in New Development and Redevelopment

Review and Revise Current Ordinance - The post construction ordinance will need to be developed under the direction of the Board of Selectmen and Planning Board. The ordinance will address projects that disturb greater than one acre and discharge into the municipal storm sewer system, as well as, the ownership of future maintenance and repair costs.

Post Construction Maintenance and Ownership - Post construction policies will be developed at the same time as other storm water construction ordinances. Any policy regarding post construction ownership will need approval of the Board of Selectmen and public hearing for ultimate approval.

2014 Annual Report Update: There is no significant update related for BMP PC-T or U. Please note the 2005 update listed in attachments.

Pollution Prevention and Good Housekeeping in Municipal Operations

Annual Employee Training - Employees will be trained in storm water pollution recognition and prevention. The training may be done in conjunction with other related refresher training such as Right-to-Know and Spill Prevention Training. Information like the State of NH "Storm Water Training for Solid Waste Facilities" will be used to develop the program.

Catch Basin Cleaning - Currently all catch basins are cleaned yearly. Catch basin cleanings are documented and tracked. Currently, documentation consists of a list of streets and a total number of basins by street. As the Town continues to develop its Storm Water Program, it will include location, condition of the structure, date last cleaned and possible GPS location. All recovered materials are delivered to the DPW gravel pit located at 404 Elm Street and are stock piled. Stock piled materials are located in a position so that runoff does not leave the facility. Materials have been tested and are comparable to other materials mixed into the aggregate pile. Materials are reused as road base in future construction projects. Quantities of cleanings will be tracked starting in 2004.

Street Sweepings - Roads located within the urbanized area are swept two times per year. Materials are collected and delivered to the DPW gravel pit located at 404 Elm Street. Materials have been tested and are comparable to other materials mixed into the aggregate pile. Materials are reused as road base in future construction projects. Quantities of sweepings will be tracked starting in the fall of 2003.

Provide HHW Service - The Town will provide an annual HHW collection day for residents to deliver household hazardous wastes to the transfer facility. The town has operated the annual collection day since the early 1990's. The event averages seven tons of collected hazardous waste annually. Future development of the program may include collection of these materials during normal hours of operation. This program requires the development of a formal program for Selectmen approval.

Used Oil, Antifreeze and Rechargeable Battery Collection - These services are currently open to all residents during normal hours of operation at the Transfer Station. The town averages 3,500 - 4,000 gallons of oil, 50 - 100 gallons of antifreeze and 8,000 - 8,500 lbs of recyclable batteries collected and removed from residents in the community. These programs will continue with annual reminders to residents regarding their existence here at the Transfer Station.

Determine Sand and Salt Usage and Calibrate Equipment - This program began during the winter of 2002-3. The maintenance shop continues to develop its calibration practices and management. During each snow event, sand and salt usage is weighed and tracked. The information is stored on the scale house computer and is used to compare with previous storms and to help further tweak the program. The plan is to get all trucks calibrated to minimize usage but not impact or impair public safety.

Develop Inspection Program and Schedule - A formal inspection plan will be developed to better manage and maintain structural storm water drainage systems. System will include review of inspection frequency of underground piping and structures, as well as, surface drainage systems. Systems will be checked to determine condition and system capacity. If capacity has been reduced by greater than $\frac{1}{2}$ original design, the system will be cleaned and condition noted. Systems within the urbanized area will be prioritized during the cleaning and inspection season.

2014 Annual Report Update:

GH-V-Annual Employee Training - In 2014, new employees have been given basic training in storm water awareness. Training includes a discussion of why the DPW is concerned about storm water issues. A poster from NPDES on proper BMP installation and maintenance is also located near the crew time clock for review. The Town Engineer and Engineering Technician took part in the following training programs in 2014: Asset Management Training, Local Public Agency Certification Training and NHDES Culvert Installation Certification.

GH-W-Catch Basin Cleaning - The development of the Towns drainage layer in AutoCAD and GIS has allowed the DPW to better evaluate the total number of catch basins managed. Currently there are about 1,753 CB's and DMH's with the majority of the structures being located in the urbanized area. During the 2014 permit period, crews documented cleaning approximately 1,179 basins in the urbanized area of Goffstown. All recovered materials are delivered to the DPW gravel pit located at 404 Elm Street and are stock piled. Stock piled materials are located in a position so that runoff does not leave the facility. Materials have been tested and are comparable to other materials mixed into the aggregate pile. Materials are reused as road base in future construction projects. During this permit period approximately 251.01 tons of catch basin solids were collected and 24.1 tons of solids were collected from culverts.

GH-X-Street Sweeping - Twice a year, the DPW contracts a sweeping company to sweep all curbed streets located in the urbanized area. Sweepings are collected and delivered to the Transfer Station where they are managed and reused under the NHDES Management of Street Wastes waiver. In 2014 approximately 3.75 tons of sand was collected during sweeping operations.

GH-Y-Household Hazardous Waste - Residents can bring HHW to the Transfer Station during normal hours of operation. In 2014, residents delivered 460 gallons and 2 cubic yards of HHW to the Transfer Station for proper disposal. The Town also recycled 14.4 tons of electronics during the same period.

GH-Z-Waste Antifreeze and Used Oil for Recycle - Antifreeze and used oil for recycle is collected at the Transfer Station on a regular basis. In 2014 the Town collected about 235 gallons of used antifreeze and approximately 3000 gallons of used oil. The waste antifreeze is recycled through an antifreeze recycling contractor and the used oil is burned in a waste oil furnace located at the Towns maintenance facility.

GH-AA-Sand/Salt Usage - The DPW scale house software located at the DPW Transfer Station allows the Town to track winter salt and mix usage. The software can generate a report that shows the number of road miles treated and the average lbs per mile used. This software has allowed DPW to better manage the winter fleet and deicing agents. A total of approximately 3,090 tons of salt and sand were scaled out during the report period of 2014.

GH-AB-Equipment Calibration - The DPW maintenance facility is upgrading spreading equipment to reduce salt usage as outlined in the Storm Water Plan. Each new truck that is purchased is equipped with modern spreading equipment for proper fine tuning. Older equipment continues to be monitored to increase efficiency and reduce wasted material. During the 2014 winter season, our trucks followed the recommended application rate based on the temperature, type of precipitation and road surface conditions. The application rates ranged from 200-800 lbs per two lane mile depending on the weather conditions.

GH-AC - Develop Inspection Program/Schedule - As stated in control measure **GH-W-Catch Basin Cleaning** the Town tracks cleaning by a street listing and a total number of basins per street and utilizes a dedicated crew on its vaccon truck to clean and inspect basins during the year. In 2014 DPW continued an inspection program for all drainage structures within the Town. The inspection program indentifies the condition of structures within Town. DPW plans to use this data to set up maintenance and replacement program for structures. The inspections reports will be loaded into the asset management program for tracking and historical purposes. See attached example of inspection form for informational purposes. The Town will continue to GPS new drainage throughout the 2015 permit term. In addition to structure and outfall inspection, DPW will continue an inspection program for all existing detention ponds. This program will help DPW better track maintenance and replacement within the CIP program. See attached example of inspection form for informational purposes.

BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA)

Evaluate and Modify Sewer Inspection Program - Work with the sewer department to understand current inspection practices for crossover between systems. If crossover is suspect in certain areas, develop an inspection procedure to monitor the extent of the problem and determine a method and time frame to correct. In general, waters in Goffstown are impaired with mercury most likely resulting from air born pollution from the mid west. The Goffstown MS4 ultimately discharges to the Piscataquog River below Biron Bridge. This section of the river is impaired for bacteria. The sanitary sewer crossover identification and elimination will be the first method to manage this potential pollutant.

2014 Annual Report Update:

IW-AD-Sewer Inspection Program - The Goffstown Sewer Department budgets about \$235,000 per year for facility upgrades. The decision to reline or repair pipes is based on video data completed in prior years. The Town developed a Capacity, Management, Operation and Maintenance (CMOM) Program and submitted to the NHDES and EPA. As part of the CMOM the Sewer department inspects 1/3 of sewer system within the Town per year. This data will be loaded into the Towns asset management system in the future for tracking.

ATTACHMENT A
Annual Report 2013

Annual Report Updates from 2013

Public Education

PE-A- Storm Water Web page – During the 2013 permit period the Storm Water link on the Town Website was updated and links checked to verify access. The webpage continues to be reconfigured to allow ease of viewing/locating information and add more information regarding the Town's stormwater program. According to the Town IT Department the storm water link averaged 10-15 hits per week during the 2013 permit period. The address is <http://www.goffstown.com/storm-water.html>

PE-B- Newsletter – In 2013 the DPW did not develop a newsletter which was distributed to the public. Instead DPW has posted several articles and links on the website for the public.

PE-C- Storm Drain Stenciling – During the spring of 2013 storm drains stenciling performed. The marking paint originally used had faded to the point of needing repair. The DPW remarked the basins throughout the Town in the summer of 2013. Maps from the original stenciling project were used to complete the stenciling.

PE-D-Evaluate Existing Outreach – Currently, DPW is in the process has developed a stormwater survey to distribute to the public and get it posted in an online form. The hope is the stormwater survey will give better direction on where the department needs to focus its education. A construction survey has been completed and was sent out to all residents within project limits of our road construction projects. The survey was also available to the general public on our website. The survey was conducted on Town and private projects. The survey was mailed to resident where they had the option of completing the form online or mailing it to DPW. The Town mailed out approx. 110 surveys mailed out to residents for projects relating to East Dunbarton Road, Leach Hill Road, and Pleasant Street Construction Projects. Out of the 110 surveys mailed out only 16 were returned. The Town had 6 surveys completed online. Attached is the sample survey form and survey results. This is to show the limited success the Town had using online or mailed surveys. It is our hope to continue the program and encourage residents the use the online form.

PE-E-Utilize GTV – The EPA "After the Storm" video was requested to be run on the local public access channel. The access channel has been contacted for a copy of the program log to document frequency and times each program was run during 2013.

Public Outreach

PP-F-SWA Committee – The town continues to be active in the Manchester Area Storm Water Group. The group meets every other month to discuss local storm water programs and initiatives. Rob Robinson from the City of Manchester is the chair of the group. The group continues as it had in the past; providing training and support for local storm water programs. The group was involved in developing and supporting legislation in the State of New Hampshire which will allow NH Municipalities to develop storm water utility regulations. The group has currently expanded its reach to allow Towns outside the Manchester to come to each meeting.

PP-G-Storm Water Hotline – The hotline has been discontinued and stormwater issues can be reported to appropriate staff. The phone numbers are 603-497-3617, ext 227 & 200 and are

posted on the DPW web site. (<http://www.goffstown.com/public-works-home.html>). Additionally the numbers were posted on the storm water link of the DPW website (<http://www.goffstown.com/storm-water.html>). The Town will continue to publish the numbers to raise awareness that stormwater issues need to be reported to DPW.

PP-H- Adopt A Spot – The town continues to support the Adopt A Spot program. No new areas were adopted during the 2013 permit period. Volunteers provided cleanup services for all previously adopted areas.

PP-I- School Discharge and Detection Program - Interns were hired from NHTI and UNH for the summer. The interns have been instrumental in assisting the town with numerous storm water projects. Projects consist of storm drain stenciling, assistance with finishing the GIS drainage layer and construction site inspections. The internship has been a hands-on and unique experience for the college students.

PP-J-Join local Organizations- The department continues to work with the Piscataquog Water Shed Association, the Friends of the Goffstown Rail Trail (formally the “Green Way”) and the greater Manchester municipal storm water group. During the 2013 permit period the Goffstown Town Engineers have spent considerable time (75+ hours) working with the Friends of the Goffstown Rail Trail to design and inspect rail trail improvements. The design includes storm drainage improvements which will be constructed as funds permit. The Town was awarded funds from the TE grant to complete the remaining portions of the rail trail. Currently, the Town is working with a consultant to finalize engineering plans for the Rail Trails. The Town continues to be involved with the Safe Routes to School(SRTS) Committee. During the 2013 permit term the SRTS Committee met sparingly with little need for involvement from the engineering department. The Town continues to be involved in the Building to Occupancy Committee. This has allowed for better communication between departments and different departments to voice their concerns to potential developers or about existing projects.

Illicit Discharge Detection and Elimination

ID-K- Existing Complaints- Currently the Towns Building and Health office has enforcement responsibilities regarding illegal dumping or health related concerns. In 2013 there was one instances related to failed tanks, systems, illegal dumping or sewer concerns. All were reported to the Department of Public Works for appropriate tracking and follow up.

ID-L- Existing Drainage- The Department of Public Works continues the ongoing effort to map the drainage systems. During 2007 a considerable effort was put into developing a list of detention ponds, underground systems and treatment swales. The spreadsheet includes map and lot number, system type, and owner. As of 2013 DPW has mapped all the drainage within the Town. DPW will continue to update the spreadsheet as new detention ponds, underground systems and treatment swales were constructed on private and public sites. The information will be used to develop an inspection and maintenance plan for these facilities. In 2013 DPW began to add detention ponds to the Capital Improvements Project (CIP) for maintenance or reconstruction. In 2013 two(2) were added to CIP for reconstruction. Currently, the pond projects for 2011 made it through CIP and are due to be reconstructed/rehabilitated in 2014. DPW will continue to stress the importance of pond maintenance and/or reconstruction. A list

was also created for detention ponds that require regular mowing. DPW will use summer help to get ponds mowed as necessary. Five ponds were either mowed or trees removed during the permit term.

ID-M- Map Outfalls – The Towns Engineering Department continues to add to existing map data. The DPW continues to track the 86 outfall locations based on previously performed mapping efforts. This information has been used to develop a basic Illicit Discharge Detection plan. In 2013 considerable effort was placed in evaluating all outfalls. Outfalls were located using GPS equipment in hopes of adding them to the Town's asset management software. All outfalls were inspected to determine condition and verify size and type. Based on inspection any outfalls needing to be replaced or erosion problems were added to a maintenance list for DPW to complete. Also DPW continues drawing catchment areas for all identified outfalls. The outfalls were inspected and added to the maintenance list as needed. See attached example of outfall inspection form.

ID-N- Storm Water Ordinance- No activity related to this BMP occurred during the 2013 permit period.

ID-O- Illicit Discharge Detection and Elimination Plan (IDDE) - In 2013 the all outfalls were visually inspected annually. Several samples were taken at outfalls related to Catamount Brook, Harry Brook, and Namsake Lake. Samples were taken to be included into the NHDES water quality database. Data did not show any significant water quality issues. It appears the water is in good health. There was no indication of illicit discharge during visual inspections or shown during sampling.

Construction Site Runoff Control

CS-P-Review/Revise Ordinance – The inability to appropriately manage construction projects that do not require Planning Board approval has been corrected with the acceptance of new zoning amendments as detailed in ID-N- Storm Water Ordinance 2008 update. The town building and planning departments have the ability to manage small construction site storm water activities under the new rules. The Town continues to be involved in the Building to Occupancy Committee. Allowing different departments to voice their concerns to potential developers or about existing projects.

CS-Q-Details for Control Measures- Currently the Town Engineers inspect all proposed public roads/projects to check for proper installation and effectiveness of various erosion control measures. Daily field reports are written for each inspection. The engineers provides feedback to the contractors on areas that require additional attention or repair. The engineers have been working on designing standard details for all projects. The details will be posted on the Town's website. The goal is to help contractor understand what type of erosion control methods are acceptable within the Town.

CS-R-Site Plan Procedure- Currently, the Town Engineers review all projects developed within the Town. Planning Board has also made approval conditions for most public and private sites that they be inspected by the Town Engineers. DPW construction staff have been asked to review some developments for erosion and other construction. This to help reduce the amount of maintenance DPW will have after the Town accepts the road/site from the developer.

CS-S-Inspection and Tracking of Erosion Control Measures – This BMP is the responsibility of the Town Engineers. Planning Board has also made approval conditions for most public and private sites that they be inspected by the Town Engineers for erosion control measures. This has been helpful in keeping contractors compliant with Town and state regulations. The Town was involved in road reclamation in 2013. Each project was inspected daily regarding sediment or erosion control concerns. There were three residential subdivision projects during 2013 which included road construction and lot development. It should be noted that these inspections do not take the place of inspections required under the CGP by the developer or owner.

Post Construction Runoff Control

There is no significant update related for BMP PC-T or U. Please note the 2005 update listed in attachments.

Municipal Good Housekeeping

GH-V-Annual Employee Training - In 2013, new employees have been given basic training in storm water awareness. Training includes a discussion of why the DPW is concerned about storm water issues and the distribution of a Storm Water Pollution Prevention flyer developed by the NHDES. New hires are also required to watch “There is No Away” or “Reigning in the Storm” video as part of their orientation training. The Assistant Town Engineer and Town Engineer took part in the following training programs: Asset Stormwater Management Training, NHDES – Hazardous Waste Training and Certification, NHDES Solid Waste Training, Roundabout Design and Construction, and Culvert Installation Certification.

GH-W-Catch Basin Cleaning - The development of the Towns drainage layer in AutoCAD and GIS has allowed the DPW to better evaluate the total number of catch basins managed. Currently there are about 1720 CB's and DMH's with the majority of the basin being located in the urbanized area. During the 2013 permit period crews documented cleaning approximately 1053 basins in the urbanized area of Goffstown. All recovered materials are delivered to the DPW gravel pit located at 404 Elm Street and are stock piled. Stock piled materials are located in a position so that runoff does not leave the facility. Materials have been tested and are comparable to other materials mixed into the aggregate pile. Materials are reused as road base in future construction projects. During this permit period approximately 575.06 tons of catch basin solids were collected.

GH-X-Street Sweeping - Twice a year, the DPW contracts a sweeping company to sweep all curbed streets located in the urbanized area. Sweepings are collected and delivered to the Transfer Station where they are managed and reused under the NHDES Management of Street Wastes waiver. In 2013 approximately 10.32 tons of sand was collected during sweeping operations.

GH-Y-Household Hazardous Waste - Residents can bring HHW to the Transfer Station during normal hours of operation. In 2013, residents delivered 2.03 tons of HHW to the Transfer

Station for proper disposal. The town also recycled 42.14 tons of electronics during the same period.

GH-Z-Waste Antifreeze and Used Oil for Recycle - is collected at the Transfer Station on a regular basis. In 2013 the Town collected about 225 gallons of used antifreeze and approximately 3000 gallons of used oil. The waste antifreeze is recycled through an antifreeze recycling contractor and the used oil is burned in a waste oil furnace located at the Towns maintenance facility.

GH-AA-Sand/Salt Usage - The DPW has modified the scale house software located at the transfer station/public works facility to allow the Town to track winter salt and mix usage. The software can generate a report that shows the number of road miles treated and the average lbs per mile used. This software has allowed DPW to better manage the winter fleet and deicing agents. A total of approximately 2560 tons of salt and sand were scaled out during the report period of 2013.

GH-AB-Equipment Calibration- As noted above (**BMP GH-AA**) the DPW maintenance facility is upgrading spreading equipment to reduce salt usage as outlined in the Storm Water Plan. Each new truck that is purchased is equipped with modern spreading equipment for proper fine tuning. Older equipment continues to be monitored to increase efficiency and reduce wasted material. Data from 2013 shows out trucks are in the range of the NHDOT recommended application rate of 250-350 lbs per mile.

GH-AC- Develop Inspection Program/Schedule- As Stated in control measure **GH-W-Catch Basin Cleaning** the Town tracks cleaning by a street listing and a total number of basins per street. In March of 2008 funds to purchase asset management software was approved by voters. This software continues to be used to monitor basins and other inspections points throughout the Town. DPW still utilizes a dedicated crew on its vaccon truck. The crew continues to clean all basins in Town, while other crews respond to items on asset management software. In 2013 DPW continued an inspection program for all drainage structures within the Town. The inspection program indentifies the condition of structures within Town. DPW plans to use this data to set up and maintenance and replacement program for structures. Also the inspections reports will be loaded into the asset management program for tracking purposes. See attached example of inspection form for informational purposes. Over time pipe outlets may get covered by silt and homeowners fill them in unknowingly. The engineers identify areas that need to be looked at and the vaccon crew works to find the outlet and clean the area. Afterwards a GPS location is taken to add to the Town's map system. The Town will continue to GPS existing and new outfalls throughout the 2014 permit term. In addition to structure and outfall inspection DPW developed an inspection program for all existing detention ponds. This program will help DPW better track maintenance and placement within the CIP program. See attached example of inspection form for informational purposes.

Requirements for meeting discharges into Water Quality Impaired Waters

IW-AD-Sewer Inspection Program- The Goffstown Sewer Department budgets about \$110,000 per year for facility upgrades. The decision to reline or repair pipes is based on video data completed in prior years. The Town developed a CMOM and submitted to the NHDES and EPA. As part of the CMOM the Sewer department inspects 1/3 of sewer system within the Town. This data will be loaded into the Towns asset management system for monitoring. A bond was approved in March of 2008 to upgrade water service for the properties in this area of Town. The Town continues to work with awarded grant money to help residents complete the hook-up from their homes the water line. The grant money allowed the Town to provide half the cost reimbursement to the homeowner.

ATTACHMENT B
Post Construction Survey Form and Results

Construction Survey

Please tell us about your experience with the recent construction project. Your responses will be used to improve community outreach and service. Thank you for taking the time to fill out this survey, we value your response. You can return this questionnaire by: mail to Goffstown Public Works, 404 Elm Street, Goffstown, NH 03045; in person; or by fax (603) 497-5700 or you can scan and email it to egustafson@goffstownnh.gov

1. How would you rate the overall construction process? (please circle one)		Good	Fair	Poor
Please explain why:				

2. Please rate Contractor's performance in the following areas during the recent roadwork. (1 meaning unacceptable and 5 meaning excellent)					
	Unacceptable 1	2	Average 3	4	Excellent 5
A. Safety during construction					
B. Traffic movement along roadway during construction					
C. Detours during construction					
D. Property access during construction					
E. Noise during construction					
F. Length of time the road was under construction					
G. Other (please specify):					

3. Please rate. (1 meaning unacceptable and 5 meaning excellent)					
	Unacceptable 1	2	Average 3	4	Excellent 5
A. Overall performance during construction					
B. Overall satisfaction level with the results of recent roadwork					
C. Our information efforts, or ways we provided you with information about recent roadwork activities					

4. Do you feel you were well informed about the project? (please circle one)		Yes	No
If no, what would have helped?			

5. How do you prefer to receive information about the project? (please circle all that apply)				
U.S. Mail	E-mail	Newspaper	Website	Other:

6. If you have web access, did you use the Department's website for construction updates? (please circle one)		Yes	No
If yes, was this information helpful:			

7. What were you <u>most satisfied</u> with in regards to the construction process? (please check all that apply)	
A. Access to local road	
B. Public meetings	
C. Project information provided by the DPW	
D. Personal visits/contact	
E. Construction crew & project supervisors	
F. Cleanup and restoration work	
G. The end result	
H. Other:	

8. Did you contact a project representative with a concern or question? <i>If No, skip to #9</i> (please circle one)		Yes	No
---	--	------------	-----------

8A. Did the a project representative get back to you in a reasonable amount of time? (please circle one)		Yes	No
---	--	------------	-----------

8B. Was the project representative professional and informative? (please circle one)		Yes	No
---	--	------------	-----------

9 What specific comments or questions do you have concerning the recently completed roadwork. (Please include your contact information if you would like a direct response.)	

Please visit: www.goffstown.com/dpw for further updates regarding ongoing construction. Thank You!

If you have any outstanding or unresolved issues, or anything you want to share, please explain on the back, or contact:
Eric Gustafson, Phone: (603) 497-3617 ext. 227 or Email: egustafson@goffstownnh.gov

Construction Survey

Please tell us about your experience with the recent construction project. Your responses will be used to improve community outreach and service. Thank you for taking the time to fill out this survey, we value your response. You can return this questionnaire by: mail to Goffstown Public Works, 404 Elm Street, Goffstown, NH 03045; in person; or by fax (603) 497-5700 or you can scan and email it to egustafson@goffstownnh.gov

1. How would you rate the overall construction process? (please circle one)	Good	Fair	Poor
Please explain why: See Comments	4		

Avg. Result
5.00

2. Please rate Contractor's or DPW's performance in the following areas during the recent roadwork. (1 meaning unacceptable and 5 meaning excellent)					
	Unacceptable 1	2	Average 3	4	Excellent 5
A. Safety during construction			1	1	4
B. Traffic movement along roadway during construction			1	1	4
C. Detours during construction			1	1	4
D. Property access during construction	1			1	4
E. Noise during construction	1			1	4
F. Length of time the road was under construction			1	1	4
G. Other (please specify): See Comments	1			1	1

Avg. Result
4.50
4.50
4.50
4.17
4.17
4.50
3.33

3. Please rate. (1 meaning unacceptable and 5 meaning excellent)					
	Unacceptable 1	2	Average 3	4	Excellent 5
A. Overall performance during construction		1		1	4
B. Overall satisfaction level with the results of recent roadwork				2	4
C. Our information efforts, or ways we provided you with information about recent roadwork activities	1			2	3

Avg. Result
4.33
4.67
4.00

4. Do you feel you were well informed about the project? (please circle one)	Yes	No
If no, what would have helped? See Comments	4	2

5. How do you prefer to receive information about the project? (please circle all that apply)				
U.S. Mail	E-mail	Newspaper	Website	Other: See Comments
4	4			

6. If you have web access, did you use the Department's website for construction updates? (please circle one)	Yes	No
If yes, was this information helpful: See Comments	6	

7. What were you most satisfied with in regards to the construction process? (please check all that apply)	
A. Access to local road	4
B. Public meetings	1
C. Project information provided by the DPW	3
D. Personal visits/contact	3
E. Construction crew & project supervisors	4
F. Cleanup and restoration work	3
G. The end result	6
H. Other: See Comments	

8. Did you contact a project representative with a concern or question? If No, skip to #9 (please circle one)	Yes	No
	5	1

8A. Did the a project representative get back to you in a reasonable amount of time? (please circle one)	Yes	No
	5	

8B. Was the project representative professional and informative? (please circle one)	Yes	No
	5	

9 What specific comments or questions do you have concerning the recently completed roadwork. (Please include your contact information if you would like a direct response.)
See Comments

Construction Survey

Please tell us about your experience with the recent construction project. Your responses will be used to improve community outreach and service. Thank you for taking the time to fill out this survey, we value your response. You can return this questionnaire by: mail to Goffstown Public Works, 404 Elm Street, Goffstown, NH 03045; in person; or by fax (603) 497-5700 or you can scan and email it to egustafson@goftstownnh.gov

1. How would you rate the overall construction process? (please circle one)	Good	Fair	Poor
Please explain why: See Comments	4	2	2

Avg. Result
3.50

2. Please rate Contractor's or DPW's performance in the following areas during the recent roadwork. (1 meaning unacceptable and 5 meaning excellent)

	Unacceptable 1	2	Average 3	4	Excellent 5
A. Safety during construction				6	2
B. Traffic movement along roadway during construction			4	4	
C. Detours during construction			4	4	
D. Property access during construction		1	2	4	1
E. Noise during construction		1		6	1
F. Length of time the road was under construction	1		4	1	1
G. Other (please specify): See Comments	1	2		1	1

Avg. Result
4.25
3.50
3.50
3.63
3.88
3.14
2.80

3. Please rate. (1 meaning unacceptable and 5 meaning excellent)

	Unacceptable 1	2	Average 3	4	Excellent 5
A. Overall performance during construction			4	3	1
B. Overall satisfaction level with the results of recent roadwork	1		2	3	2
C. Our information efforts, or ways we provided you with information about recent roadwork activities	1	1	2	4	

Avg. Result
3.63
3.63
3.13

4. Do you feel you were well informed about the project? (please circle one)	Yes	No
If no, what would have helped? See Comments	5	3

5. How do you prefer to receive information about the project? (please circle all that apply)

U.S. Mail	E-mail	Newspaper	Website	Other: See Comments
7	3			

6. If you have web access, did you use the Department's website for construction updates? (please circle one)	Yes	No
If yes, was this information helpful: See Comments	4	3

7. What were you most satisfied with in regards to the construction process? (please check all that apply)

A. Access to local road	4
B. Public meetings	1
C. Project information provided by the DPW	1
D. Personal visits/contact	3
E. Construction crew & project supervisors	4
F. Cleanup and restoration work	3
G. The end result	4
H. Other: See Comments	

8. Did you contact a project representative with a concern or question? If No, skip to #9 (please circle one)	Yes	No
	4	3

8A. Did the a project representative get back to you in a reasonable amount of time? (please circle one)	Yes	No
	4	

8B. Was the project representative professional and informative? (please circle one)	Yes	No
	4	

9 What specific comments or questions do you have concerning the recently completed roadwork. (Please include your contact information if you would like a direct response.)

See Comments

Construction Survey

Please tell us about your experience with the recent construction project. Your responses will be used to improve community outreach and service. Thank you for taking the time to fill out this survey, we value your response. You can return this questionnaire by: mail to Goffstown Public Works, 404 Elm Street, Goffstown, NH 03045; in person; or by fax (603) 497-5700 or you can scan and email it to egustafson@goftstownnh.gov

1. How would you rate the overall construction process? (please circle one)	Good	Fair	Poor
Please explain why: See Comments	2		

Avg. Result
5.00

2. Please rate Contractor's or DPW's performance in the following areas during the recent roadwork. (1 meaning unacceptable and 5 meaning excellent)					
	Unacceptable 1	2	Average 3	4	Excellent 5
A. Safety during construction					3
B. Traffic movement along roadway during construction					3
C. Detours during construction					3
D. Property access during construction					3
E. Noise during construction				1	2
F. Length of time the road was under construction				1	2
G. Other (please specify): See Comments					2

Avg. Result
5.00
5.00
5.00
5.00
4.67
4.67
5.00

3. Please rate. (1 meaning unacceptable and 5 meaning excellent)					
	Unacceptable 1	2	Average 3	4	Excellent 5
A. Overall performance during construction					3
B. Overall satisfaction level with the results of recent roadwork			1		3
C. Our information efforts, or ways we provided you with information about recent roadwork activities			1		3

Avg. Result
5.00
4.50
4.50

4. Do you feel you were well informed about the project? (please circle one)	Yes	No
If no, what would have helped? See Comments	3	

5. How do you prefer to receive information about the project? (please circle all that apply)				
U.S. Mail	E-mail	Newspaper	Website	Other: See Comments

3

6. If you have web access, did you use the Department's website for construction updates? (please circle one)	Yes	No
If yes, was this information helpful: See Comments	2	

7. What were you <u>most satisfied</u> with in regards to the construction process? (please check all that apply)	
A. Access to local road	2
B. Public meetings	3
C. Project information provided by the DPW	1
D. Personal visits/contact	2
E. Construction crew & project supervisors	3
F. Cleanup and restoration work	3
G. The end result	1
H. Other: See Comments	

8. Did you contact a project representative with a concern or question? If No, skip to #9 (please circle one)	Yes	No
--	------------	-----------

3

8A. Did the a project representative get back to you in a reasonable amount of time? (please circle one)	Yes	No
---	------------	-----------

2

1

8B. Was the project representative professional and informative? (please circle one)	Yes	No
---	------------	-----------

3

9 What specific comments or questions do you have concerning the recently completed roadwork. (Please include your contact information if you would like a direct response.)	
See Comments	

ATTACHMENT C
Outfall Inspection Form

VISUAL OUTFALL INSPECTION FORM

Outfall # _____ Photograph # _____ Date: _____

Location: _____

Weather: air temp.: _____ °C °F rain: ☐ Y ☐ N ☐ sunny

Outfall flow rate estimate: _____ L/sec Gal/sec

Known industrial or commercial uses in drainage area? ☐ Y ☐ N

Describe: _____

Size _____ Type _____

PHYSICAL OBSERVATIONS

Odor: ☐ none ☐ sewage ☐ sulfide ☐ oil ☐ gas ☐ rancid-sour ☐ other: _____

Color: ☐ none ☐ yellow ☐ brown ☐ green ☐ gray ☐ other: _____

Turbidity: ☐ none ☐ cloudy ☐ opaque

Floatables: ☐ none ☐ petroleum ☐ sheen ☐ sewage ☐ other: _____
(collect sample)

Deposits/stains: ☐ none ☐ sediment ☐ oily ☐ describe: _____ (collect sample)

Vegetation conditions: ☐ normal ☐ excessive ☐ growth ☐ inhibited ☐ growth

extent: _____

Damage to outfall structures:

identify structure: _____

damage: ☐ none / ☐ concrete cracking / ☐ concrete spalling / ☐ peeling paint / ☐ corrosion

other damage: _____

extent: _____

Inspector: _____

ATTACHMENT D
Drainage Structure Inspection Form

Legend

Ex = Excellent
Gd = Good
PR = Poor

CATCH BASIN/MANHOLE INSPECTION REPORT

STREET NAME: _____ ADDRESS/POLE #: _____

DATE: _____

LOCATION DATA:

BURIED: Yes/No PAVED AREA: Yes/No

MANHOLE DATA:

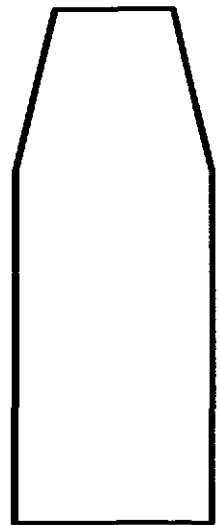
COVER CONDITION:	EX	GD	PR	
DMH COVER DIAMETER:	18"	24"	30"	
GRATE TYPE:	Square Grate	Ditchline Grate	Curb Inlet	C-Top
GRATE DEPTH:	8"	6"	4"	
CONDITION OF RIM:	EX	GD	PR	
CONDITION OF FRAME:	EX	GD	PR	
RISER CONDITION:	EX	GD	PR	
RISERS ARE:	BRICK	BLOCK	PRECAST	
MANHOLE DIAMETER	2FT	3FT	4FT	OTHER: _____
MANHOLE IS:	BRICK	BLOCK	PRECAST	OTHER: _____
DEPTH OF MANHOLE:	_____	FT		
CONDITION OF WALLS:	EX	GD	PR	
NUMBER OF INVERTS:	_____			
NUMBER OF SECTIONS:	2	3	4	
CONDITION OF INVERTS:	EX	GD	PR	
TYPE OF PIPE:	HDPE	RCP	CMP	OTHER: _____

LEAKAGE POINTS:

COVER:	Y/N	JOINTS:	Y/N
FRAME:	Y/N	INVERTS:	Y/N
WALLS:	Y/N	TABLES:	Y/N

CORROSION PROBLEMS? Y/N

COMMENTS: _____



SECTION

ATTACHMENT E
Detention Pond Inspection Form

Stormwater Pond Operation, Maintenance, and Management Inspection Checklist

Project: _____

Location: _____

Date: _____

Time: _____

Inspector: _____

Maintenance Item	Satisfactory/Unsatisfactory	Comments
1. Embankment and emergency spillway (Annual, After Major Storms)		
1. Vegetation and ground cover adequate		
2. Embankment erosion		
3. Animal burrows		
4. Unauthorized planting		
5. Cracking, bulging, or sliding of dam		
A. Upstream face		
B. Downstream face		
C. At or beyond toe		
i. downstream		
ii. upstream		
D. Emergency Spillway		
6. Pond, toe & chimney drains clear and functioning		
7. Seeps/leaks on downstream face		
8. Slope protection or riprap failure		
9. Vertical/horizontal alignment or top of dam "As-built"		
10. Emergency spillway clear of obstructions and debris		
11. Other (specify)		

2. Riser and principal spillway (Annual)		
Type:	Reinforced concrete	
	Corrugated pipe	
	Masonry	
1. Low flow device obstructed		
2. Low flow trash rack		
A. Debris removal necessary		
B. Corrosion control		
3. Weir trash rack maintenance		
A. Debris removal necessary		
B. Corrosion control		
4. Excessive sediment accumulation insider riser		
5. Concrete/masonry condition riser and barrels		
A. Cracks or displacement		
B. Minor spalling (<1")		
C. Major spalling (rebars exposed)		
D. Joint failures		
E. Water tightness		
6. Metal pipe condition		
7. Control valve		
A. Operational/exercised		
B. Chained and locked		
8. Pond drain valve		
A. Operational/exercised		
B. Chained and locked		
9. Outfall channels functioning		
10. Other (specify)		
3. Permanet Pool (Wet Ponds) (Monthly)		
1. Undesirable vegetative growth		
2. Floating or floatable debris removal required		
3. Visible pollution Shoreline problem		
4. Other (specify)		

4. Sediment Forebays		
1. Sedimentation noted		
2. Sediment cleanout when depth <50% design depth		
5. Dry Pond Areas		
1. Vegetation adequate		
2. Undesirable vegetative growth		
3. Undesirable woody growth		
4. Low flow channels clear of obstructions		
5. Standing water or wet spots		
6. Sediment and/or trash accumulation		
7. Other (specify)		
6. Conditions of Outfall into Ponds (Annual, After Major Storms)		
1. Riprap failures		
2. Slope erosion		
3. Storm drain pipes		
4. Endwalls/Headwalls		
5. Other (specify)		
7. Other (Monthly)		
1. Encroachment on pond or easement area		
2. Complaints from residents		
3. Aesthetics		
A. Grass growing required		
B. Graffiti removal needed		
C. Other (specify)		
4. Any public hazards (specify)		
5. Access Road		
8. Constructed Wetland Area (Annual)		
1. Vegetation healthy and growing		
2. Evidence of invasive species		
3. Excessive sedimentation in Wetland area		
Comments:		
Actions to be Taken:		