US EPA PHASE II

STORMWATER MANAGEMENT PLAN

MS4 REPORT

2004

BWCP - 8 (8/2003) Version 1.0

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewers (MS4s), Permit No. GP- 02-02 Municipal Compliance Certification

Section A. Small MS4 Owner/Operator Information			Annual Report for the year ending: March 9, 2004
SPDES No.: **NYR20A233**	MS4 Name: **Village of Mamaroneck**		
Contact Name: **Leonard M. Verrastro**	Contact Title: **Village Manager**		Phone No.: **(914) 777-7703**
Mailing Address:	Street or P.O. Box: **Village Offices at the Regatta 123 Mamaroneck Avenue**	City: **Mamaroneck**	
	County: **Westchester**	State: **NY**	Zip Code: **10538**

Is any of this information new or changed since your last certification? (Please circle one answer) [Yes] No

Section B. Watershed and MS4 Partnership Information (Please circle one answer for each question)

1. a) Have you received notification from the Department that you are subject to the special conditions in Part III.B. of the permit? Yes [No]

   b) If you answered yes to 1a), have all necessary changes been made to the Stormwater Management Program (SWMP) to ensure compliance with Part III.B. of the permit? Yes No [N/A]

2. a) Have any new MS4 partnerships developed, where another municipality will be responsible for carrying out a portion of your municipality's SWMP? If yes, please specify the municipality and the activity. Yes [No]

   b) Municipality:_____

   c) Activity:_____

   d) Has a legally binding intermunicipal agreement been executed? If yes, please include a copy of the agreement as an appendix to the Stormwater Management Program Annual Report (SWMPAR). Yes No [N/A]

Section C. Evaluation of Compliance

1. For each of the six minimum measures listed below, indicate if your program has made steady progress toward full implementation *and* has achieved all measurable goals scheduled to be completed this reporting period. (Please circle one answer for each question)

	Steady Progress		Goals Achieved	
a) Public education	[Yes]	No	Yes	[No]
b) Public participation/involvement	[Yes]	No	Yes	[No]
c) Illicit discharge detection and elimination	[Yes]	No	Yes	[No]
d) Construction site stormwater runoff control	[Yes]	No	Yes	[No]
e) Post-construction stormwater management	[Yes]	No	Yes	[No]
f) Pollution prevention/good housekeeping for municipal operation	[Yes]	No	Yes	[No]

2. Does your SWMP cover all areas, automatically and additionally designated, pursuant to 40 CFR 122.32(a), under your jurisdiction? [Yes] No

3. Have adequate resources been allocated to fully implement your SWMP no later than January 8, 2008? Yes [No]

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewers (MS4s), Permit No. GP- 02-02
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SPDES No.:	MS4 Name:
NYR20A233	Village of Mamaroneck

Section D. Explanation of Compliance Evaluation

If you answered No to question 1b in Section B or to any question in Section C, indicate the question in the small box in the upper left hand corner, and provide a brief explanation, including action being taken to address the problem, in the space provided. With respect to any of the six minimum measures, your attached Stormwater Management Program Annual Report (SWMPAR) must include a detailed explanation of why implementation or compliance is not being achieved and what actions have been taken to ensure compliance with each minimum measure. Indicate where this explanation can be found in the SWMPAR. If necessary, attach extra sheets following the same format.

Question #	Explanation
Section C- 1. a)	Significant progress has been achieved (as detailed in the SWMPAR) in the first year of reporting towards fully achieving our goals. Although most of the goals identified have been substantially completed, the Village of Mamaroneck continues to make steady progress and endeavors to fully achieve our goals within the five-year time frame on the Public Education portion of the six minimum measures.

Question #	Explanation
Section C- 1. b)	Measurable goals have been achieved by the Village of Mamaroneck in the first reporting period on the Public Involvement and Participation portion as detailed in the SWMPAR. The Village views public involvement and public participation as an integral part of the stormwater management program and intends to maintain the momentum started in the first reporting period.

Question #	Explanation
Section C- 1. c)	Illicit Discharge Detection and Elimination is aggressively being pursued by the Village of Mamaroneck as described in detail in the accompanying SWMPAR. In the first year of reporting, the Village enacted new point of sale legislation prohibiting illicit discharges which is being enforced rigorously. Continuing into the future, the Village is training employees on GIS for better mapping and maintenance techniques, adopting a CMOM program (presently in final draft form); and has approved the second of four large contracts to slip-line sanitary sewers in an effort to reduce overflows into storm drains.

Question #	Explanation
Section C- 1. d)	The Village's Planning Board, Zoning Board and Coastal Zone Management at a minimum review site plans and wetland permits under the direction of the Building Department which may be subject to public hearings as required. The Village intends to continue the review of ordinances on surface water, erosion/sediment control and will continue reviewing site plans and hold public hearings as necessary. Updated information will continue to be made available on the education and training of construction site operators via an educational display and permit attachments.

Question #	Explanation
Section C- 1. e)	To the maximum extent practicable, the Village has performed assessments and evaluations of stormwater and respective needs for control of same. It continues to be the Village's intent to assess stormwater conditions, regulate post-construction run-off and develop management practice inspection and maintenance programs to stay vigilant towards fully achieving these goals.

Question #	Explanation
Section C- 1. f)	In the Village's first reporting period, several Pollution Prevention/Good Housekeeping measures have been progressed as detailed in the SWMPAR. Although several of the goals identified have been initiated to date, the Village of Mamaroneck continues to make steady progress and endeavors to fully achieve our goals within the five-year time frame on the Pollution Prevention/Good Housekeeping portion of the six minimum measures.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewers (MS4s), Permit No. GP- 02-02 Municipal Compliance Certification, Page 3

SPDES No.:	MS4 Name:
NYR20A233	Village of Mamaroneck

Section E. Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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."

Print Name: Leonard M. Verrastro Title: Village Manager

Signature: Date: May 28, 2004

The MCC form must be signed by either a principal executive officer or ranking elected official, or duly authorized representative of that person as described in Part VI.I.2. of the permit. Send this form to both the DEC Regional Office (see list of addresses in the instructions) and the DEC Central Office (MS4 Permit Coordinator, 625 Broadway, Division of Water – 4th Floor, Albany, NY 12233-3505)

VILLAGE OF MAMARONECK
STORM WATER MANAGEMENT PROGRAM
ANNUAL REPORT
MARCH 2003 – MARCH 2004

MS4 Name:	**Village of Mamaroneck**
MS4 County:	**Westchester**
NYSDEC Region:	**3**
MS4 SPDES No:	**NYR20A233**
Prepared by:	**Robert A. Yamuder, Assistant Village Manager**
Revised:	**5/19/04**

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Executive Summary

In 2003, the New York State Department of Environmental Conservation (NYSDEC) introduced Phase II of its stormwater management program, which regulates all operators of small municipal separate storm sewer systems (MS4s) and construction sites that disturb areas greater than one-acre. The purpose of the Phase II stormwater regulations is to improve water quality and reduce the impacts of polluted stormwater runoff by using a combination of six minimum control measures. The six minimum control measures include: Public Education and Outreach, Public Involvement/Participation, Illicit Discharge Detection and Elimination, Construction Site Stormwater Runoff Control, Post-Construction Stormwater Management, and Pollution Prevention/Good Housekeeping for Municipal Operations.

In order to comply with these regulations, the Village of Mamaroneck in March 2003 submitted a Notice of Intent (NOI) [Appendix A] for coverage under a New York State Pollution Discharge Elimination System (SPDES) general permit. Included in the NOI is a list that identifies the best management practices the Village selected and the measurable goals or implementation schedule the Village would need to follow in order to establish its stormwater management program by March 2008. When selecting best management practices, the Village selected those management practices that would be most effective in reducing the pollutants that impact water quality in our community. This list identifies Mamaroneck Harbor, and the Mamaroneck and Sheldrake Rivers as being impaired by floatables (floating trash and debris), pathogens, oxygen demand, silt, sediment and nutrients - pollutants that are typically carried by stormwater.

This annual report presents each minimum control measure, the selection of best management practices and the progress the Village has made during the first year towards achieving its measurable goals.

A. Public Education and Outreach on Stormwater Impacts

Prior to State mandate, the Village began to educate residents about the impacts of stormwater discharges on water quality. Education and outreach techniques include the distribution of printed material, a library of educational materials, educational displays, participation in events and programs and storm drain stenciling. In order to expand upon the existing education and outreach program, the Village will increase its efforts to educate the public about proper lawn and garden care, pet waste management, proper disposal of household hazardous wastes and trash management – practices that would have the greatest benefits to water quality in the Long Island Sound. The following is a list of the types of public education and outreach activities the Village implements:

- Library of Educational Materials - The Village Manager's office maintains an Environmental Library that contains information on stormwater management, erosion and sediment control, landscaping, reducing pesticide use, water quality, etc. Information is always available to the public and will be publicized on the Village's website. This year the Village added additional reports, guidance manuals and educational materials to the library.

- Production and Distribution of Printed Materials – "*A Land Use Practice Guide*" was prepared by the Town of Mamaroneck Conservation Advisory Commission. The guide which is available to the Village, discusses what residents can do on their property to reduce pollution, protect the environment and improve water quality in Long Island Sound. Copies are made available to Village residents, distributed at the Sheldrake Environmental Center Festivals and at other venues as opportunities arise, and are available at the educational display area located in the lobby of the Village's administrative offices.

- Educational Displays - The Village Manager's office maintains an educational display area in the lobby of the Village offices at the Regatta. Posters and environmental brochures are rotated on a seasonal basis. Information displayed this year included information on non-point source pollution, water quality in Long Island Sound, reducing pesticide and fertilizer use, disposal of household hazardous waste and organic waste collection. There is sufficient literature for people to take home. In addition, the Mayor's Advisory Committee on Water Quality will be installing and maintaining an educational display case in a well used Village walkway, which will be viewed by many resident shopping in the downtown area.

- Events and Programs - The Village contributes to and participates with the Sheldrake Environmental Center to provide information to the public on environmental issues. Educational materials that were distributed included information on non-point source pollution, water quality in Long Island Sound, reducing pesticide and fertilizer use, household hazardous waste collection and organic waste collection.

- The Village, as a member of the Long Island Sound Watershed Intermunicipal Council (LISWIC) will be participating in the Village of Mamaroneck's Historic Harbor Festival on June 13th, 2004. LISWIC has hired the Norwalk Aquarium to bring touch tanks containing native aquatic organisms and an exhibit, "Pollution Soup", which will use colored water to demonstrate the impacts of polluted stormwater on the environment. In addition, LISWIC will set up a booth to display stormwater posters, brochures and videos.

- Storm Drain Stenciling - A storm drain stenciling project was done in 1997 - 1998 using volunteers from the community. Many area storm drains now read "Don't Dump, Drains to L.I. Sound." As a part of the project, volunteers learned about where stormwater goes and what pollutants are found in stormwater runoff. Hundreds of storm drains were stenciled throughout the Village.

- Village Newsletter – Three times a year, the Village sends a newsletter to all of its residents. This year, the Village's Water Quality Committee printed a column on the issues associated with polluted stormwater and listed what residents can do to reduce pollutants. The Committee for the Environment also includes periodic flyers and other information for residents on various environmental and stormwater related matters.

B. Public Involvement/Participation

The Village of Mamaroneck has historically relied on advisory/partner committees for assistance with environmental programs. Volunteer advisory groups include the Coastal Zone Management Commission, Mayor's Advisory Committee on Water Quality (CWQ), Committee for the Environment (CFTE) and Watershed Advisory Committees 4 and 5. In addition, Village representatives participate in LISWIC and on the Westchester County Committee on Nonpoint Source Pollution. Resident volunteers participate in the Westchester County Volunteer Stream Monitoring Program and Streamwalkers, a volunteer organization that trains volunteers and visually inspects streams for signs of erosion and pollution.

As required under Phase II, the Notice of Intent was prepared and distributed to the Coastal Zone Management Commission (CZMC), Mayor's Advisory Committee on Water Quality, and the Committee for the Environment (CFTE) for their review and comments. The NOI was revised to include many of their comments.

The NOI was presented to the Village Board and a public hearing was held. The presentation was televised and included handouts that described the Phase II requirements and the proposed NOI. No additional comments were received. Similarly, this annual report will be presented to CZMC , CWQ, CFTE and the public for comment prior to submission to NYSDEC. The CWQ and CFTE have held public meetings throughout the year to develop and introduce programs and have solicited volunteers and organizations to participate. Both Committees have appeared at Village Board Meetings to update the community on their progress on the projects they have been working on and their accomplishments during the year. The CFTE included a power point presentation that was posted on the Village webpage.

C. Illicit Discharge Detection and Elimination

The Village, in an effort to identify and eliminate illegal discharges to both the sanitary and stormwater sewer systems, has implemented the following management practices:

- Outfall Mapping - Storm sewer system & outfall maps of the Village will be included in the GIS program, which has been begun by the Village.

- Illicit Discharges Prohibited - Sections 226-16 through 226-18 of the Village Code prohibit illicit discharges into both the sanitary and stormwater sewer systems. The Village has drafted legislation, for consideration by the Village Board, which would require a licensed engineer, plumber or house inspector to certify that there are no illegal connections of floor drains to the storm sewer system or storm sewer connections to the sanitary sewer system before a property can be sold, and/or before a building permit can be issued for any alteration or additions to a property.

- Public, Employees, Businesses Informed of Hazards from Illicit Discharges - The Village as a member of LISWIC, produced a brochure on the problems associated with illegal connections. This brochure is distributed to the public and businesses. Employees receive emergency spill response training and attend stormwater conferences. The Village newsletter was published that addressed what homeowners can do to improve water quality. Additionally, as part of a Capacity Maintenance and Operations Management (CMOM) plan the Village is developing, sanitary sewers within the village will be smoke and/or dye tested which will detect any potential remaining cross connections to the storm sewer system.

- Illicit Discharges Identified - Illegal stormwater connections to the sanitary sewer system were identified and corrected as mandated by Westchester County. The removal of infiltration & inflow (I/I) from the sanitary system will reduce flows to the Mamaroneck Waste Water Treatment Plants and reduce the number of sanitary sewer overflows to Long Island Sound.

- Illegal Dumping - No Dumping signs were placed at problem locations. The Village Code prohibits littering and illegal dumping in environmentally sensitive areas. Hundreds of catch basins were stenciled in 1997 in an effort to discourage residents and their employees from using the catch basins to illegally dispose of liquid substances.

- Inspection, Cleaning and Maintenance of Sewer System - The Village has purchased a video camera system for use in inspecting storm and sanitary sewer systems and will use this system to inspect and repair the sewer systems over the next year. The Village has a full-time sewer foreman who spends most of his time overseeing sewer maintenance projects. Road crews are required to report problem areas during their routine cleaning and maintenance of roadways, shoulders and curbs. A vactor truck and a jet vac system are used to clean catch basins and flush sewer lines. Approximately 500 catch basins are cleaned annually, with additional basins cleaned as necessary. Streets are swept at least seven times each year. The Village has also had a CMOM audit conducted by Woodard and Curran and the Village will be implementing their findings and recommendations over the next year.

- Intermunicipal Activities - The Village as a member of LISWIC has received grant funding to analyze the creation of a Stormwater Utility District (SUD). If created, its goals will be to create a storm drain capital improvement plan, a system operation and maintenance plan, and a source control plan for the entire district.

D. Construction Site Stormwater Runoff Control

The Village's program for controlling construction site stormwater runoff includes the following management practices:

- Erosion and Sediment Control Ordinance - Erosion and sediment control is regulated by Chapter 186 of the Village Code, known as the Flood Damage Prevention; Erosion and Sediment Control Chapter.

- Public Comment on Construction Plans - Public hearings are held for projects requiring site plan review and wetlands permits.

- Construction Site Plan Review - The Planning Board reviews projects requiring site plan review and wetlands permits. All sites involving disturbances in excess of 1-Acre are required to submit Phase II storm water permits to the NYS DEC, the Planning Board provides guidance to these applicants, through the Village's Consulting Engineer, relative to the specific requirements under the Phase II Regulations. Sites which are under the 1-Acre threshold are likewise regulation, using similar requirements for SWPP development by the applicants, to be submitted for local Planning Board approval.

- Construction Site Waste Management -Construction site waste management is regulated by section 186-10 of the Village Code.

- Site Inspections and Enforcement - Site inspections and enforcement of erosion and sediment control ordinance conducted at each site before, during and after construction.

- Education and Training of Construction Site Operators - An educational display area will be created in the Building Department that will have posters and information on construction site maintenance practices, waste management, erosion control and upcoming training seminars. In addition, a fact sheet will be attached to all building permit applications.

- Wetlands Law – The Freshwater Wetlands Law of the Village of Mamaroneck requires permits for any construction activities within 100 feet of a wetlands or watercourse. Projects are reviewed by the Planning Board and the Coastal Zone Management Commission.

E. Post- Construction Stormwater Management

The Village currently implements the following management practices for the control of post-construction stormwater runoff:

- Assess Existing Conditions and Identify Appropriate Management Practices - By reviewing and following the NYS Stormwater Management Design Manual and the NYSDEC Section 303(d) list, the pollutants/issues of concern that have been identified include nutrients from fertilization, sedimentation of waterways and waterbodies, pesticides, flooding and pet waste.

- Regulate Post-Construction Runoff From Development Through a Local Ordinance - Local codes currently regulate post-construction stormwater management, pet waste & wetlands protection. The Planning Board and Coastal Zone Management Commission encourage the use of pervious surfaces and low impact development strategies in all new construction. Additionally, all new Planning Board Applications, that require any type of drainage structures, are reviewed by the Village's Consulting Engineer (KW Furey Engineering, P.C.) for compliance with the Phase II requirements relative to Water Quality, Channel Protection, Overbank Flooding and Extreme Storm Protection. For those sites under the 1-acre Phase II thresh-hold, the Planning Board utilizes similar design criteria as required under Phase II for evaluation of potential drainage systems.

- Develop Management Practice Inspection and Maintenance Program - Performance bonds can be required to insure the proper installation and maintenance of stormwater management facilities. Site inspections are conducted to ensure proper installation of devices.

- Intermunicipal Activities - The Village as a member of LISWIC has obtained grant funding for the analysis of the creation of a Stormwater Utility District (SUD). If the Utility District is successfully created, one of its goals will be to create a source control plan designed to reduce the use of herbicides and pesticides, strengthen on-site sewer connections and advance the use of best management practices.

F. Pollution Prevention/Good Housekeeping

- Prevent discharge of Pollutants from Municipal Operations - The Village staff recycles all waste types generated by their maintenance of the municipal fleet. Sanitation trucks are washed and cleaned inside and drain into a sanitary sewer line.

- Follow DEC NPS Management Practices Catalog - Village employees will attend pollution prevention training workshops and classes in addition to on the job

training. During the upcoming year, the employee education program will be updated to incorporate use of the NYS Management Practices Catalogue for Nonpoint Source Pollution Prevention.

- Street Sweeping – All streets are swept at least seven (7) times each year by DPW personnel.

- Catch Basin and Storm Drain System Cleaning - The Village owns a vactor truck and a jet vac system to clean catch basins and flush sewer lines. Approximately 500 catch basins are cleaned annually, with additional basins cleaned as necessary.

- Hazardous and Waste Materials Management - Residents are notified by the Village in an annual notice about the proper disposal of hazardous wastes. Hazardous waste collection events are offered in a cooperative program with Westchester County.

- Intermunicipal Activities - The Village as a member of LISWIC has obtained seeking grant funding for the analysis of the creation of a Stormwater Utility District (SUD). If the Utility District is successfully created, one of its goals will be to create a capital improvement plan, and an operations and maintenance plan for the entire district. The district would assume responsibility for the cleaning and maintenance of storm sewer systems and for any capital improvements necessary.

Stormwater Management Program Annual Report
Six Minimum Measures Section
March 10, 2003 – March 9, 2004

Municipality Name: **Village of Mamaroneck** SPDES Number: **NYR20A233**

MINIMUM MEASURE 1: Public Education and Outreach on Stormwater Impacts

A. Narrative Overview: The public education program will inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil and household hazardous wastes. Some of the strategies to be employed by this plan include distributing brochures, sponsoring speaking engagements before community groups, implementing education programs targeted at school age children, creation of a Village Storm Water Website and conducting community-based projects such as storm drain stenciling.

B. Implementation of Best Management Practices				**C. Activities Planned for Upcoming Year**
Type in the management practices selected in your NOI and any additional ones that you worked on.	**Any done in the past year?**		**If YES, describe what measurable goals that were achieved and other accomplishments. If NO, and the item was checked off on your NOI, describe why the task was not accomplished and, if still a measurable goal, list in column C.**	**Describe SWMP activities that are planned for the next year and changes to selected management practices/measurable goals.**
	YES	NO		
TECHNIQUES				
Plan and conduct an ongoing public education and outreach program (required)	X		The Village has accomplished the following: • Completed video entitled "How you can help clean-up L. I. Sound correcting improper Sewer Hook-ups" which airs regularly on local cable channels. • Began to compile information to be used on a stormwater webpage.	• Continue to participate in local events. • Continue development of content for a webpage.

B. Implementation of Best Management Practices				C. Activities Planned for Upcoming Year
Type in the management practices selected in your NOI and any additional ones that you worked on.	**Any done in the past year?**		**If YES, describe what measurable goals that were achieved and other accomplishments. If NO, and the item was checked off on your NOI, describe why the task was not accomplished and, if still a measurable goal, list in column C.**	**Describe SWMP activities that are planned for the next year and changes to selected management practices/measurable goals.**
	YES	NO		
TECHNIQUES				
Plan and conduct an ongoing public education and outreach program (required)	X		• Selected brochures to reproduce and distribute. • Village newsletter included information for residents on reducing stormwater pollution. • Storm drain stenciling. • Additional stormwater information was added to the library. • Village hosting Historic Harbor Festival with environmental components/booths. • Posters and environmental brochures displayed including information on non-point source pollution. • Collected and reviewed posters. • Stormwater hot-line being researched. • Training educators being researched.	• Continue material distribution. • Continue material distribution. • New catch basin grates being installed with logo imprinted on them. • Continue to maintain and upgrade library. • The Village will be hosting the Historic Harbor Festival on 6/13/04. • Continue maintaining educational display. • Posters to be displayed at festivals and new educational display case in the Village. • Continue researching Hot-Line implementation. • Continue researching the training of educators.

MINIMUM MEASURE 2: Public Involvement/Participation

A. Narrative Overview: The Public will be included in developing, implementing, and reviewing storm water management program, and the public participation process will reach out and engage all economic and ethnic groups. The Village formed a Water Quality Committee which participates in this process. In addition to their current input to the Mayor and the Board of Trustees concerning water quality issues and the development of this SWMP, the Committee will be asked to work as citizen volunteers to assist in educating other individuals about the program, assisting in program coordination with other pre-existing programs, and take the lead role in organizing community volunteer efforts. A stormwater contact person has been identified and public comments on the NOI and Annual Report were solicited at public meetings.

B. Implementation of Best Management Practices				C. Activities Planned for Upcoming Year
Type in the management practices selected in your NOI and any additional ones that you worked on.	**Any done in the past year?**		**If YES, describe what measurable goals that were achieved and other accomplishments. If NO, and the item was checked off on your NOI, describe why the task was not accomplished and, if still a measurable goal, list in column C.**	**Describe SWMP activities that are planned for the next year and changes to selected management practices/measurable goals.**
	YES	NO		
TECHNIQUES				
Public notice and access to documents and information (required)	X		• Members of the public were noticed as required that the NOI was prepared and available for public review and comment.	• Members of the public will continue to be noticed as required that the Stormwater Management Plan and annual reports have been prepared and are available for public review and comment.
Public presentation and comments received on SWMP and annual report (required)	X		• A public presentation and hearing was held on NOI as required.	• A public presentation and hearing was held on the SWMP and Annual Report. Comments were received and were incorporated in this report.
Public involvement/participation program (required)	X		• The Mayor's Water Quality Committee and the Committee for the Environment engage public input at monthly meetings.	• Continue monthly meetings.

B. Implementation of Best Management Practices				C. Activities Planned for Upcoming Year
Type in the management practices selected in your NOI and any additional ones that you worked on.	**Any done in the past year?**		**If YES, describe what measurable goals that were achieved and other accomplishments. If NO, and the item was checked off on your NOI, describe why the task was not accomplished and, if still a measurable goal, list in column C.**	**Describe SWMP activities that are planned for the next year and changes to selected management practices/measurable goals.**
	YES	NO		
TECHNIQUES				
Storm Drain Stenciling	X		• Continue to elicit volunteers to help DPW stencil catch basins.	• Continue activity.

MINIMUM MEASURE 3: Illicit Discharge Detection and Elimination

A. Narrative Overview: The Village plan to detect and address illicit discharges includes the following four components:

1) Procedures for locating priority areas likely to have illicit discharges;
2) Procedures for tracing the source of an illicit discharge;
3) Procedures for removing the source of the discharge; and
4) Procedures for program evaluation and assessment.

The Village adopted new local law point of sale legislation prohibiting illicit discharges.

B. Implementation of Best Management Practices				C. Activities Planned for Upcoming Year
Type in the management practices selected in your NOI and any additional ones that you worked on.	**Any done in the past year?**		**If YES, describe what measurable goals that were achieved and other accomplishments. If NO, and the item was checked off on your NOI, describe why the task was not accomplished and, if still a measurable goal, list in column C.**	**Describe SWMP activities that are planned for the next year and changes to selected management practices/measurable goals.**
	YES	NO		
ACTIVITIES				
Outfall mapping (required)	X		• The Village is compiling data.	• The Village is initiating a GIS program to include mapping of outfalls.
Illicit discharges prohibited (required)	X		• Illicit discharges prohibited by local ordinance. Point of sale legislation enacted.	• Continue to enforce new legislation.
Public, employees, businesses informed of hazards from illicit discharges (required)	X		• Brochure on illegal hook ups distributed to residents & businesses. Employee hazardous materials training conducted.	• Continue to distribute brochures to residents and businesses. Continue employee education program.
Illicit discharges identified (required)	X		• Removal of I/I connections completed as required by Westchester County. DOH tests water quality to identify hotspots.	• Future illicit discharges (Hot-spots) discovered, will be handled to the fullest extent of the law.
System mapping	X		• System mapping in place.	• Update system maps as needed.

B. Implementation of Best Management Practices				C. Activities Planned for Upcoming Year
Type in the management practices selected in your NOI and any additional ones that you worked on.	**Any done in the past year?**		**If YES, describe what measurable goals that were achieved and other accomplishments. If NO, and the item was checked off on your NOI, describe why the task was not accomplished and, if still a measurable goal, list in column C.**	**Describe SWMP activities that are planned for the next year and changes to selected management practices/measurable goals.**
	YES	NO		
ACTIVITIES				
Area-wide use of septic systems	X		• Village identifying areas where septic systems are in use.	• Village to map and address areas identified and research remedies.
Dye test boats in harbor	X		• Village using existing ordinances to dye test boats in harbor.	• Continue activity.
Sliplining Sewers	X		• Village contracted out two (2) slip-lining contracts totaling approximately 10,000 LF of sanitary sewer in an effort to reduce overflows into storm drains.	• Village to contract out additional slip-lining contracts next year.
CMOM			• Village reviewing final draft of CMOM audit report.	• Village to implement recommendations in CMOM report.

MINIMUM MEASURE 4: Construction Site Stormwater Runoff Control

A. Narrative Overview:

The Village will develop and implement an Ordinance to provide for control of pollutant runoff on construction sites with a land disturbance greater than one (1) acre. The ordinance will incorporate Construction Site Erosion and Sediment Control BMP's and will be accompanied by the development of a BMP Manual for use in the Village. The implementation of this measure will include three key aspects:

1) Adoption of a Local Ordinance meeting the requirements of the Phase II Final Rule
2) Inclusion of the requirements of the ordinance in the Site Plan Review Process
3) Enforcement of the Ordinance through Building Department Inspections and the issuance of fines/penalties for violation

B. Implementation of Best Management Practices				C. Activities Planned for Upcoming Year
Type in the management practices selected in your NOI and any additional ones that you worked on.	**Any done in the past year?**		**If YES, describe what measurable goals that were achieved and other accomplishments. If NO, and the item was checked off on your NOI, describe why the task was not accomplished and, if still a measurable goal, list in column C.**	**Describe SWMP activities that are planned for the next year and changes to selected management practices/measurable goals.**
	YES	NO		
REQUIREMENTS				
Require erosion and sedimentation controls through an ordinance or other regulatory mechanism (required)	X		• Village continues to update/research Surface Water, Erosion and Sediment Control ordinance.	• Draft amendments to the Surface Water, Erosion and Sediment Control Laws deemed necessary.
Provide opportunity for public comment on construction plans (required)	X		• Planning Board , Zoning Board, CZM and Building Department review & public hearings required for site plan review and wetlands permits.	• Continue this activity
Require construction site plan review (required)	X		• Site Plan review required.	• Continue this activity

B. Implementation of Best Management Practices				C. Activities Planned for Upcoming Year
Type in the management practices selected in your NOI and any additional ones that you worked on.	**Any done in the past year?**		**If YES, describe what measurable goals that were achieved and other accomplishments. If NO, and the item was checked off on your NOI, describe why the task was not accomplished and, if still a measurable goal, list in column C.**	**Describe SWMP activities that are planned for the next year and changes to selected management practices/measurable goals.**
	YES	NO		
REQUIREMENTS				
Require overall construction site waste management (required)	X		• Regulated by Section 186 Article 2 of the Village Code	• Continue this activity.
Site inspections and enforcement (required)	X		• Erosion control inspections required on all construction sites.	• Continue this activity.
Education and training of construction site operators (required)	X		• Brochures, posters and fact sheets collected and reviewed. Announcements for contractor training programs distributed to contractors.	• Create an educational display in the building department on the uses of BMP's. Fact sheet to be created and attached to building permit applications.
Wetlands Law	X		• CZM reviews applications.	• Continue this activity.

MINIMUM MEASURE 5: Post-Construction Stormwater Management

A. Narrative Overview:

If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. EPA recommends that the BMP's chosen: be appropriate for the local community; minimize water quality impacts, and attempt to maintain pre-development runoff conditions. The process will include both Structural and Non-Structural BMP's to ensure that development projects include the best long-term storm water runoff measures possible.

B. Implementation of Best Management Practices				C. Activities Planned for Upcoming Year
Type in the management practices selected in your NOI and any additional ones that you worked on.	**Any done in the past year?**		**If YES, describe what measurable goals that were achieved and other accomplishments. If NO, and the item was checked off on your NOI, describe why the task was not accomplished and, if still a measurable goal, list in column C.**	**Describe SWMP activities that are planned for the next year and changes to selected management practices/measurable goals.**
	YES	NO		
REQUIREMENTS				
Assess existing conditions throughout the MS4 and identify appropriate management practices to reduce pollutant discharge to the maximum extent practicable (required)	X		• For new development/redevelopment projects subject to Village review/comment, the Village has performed assessments/evaluations of stormwater conditions and any needed controls.	• Continue this activity.
Regulate post-construction runoff from development through an ordinance or other regulatory mechanism (required)	X		• Use of NYS Stormwater Management Design Manual as a guidance tool. Planning board provides guidance to applicants relative to compliance with the specific requirements of Phase II.	• Continue these activities.

B. Implementation of Best Management Practices				C. Activities Planned for Upcoming Year
Type in the management practices selected in your NOI and any additional ones that you worked on.	**Any done in the past year?**		**If YES, describe what measurable goals that were achieved and other accomplishments. If NO, and the item was checked off on your NOI, describe why the task was not accomplished and, if still a measurable goal, list in column C.**	**Describe SWMP activities that are planned for the next year and changes to selected management practices/measurable goals.**
	YES	NO		
REQUIREMENTS				
Develop management practice inspection and maintenance program (required)	X		• Performance bonds and inspections required for the installation of stormwater management structures. Amendment researched to require filing of stormwater management facility inspection and maintenance reports.	• Draft amendment to ordinance to be prepared.

MINIMUM MEASURE 6: Pollution Prevention/Good Housekeeping

A. Narrative Overview: This program will include maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural storm water controls to reduce floatables and other pollutants discharged from the storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas, and waste transfer stations; and procedures for properly disposing of waste removed from the storm sewers.

B. Implementation of Best Management Practices				**C. Activities Planned for Upcoming Year**
Type in the management practices selected in your NOI and any additional ones that you worked on.	**Any done in the past year?**		**If YES, describe what measurable goals that were achieved and other accomplishments. If NO, and the item was checked off on your NOI, describe why the task was not accomplished and, if still a measurable goal, list in column C.**	**Describe SWMP activities that are planned for the next year and changes to selected management practices/measurable goals.**
	YES	NO		
REQUIREMENTS				
Prevent discharge of pollutants from municipal operations (required)	X		Being accomplished by the Village through ongoing practices, including: • 100% of the Village waste oil at its facilities is picked up for recycling. • Road sweeping is regularly performed on 46 miles of Village roads. • 3000 Village catch basins are cleaned on a regular cycle or as-needed. • DPW personnel provided litter pickup/cleaning after 100% of major events.	• Continue this activity. • Continue this activity. • Continue this activity. • Continue this activity.
Follow DEC NPS Management Practices Catalog, or equivalent (required)	X		• Use of Westchester County BMP Manual for Stormwater Management.	• Continue use of this manual.

B. Implementation of Best Management Practices				C. Activities Planned for Upcoming Year
Type in the management practices selected in your NOI and any additional ones that you worked on.	**Any done in the past year?**		**If YES, describe what measurable goals that were achieved and other accomplishments. If NO, and the item was checked off on your NOI, describe why the task was not accomplished and, if still a measurable goal, list in column C.**	**Describe SWMP activities that are planned for the next year and changes to selected management practices/measurable goals.**
	YES	NO		
REQUIREMENTS				
Conduct employee pollution prevention training (required)	X		• Employees trained in hazardous spill response, attended workshops and seminars on pollution prevention.	• Continue this activity.
Cigarette butt receptacles added throughout Village	X		• 20 Cigarette butt receptacles installed to remove floatables entering catch basins	• Continue this activity.
Installation of floatable debris boom	X		• Required permits obtained – contract in bid process	• Continue this activity.

VII. Funding and Grant Money Use

The Village of Mamaroneck maintains regular contact with local, state and federal elected officials pursuant to obtaining grants/funds for water quality improvement projects.

APPENDIX A

Village of Mamaroneck Notice of Intent

New York State Department of Environmental Conservation
625 Broadway
Albany NY 12233-3505

Notice of Intent for Coverage Under an SPDES General Permit for Storm Water Discharges From SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

Submission of this Notice of Intent (NOI) constitutes notice that the entity identified in Section A of this form intends to be authorized by DEC's Small MS4 SPDES General Permit issued for storm water discharges from the small municipal separate storm sewer system (MS4) in New York State. Submission of the NOI also constitutes notice that the party identified in Section A of this form has read, understands, and meets the eligibility conditions of Part I.B. of the Small MS4 General Permit; agrees to comply with all applicable terms and conditions of the Small MS4 General Permit; understands that continued authorization under the Small MS4 General Permit is contingent on maintaining eligibility for coverage, and that implementation of the permittee's storm water management program is required to begin within five(5) business days after a completed NOI is received by DEC. In order to be granted coverage, all information required on this form must be completed. Please read and make sure you comply with all permit requirements, including the requirement to prepare and implement a storm water management program.

Section A. Small MS4 Owner/Operator Information

1. Name: Village of Mamaroneck 2. Phone: (914) 777-7703

3. a. Mailing Address: a. Street or P.O. Box: 123 Mamaroneck Avenue, P.O. Box 369

b. City: Mamaroneck c. State: NY d. Zip Code: 10543 -

Section B. Small MS4 Location Information

1. MS4 Name: Village of Mamaroneck

2. a. City/Town/Village: Mamaroneck

b. County(ies): Westchester

3. a. Permit Applicant: ☐ Federal ☐ State ☐ County ☐ City ☐ Town ☑ Village

☐ School District ☐ Fire District ☐ Other public entity

4. Does the MS4 discharge to receiving waters or a watershed which is/are impaired (appear on DEC's 303(d) list or for which a Total Maximum Daily Load (TMDL) has been determined? ☐ Yes ☑ No

Section C. Initial Identification of Management Practices (continued)

5. Post-Construction Storm Water Management in New Development and Redevelopment

- ☐ Alternate turnarounds
- ☐ Alternative pavers
- ☐ Alum injection
- ☐ Bioretention
- ☐ Management practice inspection and maintenance
- ☑ Buffer zones
- ☑ Catch basin
- ☐ Conservation easements
- ☑ Dry extended detention ponds
- ☐ Eliminating curbs and gutters
- ☑ Grassed swales
- ☐ Grassed filter strips
- ☐ Green parking
- ☑ In-line storage
- ☐ Infiltration trench
- ☑ Infiltration basin
- ☐ Infrastructure planning
- ☐ Manufactured products for storm water inlets
- ☐ Narrower residential streets
- ☐ On-lot treatment
- ☐ Open space design
- ☑ Ordinances for postconstruction runoff
- ☐ Porous pavement
- ☐ Sand and organic filters
- ☑ Storm water wetland
- ☐ Urban forestry
- ☐ Wet ponds
- ☐ Zoning and Site Plan Review
- ☐ Others: .....

6. Pollution Prevention/Good Housekeeping for Municipal Operations

- ☐ Alternative products
- ☐ Alternative discharge options for chlorinated water
- ☐ Automobile maintenance
- ☑ Employee training
- ☑ Hazardous materials storage
- ☐ Illegal dumping control
- ☑ Landscaping and lawn care
- ☐ Materials management
- ☑ Parking lot and street cleaning
- ☐ Pest control
- ☐ Pet waste collection
- ☑ Road salt application and storage
- ☐ Roadway and bridge maintenance
- ☐ Septic system controls
- ☑ Spill response and prevention
- ☑ Storm drain system cleaning
- ☐ Used oil recycling
- ☐ Vehicle washing
- ☐ Others: .....

Section D. Initial Identification of Measurable Goals (attach additional sheets as necessary)

Person(s) responsible for implementing or coordinating the storm water management program:

Village Manager Phone: (914) 777-7703

1. Public Education and Outreach on Storm Water Impacts

Measurable goals (with start and end dates): .....

See Attached SWMP

2. Public Involvement/Participation

Measurable goals (with start and end dates): .....

See Attached SWMP

4. Construction Site Storm Water Runoff Control

Measurable goals (with start and end dates): .....

See Attached SWMP

5. Post-Construction Storm Water Management in New Development and Redevelopment

Measurable goals (with start and end dates): .....

See Attached SWMP

Section C. Initial Identification of Management Practices (attach additional sheets as necessary)

1. Public Education and Outreach on Storm Water Impacts

Outreach Techniques	*Management Practices to Encourage*
☑ Classroom education/school programs	☑ Proper lawn and garden care (fertilizer and pesticide use, sweeping, etc.)
☐ Outreach to commercial entities	☐ Low impact development
☑ Printed material	☑ Pet waste management
☐ Media campaign	☐ Pollution prevention for businesses
☐ Library of educational materials	☑ Proper disposal of household hazardous wastes
☐ Events and Programs	☑ Trash management
☐ Displays	☐ Water conservation practices
☐ Posters and signs of varying sizes (magnet to billboards)	☐ Others: .....
☑ Speakers to community groups	
☐ Economic incentives	
☐ Promotional giveaways	
☐ Others	

2. Public Involvement/Participation

Involvement Techniques	*Participation Activities*
☑ Advisory/partner committees	☑ Adopt-a-stream
☐ Local stormwater contact	☑ Reforestation program
☑ Public access to documents and information	☑ Storm drain stenciling
☐ Public review of plans and annual reports	☐ Stream, beach, roadway cleanup
☑ Watershed organizations	☑ Volunteer monitoring
☐ Attitude surveys	☑ Wetland plantings
☑ Community hot lines	☐ Others .....
☐ Stakeholder meetings	
☐ Mailing list development and use	
☐ Other	

3. Illicit Discharge Detection and Elimination

Detection and Elimination Activities	*Type of Discharges to Target*
☑ System mapping	☑ Failing septic systems
☑ Identifying illicit connections	☐ Illegal dumping
☑ Dye testing	☐ Industrial/business connections
☐ Shoreline surveys	☑ Recreational sewage
☐ System Inspections	☑ Sanitary sewer overflows
☐ Other	☑ Wastewater connections to the storm drain system
	☐ Others .....

4. Construction Site Storm Water Runoff Control

☐ Maintain practice inspection and maintenance	☑ Permanent seeding
☐ Brush barrier	☑ Preserving natural vegetation
☐ Check dams	☐ Riprap
☐ Chemical stabilization	☑ Sediment filters and sediment chambers
☑ Construction entrances	☐ Sediment trap
☐ Construction reviewer	☐ Sediment basins and rock dams
☐ Construction sequencing	☑ Silt fence
☐ Contractor certification and inspector training	☐ Sodding
☑ Dust control	☐ Soil roughening
☐ Filter berms	☐ Soil retention
☑ General construction site waste management	☑ Spill prevention and control plan
☑ Geotextiles	☑ Storm drain inlet protection
☐ Gradient terraces	☐ Temporary diversion dikes
☑ Grass-lined channels	☐ Temporary stream crossings
☐ Land grading	☐ Temporary slope drain
☑ Model ordinances	☑ Vegetated buffer
☐ Mulching	☑ Vehicle maintenance and washing areas
☐ Permanent diversions	☐ Wind fences and sand fences

Section C. Initial Identification of Management Practices (continued)

5. Post-Construction Storm Water Management in New Development and Redevelopment

- ☐ Alternate turnarounds
- ☐ Alternative pavers
- ☐ Alum injection
- ☐ Bioretention
- ☐ Management practice inspection and maintenance
- ☑ Buffer zones
- ☑ Catch basin
- ☐ Conservation easements
- ☑ Dry extended detention ponds
- ☐ Eliminating curbs and gutters
- ☑ Grassed swales
- ☐ Grassed filter strips
- ☐ Green parking
- ☑ In-line storage
- ☐ Infiltration trench
- ☑ Infiltration basin
- ☐ Infrastructure planning
- ☐ Manufactured products for storm water inlets
- ☐ Narrower residential streets
- ☐ On-lot treatment
- ☐ Open space design
- ☑ Ordinances for postconstruction runoff
- ☐ Porous pavement
- ☐ Sand and organic filters
- ☑ Storm water wetland
- ☐ Urban forestry
- ☐ Wet ponds
- ☐ Zoning and Site Plan Review
- ☐ Others: .....

6. Pollution Prevention/Good Housekeeping for Municipal Operations

- ☐ Alternative products
- ☐ Alternative discharge options for chlorinated water
- ☐ Automobile maintenance
- ☑ Employee training
- ☑ Hazardous materials storage
- ☐ Illegal dumping control
- ☑ Landscaping and lawn care
- ☐ Materials management
- ☑ Parking lot and street cleaning
- ☐ Pest control
- ☐ Pet waste collection
- ☑ Road salt application and storage
- ☐ Roadway and bridge maintenance
- ☐ Septic system controls
- ☑ Spill response and prevention
- ☑ Storm drain system cleaning
- ☐ Used oil recycling
- ☐ Vehicle washing
- ☐ Others: .....

Section D. Initial Identification of Measurable Goals (attach additional sheets as necessary)

Person(s) responsible for implementing or coordinating the storm water management program:

Village Manager Phone: (914) 777-7703

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Measurable goals (with start and end dates): .....

See Attached SWMP

2. Public Involvement/Participation

Measurable goals (with start and end dates): .....

See Attached SWMP

4. Construction Site Storm Water Runoff Control

Measurable goals (with start and end dates): .....

See Attached SWMP

5. Post-Construction Storm Water Management in New Development and Redevelopment

Measurable goals (with start and end dates): .....

See Attached SWMP

Section D. (continued)

3. Illicit Discharge Detection and Elimination

Measurable goals (with start and end dates): .....

.....See Attached SWMP.....

6. Pollution Prevention/Good Housekeeping for Municipal Operations

Measurable goals (with start and end dates): .....

.....See Attached SWMP.....

Section E. Cooperating MS4s

Identify any MS4 partners that will be assisting you in carrying out your Stormwater Management Program: (Attach a description of what portions of which management practices that the other MS4s will be doing for you, and similarly what practices that you are assisting them with.)

Name of Cooperating MS4	Address	Contact Person	Telephone number	Email

Section F. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that 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.

Print Name: ..Sanford I. Miller.....

Signature: _____ Date: __ / __ /.....

APPENDIX B

Update of Mayor's Advisory Committee on Water Quality (August 2003) Village News Letter

Power Point Presentation – Committee for the Environment (February 2004)

Mayor's letter to Committee for the Environment highlighting Village actions during the year (February 2004)

Update of Mayor's Advisory Committee on Water Quality (April 2004) Village News Letter

FROM THE MAYOR'S ADVISORY COMMITTEE ON WATER QUALITY

In the Spring of 2002, with a permanently closed beach at Harbor Island, Mayor Phil Trifiletti formed a special committee to focus on the problem and to find solutions. The Mayor's Advisory Committee on Water Quality convened for the first time on May 1, 2002. At that meeting, the Mayor informed the "WQ" committee, composed of seven Village and Town of Mamaroneck residents, that their mission would be "to assist the Village in combating the pollution problem at Harbor Island Park".

He expressed his hopes that members would research and learn as much as possible about the pollution problem, find out how other Towns and Villages with similar problems have been successful in the elimination and prevention of water pollution, help determine effective solutions tailored to address the specific needs of the Village of Mamaroneck, and "most importantly, work closely with the Board of Trustees."

Over the next four months, meeting regularly in "The Red Room" in the Beach Pavilion, the WQ Committee compiled enough information for a public presentation in Village Hall. On September 23, 2002, members summarized their findings for the public, the Mayor and Board of Trustees, and other Village officials. The WQ determined that the pollution in Mamaroneck Harbor emanated from two main sources: sanitary sewer overflows (SSOs) and storm water runoff. Many solutions to eliminate bacterial pollution from raw sewage discharges and polluted runoff were discussed. Finally, the Committee presented the Board with an extensive "Action List" of specific tasks to expedite these solutions. Some of these suggested actions are now underway.

Before being elected into office, Christie McEvoy-Derrico worked as a member of the Committee. Since she was formally sworn in as a trustee she has acted as the trustee liaison with the Committee.

These are some highlights of what has been accomplished since that time:

The CMOM Program

In June 2003, The Village hired an independent environmental engineering company, Woodard & Curran (W&C), with extensive experience in similar communities with similar problems, to develop a CMOM Program in order for the Village to upgrade oversight of the sanitary sewer system. "CMOM" is an acronym, standing for Capacity, Management, Operation and Maintenance. Step one will be a full audit of the system. The work will begin this Fall.

One example of a what a full audit would accomplish and prevent is the recent discovery of a sewage leak on the Boston Post Road, near Brewers, resulting in a short term beach closure. Sewage was observed coming out of storm drain pipe, under the bridge, coming into Harbor Island Park. A work crew televised the pipes and found several spots which were broken and a pipe from the sanitary sewer connected to the storm sewer, feeding sewage directly into the Mamaroneck River. According to Bobby Germani, of the Department of Public Works (DPW), this "set up" was at least 60 years old and is obviously not acceptable practice today. With full televising of the sewer lines in the village, breaks can be detected and fixed and a proactive approach, that anticipates problems, can be taken rather than a reactive one which only goes into play after a problem arises.

Continued on Page 15

Continued from Page 11—From the Mayor's Advisory Committee on Water Quality

Catch Basin Upgrades: There are approximately 1,800 catch basins in the Village. Annually, approximately 15-20 of these are replaced. At the suggestion of the WQ committee, Anthony Iacovelli, of the DPW, researched pre-cast catch basins which say, in raised lettering: "Don't dump...drains to Sound" and cost approximately $26 extra per catch basin. The pre-casting has a major advantage to stenciling because it does not wear off.

The DOS Grant: The Village is working with New York Department of State (DOS). Recently an Environmental Protection Fund (EPF) grant was tracked down by a member of the WQ. It was submitted to the State by the Village, with the help of W&C, requesting funds in the sum of approximately $100,000.00. The Village also received guidance from the DOS on tailoring the components in the application to the "water" needs of the Village. Another grant which focuses on storm water runoff is expected to be released at the end of July and will also be applied for by the Village.

The Geese: The unfortunate proliferation of Canadian geese, and their droppings, is a problem up and down the Eastern Seaboard. Members of the WQ Committee, as well as many other users of HI park and beach, have stressed the importance of controlling the geese at Harbor Island. WQ research of this issue has helped the Village in the search for solutions. Two methods are now in use: dogs are permitted to run with a permit and sound guns go off regularly.

These are some WQ Committee projects "in the works" :

Setting up a "Water Quality" display in a public location in the Village to provide information.

Researching methods for implementing a "Floatable Debris Project" aimed at removal of all floating soda cans etc. from Mamaroneck Harbor, as was successfully done in Boston Harbor.

Strengthening the Village's connection with other communities in the watershed to address common pollution issues.

Continuing to locate Government sources of funding.

The Mayor's Advisory Committee on Water Quality looks forward to continuing to provide assistance, in as many ways as possible, to the Mayor and Board as they make the decisions that will restore and maintain the Village's precious resource: Mamaroneck Harbor and it's tributaries. The next WQ meeting will be in September. WQ meets on the second Tuesday of the month, at 7:45 PM. Anyone interested in joining this Committee may send their resume into Mayor Trifiletti's Office, 123 Mamaroneck Avenue, Mk NY 10543.

Final Note: Copies of the WQ "Handout" from the September 2002 Presentation are still available. Ask at the front desk in Village Hall at the Regatta if you would like to have one.

Water Quality Committee Members

Douglas Gould, Frederick Longacre,Katherine Desmond, Linda LaFaro, Steven Mitsch, Tara Toolan, Ph.D., Andrew Goldner, Trustee Christie McEvoy-Derrico, Liaison to Committee

OBEY THE LAW—FIGHT POLLUTION

Dog Owners – please do not deposit your pooper scooper bags into the village storm drains. The storm drain empties into the harbor – illegally disposed waste contributes to the pollution problem found in our waterways.

cc: Baord of Trustees, Village Manage[illegible] Ass't Village Manager

Presentation to the Mayor and Board of Trustees

Village of Mamaroneck Committee for the Environment

2002/2003 Overview

February 9, 2004

Committee Objectives 7/2/02

- Recycling: organic waste, electronic disposal, improvement of recycling center
- Water: stormwater, beaches
- Land Use: Waterfront, parks, open space plan
- Pollution: air, noise, litter

Committee Members

- Chair - Ann Marie Terrone
- Vice Chair - Steven Goldstein
- Secretary - John Leitner
- Committee Member - Allison Stabile
- Committee Member - Joan Heilman
- Committee Member - John DeLise
- Committee Member - Mary Landrigan

Achievements - Recycling Center

- Improved Signage
- Safety - Addition of Railings on Stairs
- 5th Wednesday Electronic Recycling Implemented

Achievements - Organic Pick-up

- Meeting with Jim Hogan, Tony Iacovelli and Rob Yamuder (11/12/02)
- Suggested Organic Waste Pick-up Program
- Cost/Benefit Analysis

Organic or Municipal Solid Waste

'actual' figures for the MSW received from the Village. This data for January 2003 through September 2003 are as follows:

January – 789 tons
February – 622 tons
March – 878 tons
April – 923 tons
May – 1134 tons
June – 1193 tons
July – 1075 tons
August – 994 tons
September – 1153 tons

Analysis of Organic Component

- Estimate of the organic waste that is commingled with MSW can be determined by comparing the total MSW in June to February
- Averaging the MSW from January to March results in an amount equal to 763 tons
- Comparing this to the June amount of 1,193 tons results in a difference of 430 tons
- Difference over the months of April to September results in a total of 1894 tons of organic waste that may have been commingled with and processed as garbage

Analysis of Organic Component

- $11.51 per ton of savings ($23-$11.49) resulting '…when yard waste is picked up for composting as opposed to processing as garbage.' (See the County News Release of 11/4/03)
- Extrapolating this to the 7 months of the year where organic waste is significant results in estimated **savings of $25,433**
- Mr. Iacovelli's calculates that an organic yard waste program would cost the Village approximately **$28,224** per year
- The net cost to the village to implement Organic Yard Waste Pick-up would be **$2,791**

Achievements - Storm Water Management Program

- Reviewed and Provided Written Comments to March 2003 Furey Report
- Provided Written Comments to the CMOM Plan

Achievements - Open Space Plan

- Obtained Detailed List of Village Parks
- Contacted Westchester County About the Availability of GIS Maps

Achievements - Open Space Plan

Legend

- Town Boundary
- Metro-North Railroad
- Local Roads

1996 Land Use

- Cemetery
- Commercial
- Institutional
- Water Body
- Manufacturing
- Mixed Commercial Res.
- Nature Preserve
- Office
- Public Park Active
- Public Parking Passive
- Private Recreation
- Residential Low Density
- Residential medium Density
- Residential Very Low
- Transportation Utility
- Undeveloped

Achievements - Miscellaneous Projects

- Shopping Cart
- Columbus Park
- Harbor 'beach' Litter
- Local TV Recycling Program

Committee Issues

- Appreciate the commitment of Bill Paonessa attending meetings
- Establish better and more timely communication/feedback from Board
- Board needs to utilize the resource that the committee represents
- Committee wants to provide input on ALL issues within the Village that impact the Environment

Committee Issues

- Committee wants official notice of ALL Village meetings and agendas that include environmental issues
- The Committee has developed a very efficient means of communication between its members to aid in real time response to issues
- The members of this Committee are volunteers with a vast array of relevant experience who would like their efforts to be taken seriously

Outstanding Issues

- Replacement for John DeLise
- Acquisition of current Village Map to move ahead with Open Space Plan
- Legislation addressing compliance with no smoking law
- A plan for additional help to keep the Recycling Center in order

Outstanding Issues

- Define Role of Water Subcommittee
- Institute Organic Waste Pick-up Program
- Adopt a 'Green Space' Program
- Erect changeable Recycling Sign Posts in Village
- Formulate a plan to address general 'litter' within the Village

Thank You

VILLAGE OF MAMARONECK

OFFICE OF
PHILIP J. TRIFILETTI
MAYOR

Village Hall
P.O. Box 369
Mamaroneck, N.Y. 10543

TELEPHONE
(914) 777-7738
FAX NUMBER
(914) 777-7787

February 24, 2004

Ms. Ann Marie Terrone, Chair
Committee on the Environment
400 Warren Avenue
Mamaroneck, New York 10543

Dear Ann Marie:

Thank you for your recent E-mail memorandum addressed to the Village of Mamaroneck Board of Trustees regarding water quality issues. The Board of Trustees is always receptive to comments and suggestions on improving the quality of our waterways.

As you know, The Village continues to actively pursue many avenues towards improving the quality of our waterways including, but not limited to, the following:

- **Inflow and Infiltration (I&I)** - The first of three consecutive contracts has been awarded to address I&I corrections and related sewer rehabilitation at a total of 132 locations (12,000 LF) in accordance with NYSDEC's Order on Consent. The Village made this the Number 1 priority in our recently submitted grant request package to Congresswoman Nita Lowey's office to offset the cost of necessary funding to keep the I&I project on track.

- **Capacity, Management, Operation and Maintenance (CMOM)** - The Village recently received, and is currently reviewing, a completed CMOM audit report of our existing sewer system and sewer operations compiled by the environmental engineering consulting firm Woodard & Curran. Recommendations from this audit will be incorporated Village-wide to establish better and more efficient ways to manage, operate and maintain our wastewater collection system. The CMOM program is an important, integral first step towards obtaining our goal of maintaining our sewers and achieving clean water in our harbor.

- **Geographic Information System (GIS)** - The above referenced CMOM audit identified GIS as the Village's primary need to significantly assist the Village in the proper operation and maintenance of the sewer and drainage collection system. Working closely with the County, the Village is jointly involved with the Town of Mamaroneck to aggressively establish a GIS network. The Village's Number 2 priority in our recently submitted grant request package to Congresswoman Nita Lowey's office will help offset the cost of necessary funding to achieve this effort.

- **Long Island Sound Study (LISS)** - The Village is an actively involved with LISS. Woodard & Curran assisted the Village in preparing an application for funding this year through LISS for a public education program relating to pollution prevention in the Long Island Sound. To help educate municipal staff, the Village will work with Non-point Education for Municipal Officials (NEMO) and the Mamaroneck-Sheldrake Volunteers.

- **Long Island Sound Watershed Intermunicipal Council (LISWIC)** – The Village is actively involved with LISWIC which provides a forum for regular dissemination of current best management practices, issues and information for interaction between local municipalities on water quality issues.

- **Local Water Revitalization Program (LWRP)** - The Village has plans to update its 1984 LWRP and associated non-point source pollution prevention and management programs. The intended result would be to improve stormwater quality prior to its discharge to the local streams, rivers, beaches and harbor all of which are located in the LIS watershed. Woodard and Curran assisted the Village to apply this year for NYSEPF monies to: update the LWRP; implement and test sediment control structures (best management practices); update local ordinances; develop educational programs; and purchase sewer inspection cameras.

- **NYS Guidelines for Urban Erosion and Sediment Control** – The Village acknowledges the replacement of the "Westchester County Best Management Practices Manual for Erosion and Sediment Control (1991)" with the "NYS Guidelines for Urban Erosion and Control (1997)". The Village further acknowledges the pending replacement of these Guidelines (1997) with the "NYS Standards and Specifications for Erosion and Sediment Control" later this year. Applications in the Village requiring a stormwater pollution prevention plan under new state and federal stormwater regulations are been addressed.

- **Water Quality Inspections** – "Hot spots" identified by the WCDOH along portions of the Mamaroneck River are the focus of ongoing investigations at outfalls with unusually high contamination counts entering the river. As sources are identified, action is being taken to remedy the contamination at the source.

- **Streambed Restoration** - Streambed restoration is underway along the banks of the Mamaroneck River in conjunction with the restoration of Columbus Park.

- **Floatables Boom** – A joint application was submitted to the NYSDEC and USACE and is being reviewed to install a boom on the Mamaroneck River at the Ward Avenue bridge to capture floatables before they enter the harbor and LIS.

- **Historic Harbor Street Fair**- This year's Historic Harbor Street Fair being held June 13 will have an environmental component including aquatic touch tanks, pollution simulation tanks and water quality education/information booths.

On a related subject, I share your concern on the United States Environmental Protection Agency's (USEPA's) proposed national "blending" policy changes specifically relating to the Westchester County's Mamaroneck Wastewater Treatment Plant. I understand these proposed changes are designed to provide clear, nationally consistent guidelines.

The Mamaroneck plant is presently capable of treating up to 92 MGD of wastewater through primary settlement tanks and treating up to 40 of that 92 MGD capacity through secondary clarifiers. In the event of high wet-weather flows in excess of 40 MGD, the excess flow (above 40 MGD) is still initially treated through primary tanks before being "blended" with the 40 million gallons treated through the secondary tanks, and not blended with raw, untreated wastewater. High water flows above the designed capacity through the secondary treatment filters will effectively wash-out the biological filters, rendering them ineffective until the biological reactions are built-up again to effective levels.

EPA states that the proposed "blending" policy only applies when the final discharge meets all permit limits. Blending that would cause the discharge of pollutants not in compliance with the terms of the NPDES is and would remain illegal.

If you have any additional comments and/or questions on water quality issues in the Village, please do not hesitate to contact me.

Mayor Philip Trifiletti
Village of Mamaroneck

cc: Board of Trustees
Village Manager
Committee on the Environment Members

from The Mayor's Advisory Committee on Water Quality

The Mayor's Advisory Committee on Water Quality, first convened in May 2002, continues to make progress by working with Village Officials to help understand, locate, and eliminate sources of pollution in the waterways that flow through the Village and into Mamaroneck Harbor. These waterways are: The Mamaroneck and Sheldrake Rivers and the Beaver Swamp Brook. They run through every neighborhood in the Village.

- Harbor Island Beach: Last summer, Village residents saw the beach at Harbor Island open for swimming for the first time in three summers due to the replacement of the Gunderboom. The "Boom" acts as a filter, removing bacteria from the swimming area. Recent water testing by the Westchester County Health Department shows consistent acceptable numbers inside the boom, boosting hopes for another summer of swimming at Harbor Island Beach.
- Other improvements have taken place in the village since last summer. These include the slip-lining of approximately 4,000 feet of failed sanitary sewer lines. Sewer televising facilitated the identification of the damaged pipes. The village is also on a schedule to slip-line the remaining damaged areas, along with other sewer related work, over the next few years, all of which will improve water quality.
- We were pleased to learn, recently, that Westchester County will be installing an alarm and monitoring system for sewer pump stations at a variety of locations in Larchmont and Mamaroneck. This system will enable County staff to respond more promptly and efficiently to reports of malfunctions at any of these pump stations. Such failure can involve discharge of untreated sewage into Long Island Sound, directly or through stormwater drains, and sewage back-up into private homes.
- Woodard & Curran, the Village's environmental engineering consulting firm, has completed their preliminary audit as part of the sanitary sewer CMOM (Capacity, Management, Operation, and Maintenance) Program. The village will now begin implementing many of their suggestions. One aspect will be GIS (Geographic Information System) mapping of the Village's infrastructure. Robert Yamuder, Assistant Village Manager, is currently working on this project, in conjunction with the Town of Mamaroneck.
- Tony Iacovelli, Head of the Department of Public Works reports that stream bed cleanup has begun in the Sheldrake River at Columbus Park. He also reports that twelve new, precast, catch basin heads stating, "Don't Dump - Drains to Sound" have arrived. They will be installed in the next few weeks. Precast catch basins carry a permanent message rather than having to paint and repaint the storm drains to carry that important message to all residents.
- The Water Quality Committee is now working to alert every Village resident that they have the ability to help clean up our Harbor by becoming aware of everyday activities that impact water quality. These involve taking actions to use better techniques on lawn and garden care, vehicle and garage work, home improvements, and pet care.
- Residents must obey the law and pick up after their animals! Beth Radow, a member of the Water Quality Committee, is working on this aspect of the water pollution problem. She has been amazed to learn that many "dog poop"; offenders view dog waste as "fertilizer" for our Village soil when, in fact, it is one of the major sources of bacterial contamination of our water. Animal waste from family dogs, when it is not properly disposed of, remains on the ground, gets picked up during a rainfall, and is carried with storm water into storm water sewers. It ends up going into Long Island Sound and onto OUR BEACH!
- AT LONG LAST... Residents will see detailed information posted soon in a new, centrally located, outdoor display case. This will be used to display Village water quality information and updates, including specific actions you, as a citizen, can do to help.
- Finally, the Committee is sponsoring a Water Quality Pavilion with plenty of in formation and interactive displays at the Historic Harbor Street Fair on June13, 2004. Look for the big tent at the entrance to Harbor Island Park!

Christie L. McEvoy-Derrico, Trustee
Katherine Desmond, Chair
Mayor's Advisory Committee on Water Quality

APPENDIX C

LISWIC Intermunicipal Agreement and Resolutions of Support
For the Creation of a Stormwater Utility District

LONG ISLAND SOUND WATERSHED INTERMUNICIPAL COUNCIL
Intermunicipal Agreement

This agreement, signed on December 9, 1998, March 26, 1999, March 30, 1999 and April 1, 1999, is between the Cities of Mount Vernon, New Rochelle and Rye, the Town of Mamaroneck, the Town-Village(s) of Harrison and Scarsdale, the Villages of Larchmont, Mamaroneck, Pelham Manor, Port Chester and Rye Brook which have jurisdiction over the watershed of Long Island Sound in Westchester County, New York.

WHEREAS: The General Municipal Law § 239-n authorizes cities, towns and villages in New York to create intergovernmental relations councils to conduct surveys and research, provide for the distribution of information, cooperate with county, state and federal agencies, conduct local and intercommunity planning, and provide a forum for local governments to explore and develop areas for municipal cooperative activities as further authorized under Article 5-G of the General Municipal Law;

WHEREAS: The cooperating municipalities share the goal of a cleaner Long Island Sound and the responsibilities and benefits of protecting the watershed of Long Island Sound;

WHEREAS: The cooperating municipalities share a number of common goals including the prevention of non-point source pollution, the remediation of existing pollution and the preservation of open space and natural resources;

WHEREAS: The cooperating municipalities share an interest in:

a. the appropiate development and restoration of the business and industrial districts to promote economic vitality;

b. the maintenance and improvement of the quality of life including the quality of water and air, the control of traffic and noise, the provision of open space and recreational opportunities, the cultural, social, scenic, aesthetic and historical assets of the area; and

c. the preservation and restoration of wetlands, water courses and associated habitat areas;

WHEREAS: The cooperating municipalities share the objective of establishing mechanisms and strategies for:

a. the sharing of information regarding development projects with intermunicipal impacts;

b. the resolution of disputes regarding development projects that impact environmentally sensitive areas;

c. developing compatible comprehensive plans, zoning and land use regulation;

d. fostering of the economic needs of each community;

e. monitoring compliance and enforcement of regulations;

f. developing programs for educating the public and public officials; and

g. achieving intermunicipal cooperation in other efficient ways;

WHEREAS: The cooperating municipalities wish to explore mutually beneficial ways of:

a. securing and sharing federal, state and county agency funding; and

b. coordinating efforts with federal, state and county agencies and authorities to assure that activities in the watershed are compatible with the plans and programs of the cooperating municipalities.

NOW, THEREFORE BE IT RESOLVED:

THAT: The municipalities named herein have joined together to form the "Long Island Sound Watershed Intermunicipal Council" to advise and inform its members on methods to accomplish the interests and objectives contained above;

THAT: The Council shall be comprised of two representatives selected by each municipality and shall adopt by-laws providing for the further administration, finance and governance of the Council, to be approved by each municipality;

THAT: The Council shall recommend specific ways in which the cooperating municipalities can accomplish their mutual objectives and interests.

IN WITNESS WHEREOF, the designated municipal official of each of the cooperating municipalities has affixed their signature by the authority vested in them by the annexed copy of the resolution of their governing bodies authorizing their signature.

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the City of Mount Vernon

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the City of New Rochelle

Date: 3/26/99

Signature & Title: _____
Print Name & Title: _____
For the City of Rye

Date: 3/26/99

Signature & Title: _____
Print Name & Title: Town Administrator
For the Town of Mamaroneck

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the Town-Village of Harrison

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the Town-Village of Scarsdale

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the Village of Larchmont

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the Village of ~~Mamaroneck~~

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the Village of ~~Pelham Manor~~

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the Village of Port Chester

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the Village of Rye Brook

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the City of Mount Vernon

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the City of New Rochelle

Date: 3/26/99

Signature & Title: _____
Print Name & Title: _____
For the City of Rye

Date: 3/26/99

Signature & Title: _____
Print Name & Title: Town Administrator
For the Town of Mamaroneck

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the Town-Village of Harrison

Date: 3/3/99

Signature & Title: _____
Print Name & Title: ALFRED A. [illegible]
For the Town-Village of Scarsdale

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the Village of Larchmont

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the Village of ~~Mamaroneck~~

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the Village of ~~Pelham Manor~~

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the Village of Port Chester

Date:_____

Signature & Title: _____
Print Name & Title: _____
For the Village of Rye Brook

Date: 4/1/99

Signature & Title: [signature]
Print Name & Title: ERNEST D. DAVIS, MAYOR
For the City of Mount Vernon

Date: _____

Signature & Title: _____
Print Name & Title: _____
For the City of New Rochelle

Date: _____

Signature & Title: _____
Print Name & Title: _____
For the City of Rye

Date: _____

Signature & Title: _____
Print Name & Title: _____
For the Town of Mamaroneck

Date: _____

Signature & Title: _____
Print Name & Title: _____
For the Town-Village of Harrison

Date: _____

Signature & Title: _____
Print Name & Title: _____
For the Town-Village of Scarsdale

Date: _____

Signature & Title: _____
Print Name & Title: _____
For the Village of Larchmont

Date: _____

Signature & Title: _____
Print Name & Title: _____
For the Village of Mamaroneck

Date: _____

Signature & Title: _____
Print Name & Title: _____
For the Village of Pelham Manor

Date: 12/9/98

Signature & Title: [signature] - VILLAGE MANAGER
Print Name & Title: JOSEPH M. DEFRONZO
For the Village of Port Chester

Date: _____

Signature & Title: _____
Print Name & Title: _____
For the Village of Rye Brook

VILLAGE OF MAMARONECK

OFFICE OF THE
VILLAGE MANAGER

Village Hall at the Regatta
123 Mamaroneck Avenue
P.O. Box 369
Mamaroneck, N.Y. 10543

TELEPHONE NO.
(914) 777-7703
FAX NO.
(914) 777-7760

_____ NOT ON AGENDA
_____ AGENDA REGULAR MEETING

A RESOLUTION SUPPORTING THE CREATION OF A REGIONAL STORMWATER DISTRICT

WHEREAS, the Long Island Sound Watershed Inter-Municipal Council (LISWIC) was created in 1999 through inter-municipal agreements approved by each legislative body pledging their support to work together on a regional basis to improve water quality by the management of stormwater runoff, the protection of animal and plant habitats, and the maintenance and improvements to tributaries in the watershed leading to Long Island Sound; and

WHEREAS, the twelve municipalities in LISWIC, the Cities of Mount Vernon, New Rochelle and Rye, Town of Mamaroneck, Town/Villages of Harrison and Scarsdale, and Villages of Larchmont, Mamaroneck, Pelham, Pelham Manor, Port Chester and Rye Brook, have worked cooperatively to address stormwater problems; and

WHEREAS, LISWIC is aware of the financial commitment required from municipalities when they act separately to properly address the operational, maintenance and capital improvements to control stormwater and believes that a regional body can immeasurably improve stormwater management and basin-wide planning utilizing a fee based funding source which does not rely on the already burdened municipal real property tax; and

WHEREAS, the federal government recently finalized regulations for stormwater management in smaller communities operating Separate Storm Sewer Systems (MS4's) known as the National Pollutant Discharge Elimination System (NPDES) Phase II Rule, which is designed to comply with the requirements of a 1987 amendment to the 1972 Clean Water Act by protecting streams; rivers and beaches from polluted non-point storm water runoff; and

[redacted]EREAS, all operators of small MS4s, of which all LISWIC member municipalities are categorized, must develop a comprehensive Storm Water Pollution Prevention Plan and submit, to the New York State Department of Environmental Conservation (NYSDEC), a "Notice of Intent" (NOI) of such plan by March 10, 2003 with full implementation of the submitted plan achieved by March 2008; now therefore be it

RESOLVED, that the Board of Trustees of the Village of Mamaroneck does, herein, support the efforts of LISWIC to form a Stormwater Utility District to advance the efficiency and effectiveness in managing surface water runoff and the network of streams, brooks and ponds that eventually flow into the Long Island Sound; and be it

FURTHER RESOLVED, that such a Stormwater Utility District organized on a regional basis structured for the single purpose of managing surface water runoff and water quality can better plan, monitor, maintain, and construct facilities that will enhance the overall management and control of stormwater with a dedicated funding source that will relieve member municipalities from the burden of taxing its residents and the obligation to individually provide required programs and services; and be it

FURTHER RESOLVED, that the Board of Trustees of the Village of Mamaroneck does hereby support the efforts of LISWIC to form a Stormwater Utility District to assume responsibility for compliance with the NPDES Phase II Rule; and be it

FURTHER RESOLVED, that the Board of Trustees of the Village of Mamaroneck does hereby support the efforts of LISWIC to form a stormwater utility district and, further, supports the attached draft legislation to be submitted to the New York State Legislature for consideration.

APPENDIX D

Water Pavilion Updates (January 2004, March 2004)

VILLAGE OF MAMARONECK

Village Hall
P.O. Box 369
123 Mamaroneck Avenue
Mamaroneck, N.Y. 10543

VILLAGE OF
MAMARONECK

TELEPHONE
AREA CODE 914
777-7722

FAX NUMBER
777-7787

March 26, 2004

To: **'Water Pavilion'** Participants at Mamaroneck's Second **Historic Harbor Street Fair - Sunday June 13, '04**

Re: Update and notice of meeting **Tuesday, April 13, 2004 at 8 PM the Harbor Island Beach Pavilion .**

The Water Quality Pavilion will be a **40' X 60' tent located near the bait station at the entrance to Harbor Island Park.** This is a prime location and we are grateful to the Street Fair organizers for allocating this space for us. We should expect plenty of traffic ! Visitors to the tent will be presented with information from many **audio, visual, and "hands on" sources.** To provide the optimum experience for each visitor, and to help create an orderly feel, these are some of the things we are considering. We would like each group:

-at the Fair, to put their **name, in large letters, clearly, behind their area.** This will create a kind of visual order for anyone entering the tent, providing a panoramic view of "who's who" right off the bat.

-AND right now, Please send us a few sentences describing **your group's focus via e-mail to kajim2@aol.com.** Knowing your general "realm" will help each group to hone their message and will guide placement considerations for each group's location in the tent. Obviously, it is to be expected that groups will overlap content areas, as we all endeavor to convey the message that "every individual has the ability to help stop water pollution".

FYI :**The Mayor's Advisory Committee on Water Quality will focus on the Village of Mamaroneck** as much as possible. We expect to have:

- **a small bookmark handout** that says: "Mamaroneck Harbor needs you...and lists top 3-5 actions for individuals and Village Officials to take

- an **actual house,** illegally hooked up of course, with thought balloons of indoor and outdoor "do's and don'ts"

- a **"Did you know ?"** display showing, on a map, **that each neighborhood in the Village of Mk touches water** which will lead to introducing the **"Adopt-a-Stream"** concept. Village citizens will be invited to sign up for helping to launch *Phase One* of this action. We'll have a **sign up sheet** that asks: "Are you interested in helping to adopt a stream in your neighborhood ?"

We will also touch upon the following items, specifically as they pertain to Mamaroneck: **The Clean Water Act, Harbor Island Beach** closure: history and status, **"Wet Weather Pollution"** What is it ?, **Westchester County I & I program, CMOM Program, GIS mapping.**

That's it for now. Please e-mail your comments and any ideas you may have.

Thanks,

Katherine Desmond, *Chairman of The Mayor's Advisory Committee on Water Quality*

Christie Derrico, *Village Trustee liason to the Committee and Village LISWIC representative*

VILLAGE OF MAMARONECK

Village Hall
P.O. Box 369
123 Mamaroneck Avenue
Mamaroneck, N.Y. 10543

VILLAGE OF
MAMARONECK

TELEPHONE
AREA CODE 914
777-7722

FAX NUMBER
777-7787

January 20, 2004

MEMO TO: Mamaroneck High School Environmental Club
Rye Neck H.S. Science Department, Attn: Nick Pagliuca and Chris O'Gorman
Manhattanville Science Department, Attn: Brian Jensen
Sheldrake Environmental Center, Attn: Steve Mitsch
Catherine Wachs
Town of Mamaroneck Board
Village of Larchmont Board
Village of Mamaroneck Board of Trustees
Committee for the Environment Committee
Mayor's Advisory Committee on Water Quality
Larchmont-Mamaroneck League of Women Voters
LISWIC
Harbor Island Conservancy
Coastal Zone Management Commission
Robert Yamuder, Assistant Village Manager

On Sunday June 13, 2004 the Village of Mamaroneck will hold it's second "Historic Harbor Street Fair." The success of last year's event has inspired *The Mayor's Advisory Committee on Water Quality* to make plans for a "Water Quality Pavilion." The idea is to have all "water groups" in one area with information and material conveying the message that **every individual has the ability to help stop water pollution and improve water quality.**

The Long Island Sound Watershed Intermunicipal Council (LISWIC) supports this concept and will provide funds for a portion of the Water Quality Pavilion's educational material.

The venue is perfect, right on Long Island Sound, and will bring many people, not only from our watershed, but from all over Westchester County and beyond. Ultimately, we hope to create a useful public education tool, developing a format with the potential to be replicated at other times and places.

Our first step toward getting the street fair's Water Quality Pavilion together has been to secure the Norwalk Maritime Aquarium. They have proposed an excellent 4 hour presentation, with two tables of touch tanks containing aquatic creatures natural to the Sound such as: sea stars, clams, mussels, snails, horse shoe crabs, periwinkles, green crabs, Japanese shore crabs and sea anemones. They will also make a "pollution soup" using vegetable dyes to symbolize different pollutants: green for fertilizer, orange for battery acid and so forth. They will bring a coloring table for kids w/things to color and huge puzzles for the floor. Other information targeted to adults will surround these activities.

Any group or committee wishing to join the "Water Quality Pavilion" and contribute their own table, or presentation is more than welcome.

Please get your ideas together and contact either Christie L. McEvoy-Derrico (e-mail CLD637SHY@aol.com)or Katherine Desmond (e-mail KAJIM2@aol.com) with ideas and suggestions. A notice will follow shortly, with the date and time of a formal planning session in order to provide the Historic Harbor Street Fair Committee with details of any space or other logistical requirements your group may need.

KD/bab

Katherine Desmond
Chairperson for the Mayor's Advisory Committee on
Water Quality

GEORGE E. PATAKI
GOVERNOR

ERIN M. CROTTY
COMMISSIONER

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK, 12233-1010

APR 23 2004

Dear New Yorkers:

Every year, the first full week in May marks New York State's annual celebration of Water Week. This year, on May 2-8, 2004, I invite you to join me in recognizing the local lakes, streams, and beaches that add so much value to our communities. In New York State, we have long recognized that environmental quality, community life, and a strong economy go hand in hand. Our beaches, our fishing, our boating, our sparkling vistas – for many of us, this is what makes our State a special place to live and work. This is also what draws many out-of-state visitors here.

This year, we are focusing on how communities, the New York State Department of Environmental Conservation, and our partners can work together to protect our State's waters from wet weather discharges–sanitary sewer overflows, combined sewer overflows, and agricultural and stormwater runoff. These discharges, caused by rain and melting snow, are associated with poor water quality that hurts fish and wildlife populations and causes beach and shellfish bed closures, as well as impacting a community's quality of life and economy.

This year, our Water Quality Improvement Project funding program has made available more than $11.4 million for projects to help control combined sewer overflows in the Capital District, abate stormwater, and, through a partnership with the New York State Department of Agriculture and Markets, prevent agricultural runoff. In addition, we are reaching out to communities with technical assistance and educational materials.

We cannot control the weather, but communities can control the other factors that contribute to water quality problems and flooding. In this packet, you will find information on what we are doing and what your community can do to address wet weather discharges.

I encourage you to work with your community to reduce the impacts of wet weather discharges. By joining forces to address water quality issues, New Yorkers ensure that our rivers, streams, lakes, estuaries and beaches are protected for ourselves and our children.

Sincerely,

Erin M. Crotty

Stormwater Management Update

May 2004

Annual MS4 Report Due

The deadline for Municipal Compliance Certification (MCC) forms and Stormwater Management Plan Annual Reports (SWMPAR) is June 1, 2004.

MS4s must report on their progress in their Stormwater Management Programs, identify adjustments based on the year's experience, and describe what they expect to accomplish in the coming year.

DEC has sent each MS4 permit holder a guidance packet and forms for completing and submitting the form and report. The packet includes instructions for obtaining the electronic versions of the table format.

Under the terms of the permit, the municipality must present the annual report at a public meeting and take comments on the report.

Results of the public comments should be submitted with the final report.

Additional information about preparing the annual report can be found in the SPDES General Permit (GP-02-02) Sections IV.B.2.e.,f.,g. and V.C.

If you need a packet, contact stormh20@gw.dec.state.ny.us with the subject line "SWMPAR/MCC Request."

Hard copies may be obtained by mailing: MS4 Coordinator, Division of Water, NYS DEC, 625 Broadway, Albany, NY 12233-3505.

New York State Communities Band Together to Rein in Runoff

New York State MS4 communities are discovering the power of partnerships as they move forward with their stormwater management programs. When DEC put out a funding call for MS4 projects last year, the criteria indicated that eligibility for greater amounts of funding was contingent on the number of partners included in an application.

Exceptional Response

As a result, 435 (more than 96%) MS4 communities applied for funding to help them implement their stormwater programs, and the majority of the applications were submitted by MS4s coming together as partners. Nassau County's application contained the most partners on any single application – fifty-five. Most partnerships formed within counties, but there were also inter-county collaborations. A number of applications from MS4 communities also included non-traditional MS4s (such as DOT, school and fire districts, and federal and state facilities).

"Overall, the projects submitted for funding were of the highest quality," said Sandra Allen, director of DEC's Division of Water. "We are looking forward to working together with these communities to make a real difference in New York's environment."

To date, New York has invested about $25 million in correcting stormwater-related problems, with about $3.4 million available this year.

Benefits of Collaboration

Building on the foundation of existing partnerships among localities and fostering new collaborations, MS4 are anticipating many benefits, including

- increased administrative efficiency;
- more effective use of resources; and
- heightened watershed focus.

These advantages allow funds to go farther in protecting high priority waters.

George E. Pataki, Governor
State of New York

Erin M. Crotty, Commissioner
Department of Environmental Conservation

DEC Partners Continue to Help

DEC itself leveraged the assistance of key partners (regional planning boards, Soil and Water Conservation Districts) in getting out the word about funding opportunities as well as many other aspects of the Phase II Stormwater Program.

Members of the New York State Association of Regional Councils (NYSARC) continue to assist by reaching out to regulated MS4s regarding their Phase II responsibilities. NYSARC agencies will be providing training and technical assistance to MS4s in areas that include GIS mapping and data conversion, developing public outreach materials, stormwater management practices, model ordinances, grant writing, and activities under each minimum control measure.

Soil and Water Conservation Districts (SWCDs) have a long history in assisting individual land owners and local governments with nonpoint source management practices, and stormwater is no exception. SWCDs are prepared to provide technical assistance on the construction, and erosion and sediment control portions of the Phase II program.

Other Assistance for MS4s

Special community events, classroom education and school programs are some of the options that MS4s have when building their Stormwater Public Education and Outreach Programs. Project WET is a DEC-sponsored program that is now offering assistance to community educators and stormwater coordinators who would like to include educational stormwater activities in community events or in school curricula.

Project WET has a collection of innovative, hands-on activities that provide a thorough water education program for communities and schools. Many of the activities focus on stormwater pollutants. DEC encourages MS4s to consider using Project WET if they plan to conduct these types of activities. Project WET educators are currently contacting MS4s in their regions to find out their needs. To locate the Project WET representative in your area, visit http://www.dec.state.ny.us/website/education/whatWET.html.

Stormwater Background

Phase I

During the Stormwater Phase I program, U.S. EPA required permit coverage for stormwater discharges from municipal separate storm sewer systems (MS4s) located in incorporated places or counties with populations of 100,000 or more. New York City was the only New York State municipality that had to file for a permit. The Phase I rule also covers 11 categories of industrial activity, one of which is construction that disturbs five or more acres of land.

Phase II

EPA's Phase II stormwater program was put into place with the promulgation of EPA's Phase II rule in December 1999. All *Municipal Separate Storm Sewer Systems (MS4s)* within "urbanized areas," as defined by the Bureau of the Census or designated by the Department of Environmental Conservation, were required to seek stormwater permit coverage by March 10, 2003. Under Phase II of the Stormwater Program, regulated MS4s are also required to develop a stormwater management plan.

Construction activities disturbing one acre or more are required to prepare a Stormwater Pollution Prevention Plan and obtain permit coverage under Phase II. Certain previously exempt Phase I activities will require coverage as well. For more information, visit www.dec.state.ny.us/website/dow/mainpage.htm.

New York State Department of Environmental Conservation

Wet Weather, Water Pollution and You

Facts for Municipal Officials About Wet Weather Water Pollution

George E. Pataki, Governor
State of New York

Erin M.Crotty, Commissioner
Department of Environmental Conservation

Introduction

Wet weather — heavy rains and snow melt — can cause water quality problems for communities. Despite huge strides in cleaning up water pollution, many communities in New York are still grappling with pollution that can create public health risks, degrade water quality, threaten quality of life, and discourage tourism and recreation.

What pollution sources are associated with wet weather problems?

Stormwater runoff, *Concentrated Animal Feeding Operations* (CAFOs), *Combined Sewer Overflows* (CSOs) and *Sanitary Sewer Overflows* (SSOs). Some of these pollution sources are currently regulated and require permits; others may soon require permits.

What does wet weather have to do with pollution?

When it rains, or when snow melts, some of the water soaks into the ground and some runs off along the ground surface.

Stormwater runoff becomes a problem when there is too much of it, due either to a heavy storm or a large proportion of paved or impervious surfaces. Besides causing flooding problems, the rushing water can carry pollutants such as soil from construction sites, street litter, automotive fluids, and pet waste into local waters, causing fish kills, floating litter, and beach and shellfish bed closures.

In agricultural areas, if manure, pesticides and crop fertilizers are not properly managed, they too can be washed into waterbodies. The New York State Department of Environmental Conservation (DEC) regulates discharges from certain livestock farms that are classed as *Concentrated Animal Feeding Operations* (CAFOs) depending on size of the operation.

In urban areas (usually older cities) that have combined sewer systems, the same pipes carry both sewage and stormwater runoff. When too much runoff enters the pipes through storm drains, these combined systems overflow, dumping a mixture of untreated sewage and runoff into local waters. This is called a *combined sewer overflow*.

Old, poorly-maintained, or overloaded sanitary sewer systems can also be problems. Sanitary sewer systems are designed to handle wastewater only, but excess water can seep in through cracks or separations in underground sewer

pipes, overloading the system and causing sewage to back up into basements or streets. If sewage treatment plants receive more water than they can handle, untreated sewage can overflow into nearby waters. Overflows from sanitary sewers are called *sanitary sewer overflows*.

Why should I be concerned about runoff from farms and nearby towns?

What happens upstream and on the land affects the water. A watershed, which can span town, county, state, even national boundaries, is the land area that drains into a common body of water. Animal waste from farms, polluted stormwater from towns, or sewage contaminants from other cities in your watershed can pollute your community's water.

Rain, sewers, animal waste and runoff have been around for a long time. Why is DEC making them a priority now?

Since the federal Clean Water Act was enacted in 1972, most highly-visible sources, like industrial wastes flowing from big pipes, have been cleaned up. However, many of New York's waters still do not meet water quality standards. Often the reason is pollution from many smaller, less noticeable, or intermittent sources like stormwater runoff, sewage overflows and runoff containing animal wastes. Individually, each storm, sewer overflow or muddy barnyard may not seem like a problem. Cumulatively, however, polluted runoff and sewer overflows cause real water pollution problems, such as high bacteria counts and floating litter. These wet weather pollution issues must be addressed if all of New York's waters are to finally meet the Clean Water Act goal of fully-restored streams, lakes and estuaries that support healthy ecosystems, as well as human uses.

What do I need to do?

If your city has a combined sewer system or operates a sewage treatment plant, make sure that you are complying with the terms of your DEC permit. If you operate a sewer collection system, find out if the forthcoming U.S. Environmental Protection Agency (EPA) rule changes will affect you.

New York State encourages all localities to manage stormwater. Some municipalities called MS4s are required to implement a Stormwater Management Program. Other communities can use the same framework to protect and enhance natural resources and local quality of life. Local stormwater management programs can increase the effectiveness of local planning and involve the public in protecting water resources.

Where can I get more information and help?

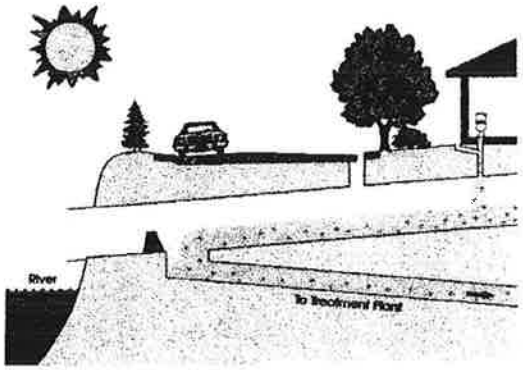
See the materials in the rest of this Water Week 2004 packet. Your County Water Quality Coordinating Committee, County Soil and Water Conservation District, Regional Planning Board and Regional DEC office can provide additional information. More information is also available at the DEC website at www.dec.state.ny.us/dow/ and the EPA website at www.epa.gov.

New York State Department of Environmental Conservation

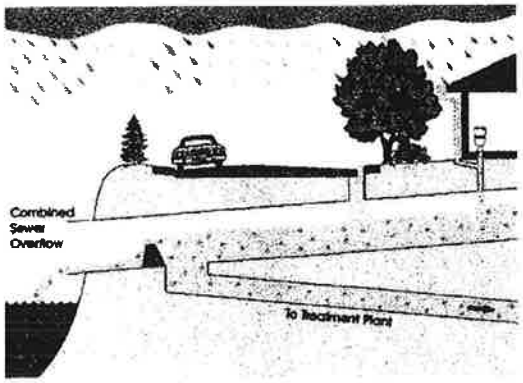
A Quick Introduction to Combined Sewer Overflows

Facts for Municipal Officials about Wet Weather Water Pollution

What are "Combined Sewer Overflows?"



Many of New York State's older cities use *combined sewer systems* -- sewer systems that collect stormwater runoff, domestic sewage and industrial wastewater in the same pipe. Most of the time, combined sewer systems transport all of their wastewater to a sewage treatment plant, where it is treated to remove pollutants and then discharged to a river, lake or stream (above).



During periods of wet weather or rapid snow melt, however, the volume in a combined sewer system can exceed the capacity of the sewer system or treatment plant. When this happens, the combined sewer system is designed to overflow at specific outlets (right) and discharge untreated wastewater directly to nearby streams, rivers or lakes, in order to avoid backups into basements or onto streets. This is a *combined sewer overflow*, or *CSO* for short.

Why are combined sewer overflows a problem?

Overflowing wastewater from combined sewer systems can contain untreated human and industrial waste, pathogens, toxic materials and street litter — all which can make swimming and boating unpleasant and unhealthy.

George E. Pataki, Governor
State of New York

Erin M. Crotty, Commissioner
Department of Environmental Conservation

Because combined sewer overflows are associated with wet weather (especially heavy storms), they occur only sporadically, but they can cause ongoing problems. For example, combined sewer overflows are the main source of bacteria in Onondaga Lake in Syracuse. High bacteria counts cause beach closures. Waters of the New York/New Jersey Harbor Estuary are frequently closed to shellfishing and swimming, and pollutants from combined sewer overflows are a major reason.

What can my city do?

If your city has a combined sewer system, it is required to have a discharge permit from DEC. The permit requires your municipality to implement *nine minimum controls*, which are measures that can reduce the frequency and impact of combined sewer overflows and may even eliminate some overflows. These nine minimum controls are:

1. Operate and maintain the combined sewer system properly.
2. Maximize the wastewater storage capacity of the collection system.
3. Review and modify wastewater pretreatment requirements in order to minimize impacts of overflows.
4. Direct as much flow as possible to treatment plants.
5. Eliminate overflows during dry weather.
6. Control solid and floatable materials in overflows.
7. Prevent pollution of runoff before it reaches the sewer system.
8. Notify the public of overflow events and impacts.
9. Monitor overflow impacts and the efficiency of controls.

If your city has a combined sewer system, you are also expected to develop a long-term combined sewer overflow control plan that will ultimately provide full compliance with the Clean Water Act, including meeting water quality standards.

Where can I get more information?

For detailed information on each of the nine minimum controls, go to EPA's web site at http://cfpub.epa.gov/npdes/cso/ninecontrols.cfm. For information on New York State regulations and water discharge permits, go to DEC's website at www.dec.state.ny.us.

New York State Department of Environmental Conservation

Sanitary Sewer Overflows: How to Protect Your Community

Facts for Municipal Officials About Wet Weather Water Pollution

Introduction

A *sanitary sewer system* is a critical component of a community's infrastructure. Sanitary sewer systems, also known as *wastewater collection systems*, are pipes that carry sewage from homes and businesses to treatment plants. Aging infrastructure, poor maintenance, and increasing demand are making *Sanitary Sewer Overflows* (SSOs) more common across the state.

Certain sanitary sewer systems, particularly those owned by sewage treatment plants, are already regulated to control overflows. However, the U. S. Environmental Protection Agency (EPA) is now reviewing a rule that would require permit coverage for satellite collection systems — those municipally-owned sewer systems that deliver wastewater to a plant owned by a different entity (e.g., another municipality).

By beginning now to plan for rehabilitation and maintenance of sanitary sewers, municipalities can protect water quality, avoid costly cleanups and expensive lawsuits, reduce the risk of public health emergencies, safeguard drinking water supplies, and prevent flooding and property damage.

What kinds of problems can sanitary sewer overflows cause?

Overflows of untreated sewage contain viruses, bacteria and parasites that can contaminate ground and surface water — including drinking water supplies. Malfunctioning sewer systems can back up into basements, bathrooms and streets, putting public health at risk and destroying property. Sewer overflows cause poor water quality that discourages recreation and tourism, degrades property values, and harms aquatic life. Older sewer systems may be overwhelmed by new development, requiring a community to curtail growth until problems are corrected or system capacity is increased.

What causes sanitary sewer overflows?

Tree roots, deterioration due to age, and shifting pipes can cause cracks in sewer pipes. Rain or melted snow can seep in through these fissures, exceeding the system's capacity. Illegally connected roof drains can also overload sewer lines, and built-up sediments in pipes can cause blockages.

George E. Pataki, Governor
State of New York

Erin M.Crotty, Commissioner
Department of Environmental Conservation

What can my community do?

EPA is reviewing a Sanitary Sewer Overflow Rule that contains new requirements for some sanitary sewer systems. When the rule is finalized, the New York State Department of Environmental Conservation (DEC) will regulate these systems through the State Pollutant Discharge Elimination System.

Operators of these sanitary sewer systems will be required to develop and implement a Capacity Management, Operation and Maintenance (CMOM) framework that will help municipalities to
— bettter manage, operate, and maintain collection systems,
— investigate parts of the collection system where capacity is strained, and
— effectively respond to sanitary sewer overflows when they occur.

What is CMOM?

The CMOM approach helps communities provide a high level of service to customers while complying with wastewater regulations. CMOM can help utilities shift maintenance from a *reactive* mode to a *predictive* mode – which can cut costs by avoiding lawsuits and reducing overtime, emergency construction expenses, and insurance premiums. Information and documentation provided through CMOM can also improve communications with the public, other municipalities, regional planning organizations and regulators.

In CMOM planning, the utility operator selects performance targets and then designs activities to meet the goals. The CMOM planning framework covers operation and maintenance, capacity assessment and assurance, capital improvement planning and financial management planning. CMOM activities are tracked to see how well they are meeting performance goals, and whether overall efficiency of the system is improving.

Additional CMOM information and tools can be found at www.epa.gov/npdes/sso and www.epa.gov/region4/water/wpeb/pdfs/self-audit_review2-3.pdf.

Help us help you

DEC is assessing infrastructure needs and identifying funding priorities throughout New York State. If your community owns a satellite sewage collection system, you may be asked to complete a simple survey to provide information on your system. Your cooperation will help DEC provide the best possible support to communities in protecting this valuable asset.

TECHNICAL DOCUMENT

USEPA Phase II Final Rule Storm Water Management Plan

Mr. Sanford I. Miller
Village Manager
Village of Mamaroneck
Mamaroneck, New York

March 10, 2003

KW Furey
Engineering, P.C.
Engineering & Construction Management

TECHNICAL DOCUMENT

Village of Mamaroneck

USEPA Phase II Final Rule Storm Water Management Plan

March 10, 2003

KW Furey
Engineering, P.C.
engineering & construction management
One Virginia Street
New City, New York. 10956
Tel: (845) 708-0232 • Fax: (845) 708-0233

New York State Department of Environmental Conservation
625 Broadway
Albany NY 12233-3505

Notice of Intent for Coverage Under an SPDES General Permit for Storm Water Discharges From SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

Submission of this Notice of Intent (NOI) constitutes notice that the entity identified in Section A of this form intends to be authorized by DEC's Small MS4 SPDES General Permit issued for storm water discharges from the small municipal separate storm sewer system (MS4) in New York State. Submission of the NOI also constitutes notice that the party identified in Section A of this form has read, understands, and meets the eligibility conditions of Part I.B. of the Small MS4 General Permit; agrees to comply with all applicable terms and conditions of the Small MS4 General Permit; understands that continued authorization under the Small MS4 General Permit is contingent on maintaining eligibility for coverage, and that implementation of the permittee's storm water management program is required to begin within five(5) business days after a completed NOI is received by DEC. In order to be granted coverage, all information required on this form must be completed. Please read and make sure you comply with all permit requirements, including the requirement to prepare and implement a storm water management program.

Section A. Small MS4 Owner/Operator Information

1. Name: Village of Mamaroneck 2. Phone: (914) 777-7703

3. a. Mailing Address: a. Street or P.O. Box: 123 Mamaroneck Avenue, P.O. Box 369

b. City: Mamaroneck c. State: NY d. Zip Code: 10543 -

Section B. Small MS4 Location Information

1. MS4 Name: Village of Mamaroneck

2. a. City/Town/Village: Mamaroneck

b. County(ies): Westchester

3. a. Permit Applicant: ☐ Federal ☐ State ☐ County ☐ City ☐ Town ☑ Village

☐ School District ☐ Fire District ☐ Other public entity

4. Does the MS4 discharge to receiving waters or a watershed which is/are impaired (appear on DEC's 303(d) list or for which a Total Maximum Daily Load (TMDL) has been determined? ☐ Yes ☑ No

Section C. Initial Identification of Management Practices (attach additional sheets as necessary)

1. Public Education and Outreach on Storm Water Impacts

Outreach Techniques	*Management Practices to Encourage*
☑ Classroom education/school programs	☑ Proper lawn and garden care (fertilizer and pesticide use, sweeping, etc.)
☐ Outreach to commercial entities	☐ Low impact development
☑ Printed material	☑ Pet waste management
☐ Media campaign	☐ Pollution prevention for businesses
☐ Library of educational materials	☑ Proper disposal of household hazardous wastes
☐ Events and Programs	☑ Trash management
☐ Displays	☐ Water conservation practices
☐ Posters and signs of varying sizes (magnet to billboards)	☐ Others: .....
☑ Speakers to community groups	
☐ Economic incentives	
☐ Promotional giveaways	
☐ Others	

2. Public Involvement/Participation

Involvement Techniques	*Participation Activities*
☑ Advisory/partner committees	☑ Adopt-a-stream
☐ Local stormwater contact	☑ Reforestation program
☑ Public access to documents and information	☑ Storm drain stenciling
☐ Public review of plans and annual reports	☐ Stream, beach, roadway cleanup
☑ Watershed organizations	☑ Volunteer monitoring
☐ Attitude surveys	☑ Wetland plantings
☑ Community hot lines	☐ Others .....
☐ Stakeholder meetings	
☐ Mailing list development and use	
☐ Other	

3. Illicit Discharge Detection and Elimination

Detection and Elimination Activities	*Type of Discharges to Target*
☑ System mapping	☑ Failing septic systems
☑ Identifying illicit connections	☐ Illegal dumping
☑ Dye testing	☐ Industrial/business connections
☐ Shoreline surveys	☑ Recreational sewage
☐ System inspections	☑ Sanitary sewer overflows
☐ Other	☑ Wastewater connections to the storm drain system
	☐ Others .....

4. Construction Site Storm Water Runoff Control

☐ Maintain practice inspection and maintenance	☑ Permanent seeding
☐ Brush barrier	☑ Preserving natural vegetation
☐ Check dams	☐ Riprap
☐ Chemical stabilization	☑ Sediment filters and sediment chambers
☑ Construction entrances	☐ Sediment trap
☐ Construction reviewer	☐ Sediment basins and rock dams
☐ Construction sequencing	☑ Silt fence
☐ Contractor certification and inspector training	☐ Sodding
☑ Dust control	☐ Soil roughening
☐ Filter berms	☐ Soil retention
☑ General construction site waste management	☑ Spill prevention and control plan
☑ Geotextiles	☑ Storm drain inlet protection
☐ Gradient terraces	☐ Temporary diversion dikes
☑ Grass-lined channels	☐ Temporary stream crossings
☐ Land grading	☐ Temporary slope drain
☑ Model ordinances	☑ Vegetated buffer
☐ Mulching	☑ Vehicle maintenance and washing areas
☐ Permanent diversions	☐ Wind fences and sand fences

Section C. Initial Identification of Management Practices (continued)

5. Post-Construction Storm Water Management In New Development and Redevelopment

- ☐ Alternate turnarounds
- ☐ Alternative pavers
- ☐ Alum injection
- ☐ Bioretention
- ☐ Management practice inspection and maintenance
- ☑ Buffer zones
- ☑ Catch basin
- ☐ Conservation easements
- ☑ Dry extended detention ponds
- ☐ Eliminating curbs and gutters
- ☑ Grassed swales
- ☐ Grassed filter strips
- ☐ Green parking
- ☑ In-line storage
- ☐ Infiltration trench
- ☑ Infiltration basin
- ☐ Infrastructure planning
- ☐ Manufactured products for storm water inlets
- ☐ Narrower residential streets
- ☐ On-lot treatment
- ☐ Open space design
- ☑ Ordinances for postconstruction runoff
- ☐ Porous pavement
- ☐ Sand and organic filters
- ☑ Storm water wetland
- ☐ Urban forestry
- ☐ Wet ponds
- ☐ Zoning and Site Plan Review
- ☐ Others: .....

6. Pollution Prevention/Good Housekeeping for Municipal Operations

- ☐ Alternative products
- ☐ Alternative discharge options for chlorinated water
- ☐ Automobile maintenance
- ☑ Employee training
- ☑ Hazardous materials storage
- ☐ Illegal dumping control
- ☑ Landscaping and lawn care
- ☐ Materials management
- ☑ Parking lot and street cleaning
- ☐ Pest control
- ☐ Pet waste collection
- ☑ Road salt application and storage
- ☐ Roadway and bridge maintenance
- ☐ Septic system controls
- ☑ Spill response and prevention
- ☑ Storm drain system cleaning
- ☐ Used oil recycling
- ☐ Vehicle washing
- ☐ Others: .....

Section D. Initial Identification of Measurable Goals (attach additional sheets as necessary)

Person(s) responsible for implementing or coordinating the storm water management program:

Village Manager Phone: (914) 777-7703

1. Public Education and Outreach on Storm Water Impacts

Measurable goals (with start and end dates): .....

See Attached SWMP

4. Construction Site Storm Water Runoff Control

Measurable goals (with start and end dates): .....

See Attached SWMP

2. Public Involvement/Participation

Measurable goals (with start and end dates): .....

See Attached SWMP

5. Post-Construction Storm Water Management in New Development and Redevelopment

Measurable goals (with start and end dates): .....

See Attached SWMP

Section D. (continued)

3. Illicit Discharge Detection and Elimination

Measurable goals (with start and end dates): .....

.....See Attached SWMP.....

6. Pollution Prevention/Good Housekeeping for Municipal Operations

Measurable goals (with start and end dates): .....

.....See Attached SWMP.....

Section E. Cooperating MS4s

Identify any MS4 partners that will be assisting you in carrying out your Stormwater Management Program: (Attach a description of what portions of which management practices that the other MS4s will be doing for you, and similarly what practices that you are assisting them with.)

Name of Cooperating MS4	Address	Contact Person	Telephone number	Email

Section F. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that 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.

Print Name: ..Sanford J. Miller.....

Signature: _____ Date: __/__/.....

Instructions for Completing the Notice of Intent for Coverage Under an SPDES General Permit for Storm Water Discharges From SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

Who Must File a Notice of Intent?
Under the provisions of § 402(p) of the Clean Water Act (CWA) and regulations at 40 CFR Part 122, Federal law prohibits "point source" discharges of storm water from municipal separate storm sewer systems (MS4s) to waters of the U.S. without a State Pollutant Discharge Elimination System (SPDES) permit. If you are an operator of a regulated small MS4 designated under §122.32(a)(1) or §122.32(a)(2), you must apply for coverage under a SPDES permit, or apply for a modification of an existing SPDES permit. If you have questions about whether you need a permit under the SPDES Storm Water Program, contact DEC. Finally, the NOI must be submitted in accordance with the deadlines established in Part 2.A. of the MS4 General Permit.

When to File the NOI Form

DO NOT FILE THE NOI UNTIL YOU HAVE READ A COPY OF THE SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM GENERAL PERMIT. You will need to determine your eligibility, prepare your initial storm water management program, and correctly answer all questions on the NOI form, all of which must be done before you can sign the certification statement on the NOI in good faith (and without risk of committing perjury).

Where to File the NOI Form

NOIs must be sent to the following address:

Storm Water Notice of Intent
NYSDEC
625 Broadway
Albany NY 12233

Completing the NOI Form

To complete this form, type or print, using uppercase letters, in the appropriate areas only. Please place each character between the marks (abbreviate if necessary to stay within the number of characters allowed for each item). Use one space for breaks between words. Please make sure you have addressed all applicable questions and have made a photocopy for your records before sending the completed form to the address above.

Section A. MS4 Owner/Operator Information

1. Provide the legal name of the governmental entity, or other legal entity that operates the MS4 described in this application. The responsible party is the legal entity that controls the MS4's operation.
2. Provide the telephone number of the MS4 operator.
3. Provide the mailing address of the MS4 operator. Include the street address or P.O. box, city, state, and zip code. All correspondence regarding the permit will be sent to this address, not the MS4 address in Section B.

Section B. MS4 Location Information

1. Enter the official or legal name of the MS4. Enter the city or cities, county or counties, and state in which the MS4 is located.
2. Indicate the legal status of the MS4 operator as a Federal, State, County, City, Town, Village, or other public entity.
3. Indicate whether the MS4 discharges storm water into one or more receiving water(s) that appear on the 303(d) list or for which a Total Maximum Daily Load (TMDL) has been established.

Section C. Identification of Initial Management Practices

Check the management practices that you have selected to meet each of the minimum measures. If a selected practice is not on the list, check "Other" and write the name of the practice in the space provided. Attach additional pages as necessary.

Section D. Identification of Initial Measurable Goals

List the person(s) responsible for implementing or coordinating the storm water management program. Provide a narrative description of the measurable goals that will be used for each of the storm water minimum control measures. Indicate the month and year in which you will start and fully implement each of the minimum control measures, or indicate the frequency of the action in the description. Attach additional pages as necessary.

Section E. Identification of Cooperating MS4s

List other MS4s that you are cooperating with to implement your SWMP. Also list any MS4s for which you are providing assistance.

Section F. Certification

Certification statement and signature. (CAUTION: An unsigned or undated NOI form will prevent the granting of permit coverage.) Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed by either a principal executive or ranking elected official as described in Part VI.G. of the Small MS4 General Permit.

Executive Summary

Executive Summary

I. Background

A. Regulatory Impetus

Phase I of the U.S. Environmental Protection Agency's (USEPA) storm water program was promulgated in 1990 under the CWA. Phase I relies on National Pollutant Discharge Elimination System (NPDES) permit coverage to address storm water runoff from: (1) "medium" and "large" municipal separate storm sewer systems (MS4s) generally serving populations of 100,000 or greater, (2) construction activity disturbing 5 acres of land or greater, and (3) ten categories of industrial activity. The Storm Water Phase II Final Rule is the next step in USEPA's effort to preserve, protect, and improve the Nation's water resources from polluted storm water runoff. The Phase II program expands the Phase I program by requiring additional operators of MS4s in urbanized areas and operators of small construction sites, through the use of NPDES permits, to implement programs and practices to control polluted storm water runoff. The Village of Mamaroneck (Village) has been designated as an operator of a small MS4 in an urbanized area, under the USEPA's Storm Water Phase II Final Rule (40CFR 122, 123 & 124). In order to meet the conditions of its State Pollutant Discharge Elimination (SPDES) Storm Water Permit, the Village has developed this Storm Water Management Plan (SWMP) in accordance with the requirements of the Phase II Final Rule.

B. Practical Impetus

The Village of Mamaroneck is located in the western end of Long Island Sound, a federal "estuary of national significance. Due to the Village's proximity to the Long Island Sound, and the potential impacts of watershed pollution on the receiving waters of Mamaroneck Harbor, the implementation of this plan carries great significance for the residents of the Village. The public beach at Harbor Island Park has been closed to bathing, due to a failure to consistently meet the New York State Water Quality Standards for Class SA waters, for the last three consecutive years (200, 2001 and 2002). Past attempts at resolving water quality issues in the Village, by identifying and addressing specific contributing factors have met with only limited success. It is only through a policy that addresses water quality issues in general, that true improvements to the water quality in Mamaroneck Harbor can be made.

The New York State Department of Environmental Conservation (NYSDEC) Priority Waterbodies Listing (PWL) lists the Mamaroneck and Sheldrake Rivers and Mamaroneck Harbor as waterways having "high resolution potential". This designation suggests that water quality issues for these bodies of water have been deemed worthy of the expenditure of time and resources due to the level of public interest. The expected result of these efforts is either a measurable improvement in water quality or the additional information necessary for the proper management of the water resource.

C. Development of the Plan

It is important to note, that this plan represents a beginning point for storm water management. This document is intended to be a "dynamic" plan, which can, and will be modified and added to, in order to continue to address water quality issues attendant to stormwater management.

Beyond the requirements of the Phase II Notice of Intent (NOI), it is important to note that on March 26, 2001, the Village endorsed the USEPA award winning, Westchester County Watershed Advisory Committee's (WAC4) "Controlling Polluted Stormwater: A Management Plan for the Sheldrake and Mamaroneck Rivers and Mamaroneck Harbor". This includes updating the Master Plan and Local

Waterfront Revitalization Program (LWRP) and Harbor Management Plan to take into account more specific recommendations and policies for improving the quality of the Village's tributaries and embayments, and to take into account non-point source pollution reduction goals. The Village is exploring redevelopment potential and providing a vision towards decreasing impervious surfaces and recapturing buffer areas along streams and the waterfront. The Village will be working closely with the New York Department of State, Coastal Resources Division on the Harbor Island Master Plan to restore habitat and reduce storm water pollution in Mamaroneck Harbor's coastal waters.

Finally, the Village is currently adopting a resolution to endorse the recommendations of the Long Island Sound Watershed Inter-municipal Council (LISWIC) to support the formation of a Regional Stormwater District, and is adopting a stormwater management ordinance and an erosion and sediment control ordinance based on the models adopted by LISWIC. (Copies attached as Appendix A)

D. Program Components

In accordance with the requirements of the Phase II Final Rule, this plan includes the following control measures:

(1) Public Education & Outreach
(2) Public Participation / Involvement
(3) Illicit Discharge Detection & Elimination
(4) Construction Site Runoff Control
(5) Post-construction Runoff Control
(6) Pollution Prevention / Good Housekeeping

I. Public Education & Outreach

I. Public Education and Outreach

I. Introduction

A. Regulatory Text

"You must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff."

B. Program Overview

The public education program will inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil and household hazardous wastes. EPA recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities, as well as activities that are coordinated by youth service and conservation corps or other citizen groups. Some of the strategies to be employed by this plan include distributing brochures, sponsoring speaking engagements before community groups, implementing educational programs targeted at school age children, creation of a Village Storm Water Website and conducting community-based projects such as storm drain stenciling. The materials to be distributed by this outreach programs will be specifically tailored toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, providing information to restaurants on the impact of grease clogging storm drains, and to garages on the impact of oil discharges. The Village will also implement a stormwater "hot-line" to provide community updates on storm water issues and access for citizen reporting of polluters.

II. Program Approach

A. Best Management Practices

The focus areas for the Public Education Measures will include the following Best Management Practices (BMP):

1. Lawn and Garden Activities

Lawn and garden activities can result in contamination of storm water through pesticide, soil, and fertilizer runoff. Proper landscape management, however, can effectively reduce water use and contaminant runoff and enhance the aesthetics of a property. Environmentally friendly landscape management can protect the environment through careful planning and design, routine soil analysis, appropriate plant selection, use of practical turf areas, water use efficiency, use of mulches, and appropriate maintenance. Additional activities that benefit water resources include maintaining healthy plants and lawns and composting lawn wastes. Healthy plants are less susceptible to diseases and insects and therefore require minimal use of pest control measures. To promote healthy plants, it is often beneficial to till composted material into the soil. Recycling of garden wastes by composting is also effective at reducing waste, although compost bins and piles should not be located next to waterways or storm drains because leachate from compost materials can cause contamination. The Village will implement these BMP's for use on its own properties, and distribute educational materials outlining these practices for use of private property owners.

I. Public Education and Outreach

a. Planning and Design

It is important to emphasize that property owners develop a landscape plan that utilizes the natural conditions of the property. For example, the regional and climatic conditions of the site, existing vegetation, topography, intended uses of the property, and the grouping of plants by their water needs are all important considerations in designing a site that promotes natural vegetation growth while minimizing water loss and contamination.

b. Soil Analysis and Improvements

Residents will be encouraged to test soils every three to four years to determine the amount of nutrients necessary to maintain a healthy lawn. Local home and garden centers will be encouraged to market and sell soil test kits so that property owners can perform such tests on their own and/or the Village will make them available for sale through the Village DPW.

c. Appropriate Plant Selection

Property owners will be encouraged to choose local or regional plants when developing an environmentally friendly landscape. Indigenous plant species are generally more water efficient and disease resistant. Furthermore, exotic plants can potentially impact local waterways.

d. Practical Turf Areas

Property owners will be encouraged to plant non-turf areas where possible, because lawns require more water and maintenance than wildflowers, shrubs, and trees. If turf is used, it is important to select a type of grass that can withstand drought and that becomes dormant in hot, dry seasons. Local nurseries can provide property owners and municipal crews with assistance when selecting grass types. In addition, when maintaining lawns, the grass should not be cut shorter than 3 to 4 inches in height, and mulched clippings should be left on the lawn as a natural fertilizer.

e. Efficient Irrigation

Much of the water that is applied to lawns and gardens is not absorbed by the vegetation. When water is applied too quickly, it is lost as runoff along with the top layers of soil. To prevent this, property owners will be encouraged the use of low-volume watering approaches such as drip-type or sprinkler systems.

f. Use of Mulches

Mulches help retain water, reduce weed growth, prevent erosion, and improve the soil for plant growth. Mulches are usually wood bark chips, wood grindings, pine straws, nut shells, small gravel, or shredded landscape clippings. Property owners will be encouraged to use mulches and will be informed of the benefits of these materials.

g. Fertilizers

Property owners will be discouraged from using fertilizers, or if they are used, from over-applying them. The use of less-toxic alternatives to commercial fertilizers, such as composted organic material will be encouraged. Practices to reduce the amount of fertilizer entering runoff, such as, use of slow-release organic fertilizers, which are less likely to enter storm water, and application techniques, such as tilling fertilizers into moist soil to move the

chemicals directly into the root zone, reduce the likelihood that the chemicals will be mobilized in storm water will be recommended.. Timing is also important: Warm season grasses should be fertilized in the summer, in frequent and small doses, while cool season grasses should be fertilized in the fall. Also, fertilizer should not be applied on a windy day or immediately before a heavy rain. Excess fertilizer and containers will be disposed of as hazardous items, and not accepted with the general waste pickup.

h. Pesticides

Like fertilizers, pesticides should be used on lawns and gardens only when absolutely necessary. Pesticide use can be avoided entirely by selecting hearty plants that are native to the area and by keeping them healthy. It is also important to identify any potential pests to determine if they are truly harmful to the plant. The pests should always be removed by hand if possible—chemical pest control should be used only if other approaches fail. If it is necessary to use chemical pesticides, the least toxic pesticide that targets the specific pest in question should be chosen (i.e., boric acid, garlic, insects, etc). If a pesticide is labeled with the word "caution," it is less toxic than one labeled "warning," which is, in turn, less toxic than one that is labeled "danger/poison."

2. *Water Conservation Measures*

Water use has soared in recent years. The recent drought conditions in Westchester County have limited the availability of drinking water and made water conservation practices mandatory. With water consumption at an all-time high, the costs of water and sewer services continue to climb. Widespread reduction in water consumption would limit the need for new or expanded water and sewage treatment plants. The Village will encourage good water use habits by making the public aware of daily activities that consume a large volume of water. Some water conservation practices that will be recommended include:

(1) Run the dishwasher and laundry machines only with full loads. Use the shortest wash and rinse cycles and the lowest water level setting possible. Avoid the permanent press cycle, which uses an additional 10 to 20 gallons of water.

(2) When hand-washing dishes, do not let the water run continuously.

(3) Avoid using garbage disposal systems.

(4) When buying a new washing machine, choose a suds-saver model.

(5) In the bathrooms, place two half-gallon plastic bottles filled with water in the toilet tank to reduce the amount of flush water used.

(6) Take shorter showers and use a water-conserving showerhead (less than 2.5 gallons per minute) rather than taking baths, which use 30 to 50 gallons of water.

(7) When shaving, brushing teeth, or washing your face, do not let the water run continuously.

(8) When washing your car, use a bucket, and wash and rinse sections individually. Use a high-pressure, low-volume hose with a nozzle.

(9) Water the lawn only when absolutely necessary. More water is consumed using sprinkler and irrigation systems than if a hand-held hose is used (Trickle irrigation systems and soaker hoses are 20% more efficient than sprinklers.)

(10) Water lawns only during the coolest time of day to avoid evaporation of the water.

3. *Proper Disposal of Hazardous Wastes*

Many products found in homes contain chemical ingredients that are potentially harmful to people and to the environment. These products, if improperly stored or disposed of, can make there way into the storm water system, thereby adversely affecting water quality. Chemicals such as oven cleaners, paint removers, bug killers, solvents, and drain cleaners are just a few common hazardous products in the home. The Village already employs a Household Hazardous Waste Disposal Program. The importance of this program, and of the proper storage of hazardous household materials, will be tied to the storm water quality issues in the educational materials developed in this program measure. Hazardous products include the following:

(1) Cleaning products: oven cleaner, floor wax, furniture polish, drain cleaner, and spot remover

(2) Car care and maintenance: motor oil, battery acid, gasoline, car wax, engine cleaner, antifreeze, degreaser, radiator flush, and rust preventative

(3) Home improvement products: paints, preservatives, strippers, brush cleaners, and solvents

(4) Other products labeled toxic, flammable, or corrosive, or containing lye, phenols, petroleum distillates, or trichlorobenzene

4. *Pet Waste Management*

When pet waste is not properly disposed of, it can wash into nearby water bodies or can be carried by runoff into storm drains. Since storm drains do not connect to treatment facilities, but rather drain directly into the streams and rivers which flow directly to Mamaroneck Harbor, untreated animal feces can become a significant source of runoff pollution. As pet waste decays in a water body, it uses up oxygen, sometimes releasing ammonia. Low oxygen levels and ammonia combined with warm temperatures can be detrimental to the health of fish and other aquatic life. Pet waste also contains nutrients that promote weed and algae growth (eutrophication). Eutrophic water becomes cloudy and green, making it unattractive or even prohibitive for swimming and recreation. Pet waste also carries coliform bacteria, viruses, and parasites that can pose risks to human health and threaten wildlife.

5. *Trash Management*

Trash and floating debris in waterways are significant pollutants, especially in areas where a large volume of trash is generated in a concentrated area. Trash in water bodies contributes to visual pollution and detracts from the aesthetic qualities of the landscape. It also poses a threat to wildlife and human health (e.g., choking hazards to wildlife and bacteria to humans). The Village will take a two pronged approach to trash management.

a. Municipal & Commercial Trash Handling

As has been well documented, a large potential contributor to water quality problems in the Village is the trash handling operations on Fayette Avenue. Although many BMP have already been implemented specific to this area (i.e.. Street sweeping on a regular basis, etc.), it is apparent that BMP's alone can not adequately address this issue. The Village will identify specific treatment options for this section of the storm sewer system and river corridor to reduce the pollutant load from this area, and implement these options. Included in this lower section of the Sheldrake River, the Village intends to plan and acquire

easements, in order to reestablish protective stream buffers through this industrial/residential area of the Village. Additional industrial businesses in the area, such as the auto wrecking yard down stream, will be carefully monitored for pollutant run-off, and a location sought out for the establishment of a storm water detention/treatment basin in the area.

b. Public Education

Public awareness is key to a successful trash management program. The public will be informed about the environmental consequences of littering. Community education, such as informing residents about their options for recycling and waste disposal, as well as the consequences of littering, can instill a sense of citizen responsibility. Flyers, door hangers, magnets, and bumper stickers will all be employed to educate the public. These materials will be distributed through the mail, at public places, in schools, and at local businesses.

6. *Classroom Education*

Classroom education is an integral part of any storm water pollution outreach program. Providing storm water education through schools exposes the message not only to students but to their parents as well. The Village's storm water programs will partner with educators and experts to develop storm water-related curricula for the classroom.

B. Implementation Timetable

The Phase II Final Rule requires the use of measurable goals and allows five (5) years for full implementation of the SWMP. The following measurable goals are herein established for this purpose:

1. *Year 1*

Brochures and educational materials developed and distributed, storm water "hot-line" in place, educators trained, completion of stenciling remaining storm drains in Village

2. *Year 2*

A Storm Water Web Site Developed, school curricula developed and implemented

3. *Year 3*

Outreach to all sectors of Village completed

II. Public Participation / Involvement

II. Public Participation / Involvement

I. Introduction

A. Regulatory Text

"You must, at a minimum, comply with state, tribal, and local public notice requirements when implementing a public involvement/participation program.

B. Program Overview

USEPA recommends that the public be included in developing, implementing, and reviewing your storm water management program, and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. The Village has Already formed a Water Quality Committee which participates in this process. In addition to their current input to the Mayor and the Board of Trustees concerning water quality issues and the development of this SWMP, the Committee will be asked to work as citizen volunteers to assist in educating other individuals about the program, assisting in program coordination with other pre-existing programs, and take the lead role in organizing community volunteer efforts.

II. Program Approach

A. Best Management Practices (BMP)

The following BMP's will be included in this control measure:

1. Storm Drain Stenciling

Storm drain stenciling has already been implemented to some extent in the Village for the drains that deposit directly to Long Island Sound. As part of this control measure, the remaining storm drains in the Village will be marked to educate the public as to where they drain to (i.e.. Mamaroneck River, Sheldrake River, etc.).In order to get the public involved in this area the stenciling project will be conducted by volunteer groups in cooperation with the Village Committee ~~Community~~ on Water Quality. In this arrangement, the volunteer groups will provide the labor and the Village will provide supplies, safety equipment, and a map and/or directions to the drains to be stenciled. The main benefit of using volunteers is the increased public awareness of storm water pollutants and their path to water bodies. Coordination activities will include providing

(1) Stenciling kits containing all materials and tools needed to carry out a stenciling project
(2) A map of the storm drains to be stenciled
(3) Training for volunteers on safety procedures and on the technique for using stencils or affixing signs
(4) Safety equipment (traffic cones, safety vests, masks and/or goggles for spray paint)
(5) Incentives and rewards for volunteers (badges, T-shirts, certificates)

2. Stream Clean-up and Monitoring

An effective way to promote storm water awareness is to host a stream cleanup. Many people are

unaware that most storm drains discharge untreated waters directly into local water bodies. A stream cleanup allows concerned citizens to become directly involved in water pollution prevention. Participants volunteer to walk (or paddle) the length of the stream or river, collecting trash and recording information about the quantity and types of garbage that has been removed. Stream cleanups also educate members of the community about the importance of stream water quality through media coverage and publicity efforts. As a result, the river is cleaner, volunteers feel a sense of accomplishment, and the community at large is better informed. The Committee on Water Quality will be asked to schedule and organize the cleanup projects, recruit volunteers, coordinate trash disposal with DPW, and assign staff for supervision of the projects. Projects will be scheduled several months in advance to provide adequate time to organize volunteers and handle logistical issues. Stream reaches will be prioritized based on historical problem areas and potential contribution to Harbor Pollution. When the cleanup effort is complete, volunteers will be recognized for their work with participation certificates, T-shirts, cups, or other promotional items.

3. *Reforestation Programs*

Reforestation programs to preserve and restore vegetative buffers will be developed and implemented. The Village will determine which priority, candidate sites are appropriate for this activity. The long rqange goal is to restore, where possible, a contiguous river corridor along th e Mamaroneck and Sheldrake Rivers, and creatre storm water retention/treatment sites. The Committee for Water Quality will be asked to assist in identifying candidates for these buffer zones with the Village Engineering Staff, and then to organize volunteers to work on creating the vegetative buffer. The Committee will be responsible for contacting local businesses, residences, or nursery farms to seek vegetative donations. The Village will offer matching purchases of these materials as a way of increasing the amount of buffer zones that can be established.

4. *Wetland Plantings*

Wetlands are unique ecosystems that are home to a great diversity of terrestrial and aquatic plants and animals and are beneficial in many ways. They have the ability to improve water quality by filtering and accumulating pollutants, thereby protecting adjacent rivers, lakes, and streams. The Village has several small wetland environments that are nor either State Designated nor protected by other organizations. Over time, many of these wetland, environments have become degraded by human-induced disturbances, such as the introduction of invasive, non-native plants. Such exotic vegetation can reduce habitat quality, contribute to an unkempt, weedy appearance, and obscure the water body from view. These disturbances have not only affected the natural functions of these systems by causing increased erosion, a decline in natural wetland vegetation, and degraded habitats, but they have also reduced the aesthetic value of the environment. Wetlands and water bodies are also disturbed by land development activities in adjacent areas and in upland areas within the watershed. These disturbances often result in sediment deposition, nutrient enrichment, and increased storm water flows into the wetlands. This causes a reduction in water clarity that ultimately limits the growth of wetland plant species and submerged aquatic vegetation, the smothering of streambeds, contamination of water quality, and alteration of natural hydrology. In the WAC4 A Management Plan for the Sheldrake and Mamaroneck Rivers and Mamaroneck Harbor, a potential salt marsh restoration site has been identified at the western end of Harbor Island Park. The report also identifies two additional potential sites, currently located on private property, which will require public participation and support in order to develop, as well as several other small restoration sites in the intertidal zone, throughout the Village.

a. Implementation

The first step in a wetland planting program is to determine the history of the site, including previous vegetation and typical conditions. Another important factor is the hydrology of a site. Hydrology defines such factors as average and maximum depth, duration of inundation, and degree of soil saturation. Hydrology establishes the soil and plant conditions that distinguish between different wetland types and streambank and shoreline environments. Other factors that will be considered for wetland plantings are described below.

(1) Plant Species Selection

Selection of plants for wetland and shore zones is closely tied to the hydrology of the site, particularly water depths and flood durations. Other factors such as shading, water clarity, and salinity should be taken into account as well. Planting in open water areas typically involves the use of tubers, plugs, and potted plants. Planting in non-ponded wetland zones often involves both seeds and live plants. Project planners must be familiar with different types of plants that can be used, depending on the site's characteristics. It is important to use a diverse mix of wetland plants and not just one type of plant such as Phragmites (reed grass) or cattails. These and other aggressive species are very easy to establish but should not be planted. They will out compete other valuable species and will eventually dominate less robust colonizers.

(2) Initial and Long-term Management and Maintenance

Many wetlands become overgrown with non-native, invasive plant species following a disturbance. Noxious weeds can be controlled in a variety of ways. Invasive species can be removed by physically extracting them from the site. This process is often difficult because many non-native species grow in dense patches with extensive root systems. For species that are particularly difficult to eliminate using physical extraction approaches, chemical control of non-native species is sometimes warranted. Herbicide techniques are different from those used in upland sites, primarily because herbicides have to be licensed for use in or near water bodies, wetlands, and other aquatic systems. Chemical means of weed reduction should be used only when necessary, and product labels should be read and closely followed. Only a licensed herbicide applicator will be employed to conduct this work.

5. *Adopt-A-Stream Programs*

The Village will develop an Adopt-A-Stream Program in which participants "adopt" a stream, creek, or river to clean up, monitor, protect, and restore. Through these activities, the adopting group or organization becomes the primary caretaker of that stretch of stream in the watershed. The Adopt-A-Stream program will allow participation from any group or organization within a the Village. Adopting a stream is a great program for youth groups, including church groups, scouts, and school clubs, but it can also be a great activity for adult groups such as neighborhood associations, civic organizations, or businesses. Levels of involvement range from quarterly visual surveys and litter pick-ups to monthly testing to one-time habitat improvement projects. The objectives of the program are not only to remove litter, but also to improve the quality of the stream. Waste collected from stream banks and channels could spur local interest in maintaining and improving the water quality and aesthetics of all local water bodies. Many different activities can be implemented through Adopt-A-Stream programs, such as:

(1) Implementing stream cleanups and monitoring stream insects and gauging water quality

(2) Executing streambank enhancement projects, such as tree planting, to help control erosion and stabilize streambanks

The program will include signs designating the portion of the stream adopted and the organization responsible, documentation packages for the organization to document their activities to the Village, and supply packets (i.e. Trash bags, small tools, gloves, etc) required to conduct activities.

B. Implementation Timetable

The Phase II Final Rule requires the use of measurable goals and allows five (5) years for full implementation of the SWMP. The following measurable goals are herein established for this purpose:

1. *Year 1*

   Development of detailed plans for Storm Drain Stenciling and other public participation projects, priority areas to be addressed identified. Hold Public Meetings to introduce programs and begin solicitation of volunteers and organizations to participate.

2. *Year 2*

   Implementation of first Reforestation, Stream Clean-up and Adopt-A-Stream Programs.

3. *Year 3*

   5% participation of public in above activities based on total Village population.

4. *Year 4*

   Establishment of community watch groups to monitor status of streams and watersheds

III. Illicit Discharge Detection

III. Illicit Discharge Detection and Elimination

I. Introduction

A. Regulatory Text

"• You must develop, implement and enforce a program to detect and eliminate illicit discharges (as defined at Sec. 122.26(b)(2)) into your small MS4.

(ii) You must:

- Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;
- To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement appropriate enforcement procedures and actions;
  - (C) Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to your system; and
  - (D) Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

(iii) You need address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if you identify them as significant contributors of pollutants to your small MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from fire fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the United States)."

B. Program Overview

The Village plan to detect and address illicit discharges include the following four components:

(1) Procedures for locating priority areas likely to have illicit discharges;
(2) Procedures for tracing the source of an illicit discharge;
(3) Procedures for removing the source of the discharge; and
(4) Procedures for program evaluation and assessment.

II. Program Approach

A. Best Management Practices (BMP)

The following BMP's will be included in this control measure:

III. Illicit Discharge Detection and Elimination

1. *Development of Updated Storm Sewer Maps*

Using the existing Storm Sewer Maps (O'Brien & Gere, 1984) as a baseline, the Village will perform physical inspections to update the mapping database to reflect current storm sewer locations. Activities will include: compilation of existing construction drawings for projects including storm sewer work post-1984, physical inspection to identify all outfalls not shown, and survey work to annotate additional to the piping system and drainage structures

2. *Addressing Failing Septic Systems*

While the major portion of the Village is served by the municipal sanitary sewer system, there are still some areas of the Village dependant upon on-site sewage treatment or septic systems. A failing septic system is considered to be one that discharges effluent with pollutant concentrations exceeding established water quality standards. Failure rates for septic systems typically range between 1 and 5 percent each year (De Walle, 1981) but can be much higher in some regions (Schueler, 1999). Failure of on-site disposal systems can be due to a number of causes, including unsuitable soil conditions, improper design and installation, or inadequate maintenance practices. Improperly functioning septic systems are recognized as a significant contributor of pollutants (especially nitrogen) and microbiological pathogens; these systems discharge more than one trillion gallons of waste each year to subsurface and surface waters (NSFC, 1995). Identifying and eliminating failing septic systems will help control contamination of ground and surface water supplies from untreated wastewater discharges. Measures will be taken to identify where these failures exist in order to correct them. In addition, engineering studies will be conducted to determine the feasibility and cost impacts of connecting these areas to the municipal sanitary sewer system. Two field screening techniques will be used to identify failing septic systems:

a. The Brightener Test

This test involves the use of specific phosphorus-based elements found in many laundry products, often called brighteners, as an indicator of the presence of failing on-site wastewater systems.

b. Color Infrared (CIR) Aerial Photography

This technique uses color infrared (CIR) aerial photography to characterize the performance of septic systems. This method has been found to be a quick and cost-effective method for assessing the potential impacts of failing systems and uses variations in vegetative growth or stress patterns over septic system field lines to identify those systems that may potentially be malfunctioning. Based on the results of these tests, the Westchester County Department of Health (WCDOH) will be notified to make a more detailed on-site visual and physical inspection which will confirm whether the system has truly failed and the extent of the repairs needed.

3. *Industrial / Business Connections*

This management practice involves the identification and elimination of illegal or inappropriate connections of industrial and business wastewater sources to the storm drain system. Any industrial discharge not composed entirely of storm water that is conveyed to the storm drainage system or a water body is considered to be an illicit discharge. These discharges may contain a variety of pollutants that can affect both public safety and the aquatic environment. Many of these discharges are a result of connections to the storm drain that are unknown to the business owner and may not be evident in architectural plans. Illicit industrial connections can arise in a number

of ways, including cross connections with sanitary sewers and floor drains improperly attached to storm drainage pipes. These connections may be accidental or planned, and may occur in new developments as well as in existing developments. For new businesses, preventative practices such as thorough inspection and verification during the entire construction phase can avoid the need for more extensive detection techniques and disconnection. For existing industries, improper connections are located by using field screening procedures, source testing protocols, and visual inspection. The following methods will be used for identifying improper industrial discharges to the storm drain system:

a. Field Testing of Dry Weather Discharges

Storm drain outfalls are monitored to identify those areas where discharges are occurring that exceed water quality standards. This monitoring includes both visual inspection and chemical analysis to aid in identifying potential discharge sources. Visual Inspection. A physical examination of piping connections or analysis by closed circuit camera is used to identify possible illicit connection sites.

b. Piping Schematic Review

Architectural plans and plumbing details are examined for potential sites where improper connections have occurred.

c. Smoke Testing

Smoke testing is used to locate connections by injecting a non-toxic vapor (smoke) into the system and following its path of travel.

d. Dye Testing

Colored dye is added to the drain water in suspect piping. Dyed water appearing in the storm drain system indicates an illegal connection, possibly between the sanitary sewer system and the storm drain.

4. *Recreational Sewage*

Based on the large volume of recreational boating in the Mamaroneck Harbor, the Village is highly susceptible to problems from recreational sewage discharge. Under federal law, it is illegal to discharge marine sewage from boats in navigable U.S. waters, including coastal waters up to 3 miles offshore. Boats with installed toilets must have an operable Coast Guard approved marine sanitation device (MSD) that either holds sewage for pumpout ashore or for discharge in the ocean beyond the 3-mile limit, or that treats the sewage to Federal standards prior to discharge. Marina and recreational boat sewage can have substantial impact on water quality by introducing bacteria, nutrients, and hazardous chemicals into waterways. It has been reported that a single overboard discharge of human waste can be detected in up to a 1-square-mile area of shallow enclosed water (FL DEP, no date). These human wastes can include Streptococci, fecal coliform, and other bacteria. "Boats can be a significant source of fecal coliform bacteria in areas with high boating densities and low hydrologic flushing," [a near perfect description of Mamaroneck Harbor] "and fecal coliform levels become elevated near boats during periods of high occupancy and usage (USEPA, 1993)". Holding tanks on boats also concentrate pollutants and use increased levels of oxygen during decomposition. Table 1 shows a comparison of the biological oxygen demand required to break down sewage held by MSD's versus untreated and treated municipal sewage (FL DEP, no date).

Table 1. BOD concentrations according to sewage type

Sewage	BOD concentration
Boat Sewage	1,700–3,500 mg/l
Raw Municipal Sewage	110–400 mg/l
Treated Municipal Sewage	5–100 mg/l

The Village provides services for removal of recreational wastes which alleviates the effects that this source of pollutants has on water quality. However, pumpout facilities are of little use if boaters do not use the service. This can be addressed in two ways:

a. Education

Many boaters are unaware of state and federal regulations requiring the use of marine sanitation devices, or of the location of pumpout services. Like most forms of educational outreach, the use of pamphlets, newsletters, bill inserts, and meetings are often used to inform users of available pumpout services. The Village will also implement a free inspections of customer MSD's through the Coast Guard Auxiliary Boating Safety Program.

b. Enforcement

A strict laws will be developed granting the Harbor Master the authority to enforce MSD requirements and fine violators, and the enforcement authority will allow for the inspection and identification of MSD'S that are not operating properly. As part of this ordinance to enforce illegal discharge controls, all vessels entering and/or docking in Mamaroneck Harbor will be required to place dye tablets in holding tanks to discourage illegal disposal. Upon a vessel entering the harbor, a harbor patrol officer will board and place dye tablets in all sanitary devices. The devices are then flushed to ensure that the holding tanks do not leak. One tablet in approximately 60 gallons of water will give a visible dye concentration of one part per million.

5. *Sanitary Sewer Overflows*

Sanitary sewer overflows (SOS's) involve the release of raw sewage from a separate sanitary sewer system prior to reaching a treatment facility. The raw sewage from these overflows contains bacteria and nutrients that affect both human and environmental health. These overflows occur when the flow into the system exceeds the design capacity of the conveyance system, resulting in discharges into basements, streets, and streams. A common SSO is overflowing sewage manholes that send untreated sewage into a stream. Identification of SSO's within the Village is being addressed separately by the development of a Capacity, Management, Operation and Maintenance (CMOM) Program for the entire Village sanitary sewer collection and conveyance system.

B. Implementation Timetable

The Phase II Final Rule requires the use of measurable goals and allows five (5) years for full implementation of the SWMP. The following measurable goals are herein established for this purpose:

III. Illicit Discharge Detection and Elimination

1. *Year 1*

   Storm Sewer Mapping in-place; Areas using septic systems identified and addressed, ordinance in place for dye testing of all boats in Harbor; concurrent development and implementation of CMOM in accordance with timetable developed in CMOM Program

2. *Year 2*

   Identification of potential industrial areas with illicit storm water connections, action plan in place and begin implementation of investigation work

3. *Year 3*

   Completion of illicit Business/Industrial illicit connection identification, removal of 25% of connections identified

4. *Year 4*

   Removal of 95% of identified industrial illicit connections, CMOM in full implementation

IV. Construction Runoff Control

IV. Construction Site Runoff Control

I. Introduction

A. Regulatory Text

"• You must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the NPDES permitting authority waives requirements for storm water discharges associated with small construction activity in accordance with Sec. 122.26(b)(15)(i), you are not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites.

- Your program must include the development and implementation of, at a minimum:
  - (A) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;
  - (B) Requirements for construction site operators to implement appropriate erosion and sediment control (ESC) best management practices;
  - (C) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
  - (D) Procedures for site plan review which incorporate consideration of potential water quality impacts;
  - (E) Procedures for receipt and consideration of information submitted by the public, and
  - (F) Procedures for site inspection and enforcement of control measures."

B. Program Overview

The Village will develop and implement an Ordinance to provide for control of pollutant runoff on construction sites with a land disturbance greater than one (1) acre. The Ordinance will incorporate Construction Site Erosion and Sediment Control BMP's and will be accompanied by the development of a BMP Manual for use in the VILLAGE. The implementation of this measure will include three key aspects

(1) Adoption of a Local Ordinance meeting the requirements of the Phase II Final Rule
(2) Inclusion of the requirements of the ordinance in the Site Plan Review Process
(3) Enforcement of the Ordinance through Building Department Inspections and the issuance of fines/penalties for violation

II. Program Approach

A. Best Management Practices (BMP)

The following BMP's will be included in this control measure:

IV. Construction Site Runoff Control

1. *Land Grading*

Plans for land grading will address the steepness of cut-and-fill slopes and how the slopes will be:

(1) Protected from runoff
(2) Stabilized
(3) Maintained

A grading plan will be required to be prepared that establishes which areas of the site will be graded, how drainage patterns will be directed, and how runoff velocities will affect receiving waters. The grading plan will also include information regarding when earthwork will start and stop, establishes the degree and length of finished slopes, and dictates where and how excess material will be disposed of (or where borrow materials will be obtained if needed). Berms, diversions, and other storm water practices that require excavation and filling will also be incorporated into the grading plan. Site fingerprinting, which involves clearing and grading only those areas necessary for building activities and equipment traffic, will be required for all grading plans. Maintaining undisturbed temporary and/or permanent buffer zones in the grading operation will also be required. The lowest elevation of the site will remain undisturbed to provide a protected storm water outlet before storm drains or other construction outlets are installed.

2. *Permanent Diversions*

Diversions will be required to be constructed, in areas where runoff from areas of higher elevation poses a threat of property damage or erosion, by creating channels across slopes with supporting earthen ridges on the bottom sides of the slopes. The ridges reduce slope length, collect storm water runoff, and deflect the runoff to acceptable outlets that convey it without erosion. Diversions will include the following siting and design considerations:

a. Ridge

A cross section of the earthen ridge must have side slopes no steeper than 2:1; a width at the design water elevation of at least 4 feet; a minimum freeboard of 0.3 feet; and a 10-percent settlement factor included in the design.

b. Outlet

Four acceptable outlets for the conveyance of runoff and their construction specifications include:

(1) Storm water conveyance channel. A permanent designed waterway, containing appropriate vegetation, that is appropriately shaped and sized to carry storm water runoff away from developing areas without any damage from erosion.
(2) Level spreader. A device used to prevent erosion and to improve infiltration by spreading storm water runoff evenly over the ground as shallow flow instead of through channels. It usually involves a depression in the soil surface that disperses flow onto a flatter area across a slight slope and then releases the flow onto level vegetated areas. This reduces flow speed and increases infiltration.
(3) Outlet protection. This involves placing structurally lined aprons or other appropriate energy-dissipating devices at the outlets of pipes to reduce the velocity of storm water flows and thereby prevent scouring at storm water outlets, protect the outlet structure, and minimize potential for erosion downstream.

(4) Paved flume. A permanent paved channel that is constructed on a slope through which storm water runoff can be diverted down the face of the slope without causing erosion problems on or below the slope. Paved flumes are not recommended unless very high flows with excessive erosive power are expected, because increased runoff velocity might magnify erosion at the flume's outfall. Outfall protection must be provided to prevent damage from high-velocity flows. The paved flume also prevents infiltration of surface runoff, exacerbating offsite runoff problems. Where possible, vegetated channels should be used - additional stabilization can be provided with rip-rap, gabions, or turf reinforcement mats.

c. Stabilization

Immediately after the ridge and channel are constructed, they must be seeded and mulched along with any disturbed areas that drain into the diversion. Sediment-trapping measures must remain in place in case the upslope area is not stabilized, to prevent soil from moving into the diversion. All obstructions and unsuitable material, such as trees, brush, and stumps, must be removed from the channel area and disposed of so the diversion may function properly. The channel must meet grade and cross-section specifications, and any fill that is used must be free from excessive organic debris, rocks, or other unsuitable material and must be compacted to ensure equal settlement. Disturbed areas will be permanently stabilized.

3. *Preserving Natural Vegetation*

The principal advantage of preserving natural vegetation is the protection of desirable trees, vines, bushes, and grasses from damage during project development. Vegetation provides erosion control, storm water detention, biofiltration, and aesthetic values to a site during and after construction activities. Other benefits from preserving natural areas are because natural vegetation

(1) Can process higher quantities of storm water runoff than newly seeded areas
(2) Does not require time to establish
(3) Has a higher filtering capacity than newly planted vegetation because aboveground and root structures are typically denser
(4) Reduces storm water runoff by intercepting rainfall, promoting infiltration, and lowering the water table through transpiration
(5) Provides buffers and screens against noise and visual disturbance
(6) Provides a fully developed habitat for wildlife
(7) Usually requires less maintenance (e.g., irrigation, fertilizer) than planting new vegetation
(8) Enhances aesthetics.

4. *Construction Entrances*

Stabilizing the entrances to a construction site will be required to minimize the amount of sediment leaving the area as mud and sediment attached to motorized vehicles. Included in this requirement will be:

(1) Installing a pad of gravel over filter cloth where construction traffic leaves a site can help stabilize a construction entrance. As a vehicle drives over the gravel pad, mud and sediment are removed from the vehicle's wheels and offsite transport of soil is reduced. The gravel pad also reduces erosion and rutting on the soil beneath the stabilization

structure. The filter fabric separates the gravel from the soil below, preventing the gravel from being ground into the soil. The fabric also reduces the amount of rutting caused by vehicle tires by spreading the vehicle's weight over a larger soil area than just the tire width.

(2) In addition to removal of sediment by simple friction of vehicle tires on the gravel pad, a vehicle washing station will be established at the site entrance. Wash stations, remove a substantial amount of sediment from vehicles before they leave the site. Runoff from vehicle washing stations will be diverted into a sediment traps to ensure that sediment removed from vehicles is kept on-site and disposed of properly.

5. *Check Dams*

Check dams are small, temporary dams constructed across a swale or channel. Check dams will be constructed using gravel, rock, sandbags, logs, or straw bales and are used to slow the velocity of concentrated flow in a channel. By reducing the velocity of the water flowing through a swale or channel, check dams reduce the erosion in the swale or channel. Check dams will be used in swales or channels that will be used for a short period of time where it is not practical to line the channel or implement other flow control practices. In addition, check dams are appropriate where temporary seeding has been recently implemented but has not had time to take root and fully develop. Check dams are usually used in small open channels with a contributing drainage area of 2 to 10 acres. For a given swale or channel, multiple check dams, spaced at appropriate intervals, will increase overall effectiveness. If dams are used in a series, they should be spaced such that the base of the upstream dam is at the same elevation as the top of the next downstream dam.

6. *Filter Berms*

A gravel or stone filter berm is a temporary ridge made up of loose gravel, stone, or crushed rock that slows, filters, and diverts flow from an open traffic area and acts as an efficient form of sediment control. Gravel or stone filter berms will be required in areas where vehicular traffic needs to be rerouted because roads are under construction, or in traffic areas within a construction site.

7. *Grass Lined Channels*

Grass-lined channels convey storm water runoff through a stable conduit. Vegetation lining the channel reduces the flow velocity of concentrated runoff. Grassed channels are not designed to control peak runoff loads by themselves and are to be used in combination with other BMP's, such as subsurface drains and rip-rap stabilization. Where moderately steep slopes require drainage, grassed channels can include excavated depressions or check dams to enhance runoff storage, decrease flow rates, and enhance pollutant removal. Peak discharges can be reduced through temporary detention in the channel. Pollutants are removed from storm water by filtration through vegetation, by deposition, or in some cases by infiltration of soluble nutrients into the soil. Grassed channels are to be used in areas where erosion-resistant conveyances are needed, including areas with highly erodible soils and moderately steep slopes (although less than 5 percent). They should only be installed where space is available for a relatively large cross section. Grassed channels have a limited ability to control runoff from large storms and will not be used in areas where flow rates exceed 5 feet per second.

8. *Rip-Rap*

Rip-rap is a permanent, erosion-resistant layer made of stones. It is intended to protect soil from erosion in areas of concentrated runoff. Rip-rap will also be used to stabilize slopes that are unstable because of seepage problems. Rip-rap is to be used to stabilize cut-and-fill slopes; channel side slopes and bottoms; inlets and outlets for culverts, bridges, slope drains, grade stabilization structures, and storm drains; and streambanks and grades.

9. *Erosion Control*

Erosion Control Measures will be implemented to stabilized exposed solids. These measures will include as appropriate:

(1) Chemical Stabilization
(2) Mulching
(3) Permanent Seeding
(4) Sodding
(5) Soil Roughening
(6) Geotextile Slope Stabilization
(7) Construction of Gradient Terraces
(8) Slope Reinforcement
(9) Pipe Slope Drains

10. *Protection of Waterways*

Waterways adjacent to construction sites shall be adequatly protected at all times. Protection measures will include as appropriate:

(1) Temporary Stream Crossings
(2) Vegetated Buffer Zones

11. *Sediment Control*

Site perimeter controls will be employed to contain any potential sediment runoff on the construction site. These measures will include as appropriate:

(1) Temporary Diversion Dikes, Earth Dikes, and Interceptor Dikes
(2) Wind and Sand Fences
(3) Brush Barriers
(4) Silt Fencing
(5) Sediment Basins and Rock Dams
(6) Sediment Filters and Chambers
(7) Sediment Traps

12. *Strom Sewer System Inlet Protection*

Storm drain inlet protection measures are controls that help prevent soil and debris from site erosion from entering storm drain drop inlets. These measures are temporary controls that are implemented prior to large-scale disturbance of the surrounding site. These controls are

advantageous because their implementation allows storm drains to be used during even the early stages of construction activities. The early use of storm drains during project development significantly reduces the potential occurrence of future erosion problems. Three temporary control measures to protect storm drain drop inlets are

a. Excavation around the perimeter of the drop inlet

Excavation around a storm drain inlet creates a settling pool to remove sediments. Weep holes protected by gravel are used to drain the shallow pool of water that accumulates around the inlet.

b. Fabric barriers around inlet entrances

A fabric barrier made of porous material erected around an inlet can create an effective shield to erosion sediment while allowing water flow into the storm drain. This type of barrier can slow runoff velocity while catching soil and other debris at the drain inlet.

c. Block and gravel protection.

Block and gravel inlet protection uses standard concrete blocks and gravel to form a barrier to sediments while permitting water runoff through select blocks laid sideways.

For permanent storm drain drop inlet protection after the surrounding area has been stabilized, sod will be installed as a barrier to slow storm water entry to storm drain inlets and capture erosion sediments. All temporary controls will have a drainage area no greater than 1 acre per inlet. Temporary controls must be constructed prior to disturbance of the surrounding landscape.

13. Good Housekeeping

Good construction site housekeeping is essential to the prevention of other pollutants form entering site runoff. The housekeeping procedures to be employed include:

(1) General Construction Site Waste Management
(2) Implementation of a Spill Prevention & Control Plan
(3) Use of a Vehicle Maintenance Washing Area

B. Implementation Timetable

The Phase II Final Rule requires the use of measurable goals and allows five (5) years for full implementation of the SWMP. The following measurable goals are here in established for this purpose:

1. Year 1

Ordinance in place, Village Construction Site Erosion and Sediment Control BMP Manual completed, begin incorporating in Planning Board Reviews

2. Year 2

Full implementation of Ordinance in Site Plan Reviews, inspections and enforcement on 100% of new construction sites.

V. Post-Construction Runoff

V. Post-Construction Runoff Control

I. Introduction

A. Regulatory Text

"• You must develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into your small MS4. Your program must ensure that controls are in place that would prevent or minimize water quality impacts.

- You must:
  - Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMP'S) appropriate for your community;
  - Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law;
  - Ensure adequate long-term operation and maintenance of BMP'S."

B. Program Overview

If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. EPA recommends that the BMP'S chosen: be appropriate for the local community; minimize water quality impacts; and attempt to maintain pre-development runoff conditions. The process will include both Structural and Non-Structural BMP's to ensure that development projects include the best long-term storm water runoff measures possible.

II. Program Approach

A. Best Management Practices (BMP)

The following BMP's will be included in this control measure:

1. Village Storm Water Design Manual

The structural BMP's will be included in a Village Storm Water Design Manual. This manual will include those storm water measures the Village fells are appropriate for inclusion in proposed development projects. The basic design concepts included in the manual will be taken from existing USEPA, New York State Department of Environmental Conservation (NYSDEC), and Water Environment Federation (WEF) publications, and tailored to the specific concerns of the Village. A preliminary list of the BMP's to be included in the manual includes:

(1) Dry Extended Detention Ponds
(2) Infiltration Trenches
(3) Sand and Organic Filters
(4) Grassed Swales

(5) Grassed Filter Strips

(6) Catch Basins

2. *Zoning Ordinances*

The Non-Structural BMP's will include additions to the Zoning Ordinances requiring certain BMP's be incorporated in both strategic planning and overall design of development projects. Included in these BMP's is:

a. Buffer Zones

An aquatic buffer is an area along a shoreline, wetland, or stream where development is restricted or prohibited. The primary function of aquatic buffers is to physically protect and separate a stream, lake, or wetland from future disturbance or encroachment. If properly designed, a buffer can provide storm water management and act as a right-of-way during floods, sustaining the integrity of stream ecosystems and habitats. Technically, aquatic buffers are one type of conservation area that function as an integral part of the aquatic ecosystem and can also function as part of an urban forest. The three types of buffers are:

(1) Water Pollution Hazard Setbacks

Water pollution hazard setbacks are areas that separate a potential pollution hazard from a waterway. By providing setbacks from these areas in the form of a buffer, the potential for pollution can be reduced

(2) Vegetated Buffers

Vegetated buffers are any number of natural areas that exist to divide land uses or provide landscape relief.

(3) Engineered Buffers

Engineered buffers are areas specifically designed to treat storm water before it enters into a stream, lake, or wetland.

b. Open Space Design

~~Open space design, also known as conservation development or cluster development, is a~~ better site design technique that concentrates dwelling units in a compact area in one portion of the development site in exchange for providing open space and natural areas elsewhere on the site. The minimum lot sizes, setbacks and frontage distances for the residential zone are relaxed in order to create the open space at the site. Open space designs have many benefits in comparison to the conventional subdivisions that they replace: they can reduce impervious cover, storm water pollutants, construction costs, grading, and the loss of natural areas. Zoning ordinances twill need to be developed o permit open space development to achieve greater water quality and environmental benefits.

B. Implementation Timetable

The Phase II Final Rule requires the use of measurable goals and allows five (5) years for full implementation of the SWMP. The following measurable goals are herein established for this purpose:

V. Post-Construction Runoff Control

1. *Year 1*

   Village Storm Water Design Manual Developed, public education to local developers, engineers and contractors about required long-term storm water approaches completed

2. *Year 2*

   Zoning changes made to allow open space development and designation of Buffer Zones completed. Combination of structural and non-structural BMP's fully integrated in development approval process.

VI. Good Housekeeping

VI. Pollution Prevention / Good Housekeeping

I. Introduction

A. Regulatory Text

"You must develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, your State, Tribe, or other organizations, your program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance."

B. Program Overview

This program will include maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural storm water controls to reduce floatables and other pollutants discharged from the storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas, and waste transfer stations; and procedures for properly disposing of waste removed from the storm sewers. Operation and maintenance is an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs. The BMP's discussed in this section are in addition to those enumerated in Section I, which will be implemented by the Village as well as included in the Public Education Materials developed under that Control Measure.

II. Program Approach

A. Best Management Practices (BMP)

The following BMP's will be included in this control measure:

1. Automobile Maintenance

This pollution prevention measure involves creating a program of targeted outreach and training for businesses and the Village's municipal fleet (DPW, school buses, fire, and police) involved in automobile maintenance about practices that control pollutants and reduce storm water impacts. Automotive maintenance facilities are considered to be storm water "hot spots" where significant loads of hydrocarbons, trace metals, and other pollutants can be produced that can affect the quality of storm water runoff. Some of the waste types generated at automobile maintenance facilities and at homes of residents performing their own car maintenance include the following:

(1) Solvents (paints and paint thinners)
(2) Antifreeze
(3) Brake fluid and brake lining
(4) Batteries
(5) Motor oils
(6) Fuels (gasoline, diesel, kerosene)

(7) Lubricating grease.

2. *Vehicle Washing*

This management measure involves educating the general public, businesses, and the Village fleet on the water quality impacts of the outdoor washing of automobiles and how to avoid allowing polluted runoff to enter the storm drain system. Outdoor car washing has the potential to result in a high loads of nutrients, metals, and hydrocarbons during dry weather conditions in many watersheds, as the detergent-rich water used to wash the grime off our cars flows down the street and into the storm drain. Commercial car wash facilities will be required to recycle their water and to treat their wash water discharge prior to release to the sanitary sewer system., Storm water impacts from car washing charity car wash fundraisers will be required to obtain a permit, outlining BMP's for preventing discharge of polluted wash water to the storm drain system. Business operations that maintain fleets and car dealerships, will be required to install containment systems to retain and treat wash water prior to discharge.

3. *Parking Lot & Street Sweeping*

This management measure involves employing pavement cleaning practices such as street sweeping on a regular basis to minimize pollutant export to receiving waters. These cleaning practices are designed to remove from road and parking lot surfaces sediment debris and other pollutants that are a potential source of pollution impacting urban waterways. A street sweeping schedule will be developed, targeting those areas with the greatest impact on water quality as a priority.

4. *Storm Drain System Cleaning*

The storm drain system need to be cleaned regularly. Routine cleaning reduces the amount of pollutants, trash, and debris both in the storm drain system and in receiving waters. Clogged drains and storm drain inlets can also cause the drains to overflow, leading to increased erosion and further adverse impacts on water quality. The benefits of cleaning include increased dissolved oxygen, reduced levels of bacteria, and support of instream habitat. Areas with relatively flat grades or low flows (as determined in the mapping of the system) will be given special attention because they rarely achieve high enough flows to flush themselves. A regular maintenance schedule will be developed to systematically flush all the storm sewers, and clean out the catch basins, in the Village on a rotating basis.

5. *Roadway Salt Storage*

The application and storage of deicing materials, most commonly salts such as sodium chloride, can lead to water quality problems for surrounding areas. Salts, gravel, sand, and other materials are applied to the Village roads to reduce the amount of ice during winter storm events. Covering stored road salts may be costly; however, the benefits are greater than the perceived costs. Storing road salts correctly prevents the salt from lumping together, which makes it easier to load and apply. In addition, covering salt storage piles reduces salt loss from storm water runoff and potential contamination to streams, aquifers, and estuarine areas. Salt storage piles will be located outside the 100-year flood plain for further protection against surface water contamination. BMP's will be implemented during salt application. The amount of road salt applied will be regulated to prevent over-salting of roads and increasing runoff concentrations. Calibration devices will be

installed for spreaders in trucks for the proper application of road salts. Alternative materials, such as sand or gravel, will be used in areas immediately adjacent to the Harbor.

B. Implementation Timetable

The Phase II Final Rule requires the use of measurable goals and allows five (5) years for full implementation of the SWMP. The following measurable goals are herein established for this purpose:

1. *Year 1*

   Implementation of Housekeeping BMP's by Village Departments, development of maintenance schedule for storm sewer system

2. *Year 2*

   Training Program for Village employees implemented, roadway salt reduction measures implemented

3. *Year 3*

   Inspection process in-place to observe if local business are practicing housekeeping BMP's, and enforcement vehicle for offenders in -place

Appendix A - LISWIC

copies to BOT (Tekker 3/

Long Island Sound Watershed Intermunicipal Council

LISWIC

The Cities of Mount Vernon, New Rochelle, and Rye, the Town of Mamaroneck, the Town and Villages of Harrison and Scarsdale, and the Villages of Larchmont, Mamaroneck, Pelham, Pelham Manor, Port Chester and Rye Brook

Jack Fraley - 3/

February 24, 2003

To: Members of the LISWIC Board of Representatives

Per the direction of the Board of Representatives in attendance at the February 14, 2003 meeting, enclosed please find two ordinances selected and recommended by the LISWIC Ordinance Committee as excellent examples of stormwater management and erosion and sediment control laws. The *Model Ordinance for Erosion and Sediment Control* was prepared by the Westchester County Soil & Water Conservation District and recommended for adoption by the County Watershed Advisory Committees while the *Model Stormwater Management Ordinance* was prepared by the Department of Environmental Conservation/Adirondack Park Agency and selected by the Land Use Law Center at Pace University School of Law as an excellent sample law.

It is our understanding that under Phase II regulations, all municipalities will have to adopt laws dealing with these subjects. It was felt by the Board of Representatives that the enclosed would be of great assistance. It should be noted that in view of the latest Phase II Notice Of Intent requirements one should also refer to the *New York Standards and Specifications for Erosion and Sediment Control* (the Blue Book) and DEC's *NYS Stormwater Management Design Manual* for possible modification.

Please forward copies of this mailing to your Mayor/Supervisor and respective Boards.

Sincerely,

Phyllis Wittner, Councilwoman
Chair LISWIC

PW/rpg
encl.

cc: Councilwoman Nancy Seligson, Chair Committee on Nonpoint Source Pollution
Soil & Water Conservation District Board
Legislator Michael B. Kaplowitz, Chair Committee on Environment

LISWICORDINANCES

C/O Town of Mamaroneck Conservation Dept., 740 West Boston Post Road, Mamaroneck, NY 10543
Phone: (914) 381-7845 Fax: (914) 381-8473 E-mail: conservationdept@townofmamaroneck.org

THE JOURNAL NEWS FEB. 19, 2003 EDITORIAL

Community collaboration

Regional district to fight pollution is a good move

A plan proposed by the Long Island Sound Watershed Intermunicipal Council that would bring together 14 villages, towns and cities to form a single, new utility district to oversee construction and maintenance of the municipalities' storm water systems is a welcome collaboration that could offer a unified front to fight an effusive problem: water pollution.

Taking a regional approach to these concerns — including overseeing construction and maintenance of the municipalities' storm sewer systems — is a most sensible idea, since water pollution knows no town borders. The municipalities to be included in the Sound watershed are Scarsdale, Eastchester, Rye Brook, City of Rye, Mamaroneck town and village, New Rochelle, Mount Vernon, Harrison, White Plains, Larchmont, Pelham, Pelham Manor and Port Chester. Members of the Sound council are asking localities to approve resolutions that ask state legislators to set up the new district. We hope that happens quickly.

The proposal also includes allowing the regional district to charge fees to property owners to prevent pollution from further contaminating the Sound. How much to charge each homeowner is still being assessed, although Mamaroneck Councilwoman Phyllis Wittner and Scarsdale Village Manager Alfred Gatta, two leaders of the effort, said the fee for an average homeowner might be about $30 annually.

The council had hoped to present the idea to all 14 municipalities before March 10, when localities are required to submit plans for managing storm water runoff to the state. But with the deadline looming, leaders of the effort said local governments could mention the proposed district in the plans they submit. The district would be stronger and better able to eradicate pollution, rather than doing so on a town-by-town basis. May the effort achieve the support it deserves.

VILLAGE OF MAMARONECK

OFFICE OF THE
VILLAGE MANAGER

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_____ NOT ON AGENDA

_____ AGENDA REGULAR MEETING

A RESOLUTION SUPPORTING THE CREATION OF A REGIONAL STORMWATER DISTRICT

WHEREAS, the Long Island Sound Watershed Inter-Municipal Council (LISWIC) was created in 1999 through inter-municipal agreements approved by each legislative body pledging their support to work together on a regional basis to improve water quality by the management of stormwater runoff, the protection of animal and plant habitats, and the maintenance and improvements to tributaries in the watershed leading to Long Island Sound; and

WHEREAS, the twelve municipalities in LISWIC, the Cities of Mount Vernon, New Rochelle and Rye, Town of Mamaroneck, Town/Villages of Harrison and Scarsdale, and Villages of Larchmont, Mamaroneck, Pelham, Pelham Manor, Port Chester and Rye Brook, have worked cooperatively to address stormwater problems; and

WHEREAS, LISWIC is aware of the financial commitment required from municipalities when they act separately to properly address the operational, maintenance and capital improvements to control stormwater and believes that a regional body can immeasurably improve stormwater management and basin-wide planning utilizing a fee based funding source which does not rely on the already burdened municipal real property tax; and

WHEREAS, the federal government recently finalized regulations for stormwater management in smaller communities operating Separate Storm Sewer Systems (MS4's) known as the National Pollutant Discharge Elimination System (NPDES) Phase II Rule, which is designed to comply with the requirements of a 1987 amendment to the 1972 Clean Water Act by protecting streams; rivers and beaches from polluted non-point storm water runoff; and

WHEREAS, all operators of small MS4s, of which all LISWIC member municipalities are categorized, must develop a comprehensive Storm Water Pollution Prevention Plan and submit, to the New York State Department of Environmental Conservation (NYSDEC), a "Notice of Intent" (NOI) of such plan by March 10, 2003 with full implementation of the submitted plan achieved by March 2008; now therefore be it

RESOLVED, that the Board of Trustees of the Village of Mamaroneck does, herein, support the efforts of LISWIC to form a Stormwater Utility District to advance the efficiency and effectiveness in managing surface water runoff and the network of streams, brooks and ponds that eventually flow into the Long Island Sound; and be it

FURTHER RESOLVED, that such a Stormwater Utility District organized on a regional basis structured for the single purpose of managing surface water runoff and water quality can better plan, monitor, maintain, and construct facilities that will enhance the overall management and control of stormwater with a dedicated funding source that will relieve member municipalities from the burden of taxing its residents and the obligation to individually provide required programs and services; and be it

FURTHER RESOLVED, that the Board of Trustees of the Village of Mamaroneck does hereby support the efforts of LISWIC to form a Stormwater Utility District to assume responsibility for compliance with the NPDES Phase II Rule; and be it

FURTHER RESOLVED, that the Board of Trustees of the Village of Mamaroneck does hereby support the efforts of LISWIC to form a stormwater utility district and, further, supports the attached draft legislation to be submitted to the New York State Legislature for consideration.

MODEL STORMWATER *MANAGEMENT ORDINANCE*

(Prepared By NYS DEC/Adirondack Park Agency)

SECTION 1 - SHORT TITLE. This ordinance shall be known as the "Stormwater Management Ordinance."

SECTION 2 - FINDINGS OF FACT. The municipality finds that uncontrolled drainage and runoff associated with land development has a significant impact upon the health, safety and welfare of the community for the following reasons:

- Stormwater can carry pollutants into receiving water bodies and degrade water quality.
- The increase in nutrients in stormwater runoff accelerates the eutrophication of receiving waters.
- Improper design and construction of drainage facilities can increase the velocity of runoff thereby increasing stream bank erosion and sedimentation.
- Construction requiring land clearing and the alteration of natural topography tends to increase erosion.
- Siltation of water bodies resulting from increased erosion decreases the capacity of the water bodies to hold and transport water, interferes with navigation, and harms flora and fauna.
- Impervious surfaces increase the volume and rate of stormwater runoff and allow less water to percolate into the soil, thereby decreasing groundwater recharge and stream base flow.
- Improperly managed stormwater runoff can increase the incidence of flooding and the level of floods which occur, endangering property and human life.
- Substantial economic losses can result from these adverse impacts on the waters of the municipality.
- Many problems can be avoided if sound stormwater runoff management practices are in effect.

SECTION 3 - EFFECTIVE DATE. The effective date of this Ordinance shall be _____.

SECTION 4 - STATUTORY AUTHORITY. [Note: Statutory authority would be: Article 9 of the Town Law and/or Article 4 or 20 of the Village Law and/or Section 20 of the General City Law and Section 10 of the Municipal Home Rule Law.]

SECTION 5 - PURPOSE AND OBJECTIVES. The purpose of this Ordinance is to protect and safeguard the general health, safety, and welfare of the public residing in or visiting the municipality by preserving and protecting the quality of the ground and surface waters. This Ordinance has the following specific objectives:

- prevent any increase in stormwater runoff from any development in order to reduce flooding, siltation, and stream bank erosion,

- prevent any increase in pollution caused by stormwater runoff from development which would otherwise degrade the quality of water in Long Island Sound and its tributaries and render these watercourses and water bodies unfit for human consumption, interfere with water-based recreation or adversely affect aquatic life, and
- prevent any increase in the total annual volume of surface water runoff which flows from any specific site during and following development over that which prevailed prior to development.

SECTION 6 - DEFINITIONS. The terms used in this Ordinance or in documents prepared or reviewed under this Ordinance shall have the meanings set forth in Schedule A of this Ordinance.

SECTION 7 - JURISDICTION. General Applicability: This Ordinance shall apply to all building, construction, land clearing and subdivision of land within the municipality both public and private except development which is expressly exempt pursuant to Section 8H of this Ordinance. Permits and approvals required by this Ordinance may be incorporated into the site plan, land use or zoning approvals issued under separate provisions of the municipality's land use program.

SECTION 8 - PROHIBITIONS.

A. Except for the activities exempted in paragraph H of this section, no person shall build, construct, erect, expand, or enlarge any building or structure or place or construct any impervious surface such as pavement, blacktop, macadam, packed earth and crushed stone without first receiving a stormwater management permit from the municipality unless otherwise exempted herein.

B. No person shall create a subdivision of land subject to approval by the municipality until first receiving a stormwater management permit from the municipality for all buildings, structures and impervious surfaces proposed to be created except that the terms of this Ordinance shall not apply to persons engaged in activities for which required municipal permits and approvals were issued prior to the effective date of this Ordinance.

C. No owner of real property shall maintain a condition, which due to a human disturbance of land, vegetative cover or soil, results in the erosion of soil into any water body. The municipality shall notify a property owner of such condition on his property and shall afford a reasonable time period to correct any such condition before a violation shall be deemed to exist.

D. Except for the activities exempted in paragraph H of this section, no person shall operate a land clearing machine such as a back hoe, grader or plow or similar device so as to clear or grade land or otherwise remove vegetative cover or soil or to overlay natural vegetative cover with soil or other materials when such activities involves an area of land greater than 5,000 square feet without first having received a permit under this Ordinance.

E. No person shall fail to comply with any provision or requirement of any permit issued

pursuant to this Ordinance.

F. No person shall create a condition of flooding, erosion, siltation or ponding resulting from failure to maintain previously approved stormwater control measures where such condition is injurious to the health, welfare or safety of individuals residing in the Municipality or injurious to any land or waters within the Long Island Sound watershed. The Municipality shall notify a property owner of such condition on his property and prescribe measures necessary to reestablish effective performance of the approved stormwater control measures. The Municipality shall afford such property owner a reasonable time period in which to correct any such condition, before a violation is deemed to exist.

G. No person shall build, alter or modify a stormwater control measure without first receiving a permit from the Municipality. Such building, alteration and/or modification does not include the ordinary maintenance, cleaning and/or repair of stormwater control measures.

H. The following activities are exempt from the requirements of this Ordinance:
(1) Emergency repairs to any stormwater control measure.
(2) Development involving land disturbance and land clearing of less than 5,000 square feet which does not result in the creation of any new impervious surfaces of more than 2,000 square feet.
(3) Any agricultural activity which is consistent with a soil conservation plan approved by the Westchester County Soil and Water Conservation District.
(4) Activities of an individual engaging in home gardening by growing flowers, vegetables and other plants primarily for use by that person and his or her family.
(5) Construction of an approved wastewater treatment system and construction of a wharf, dock, boathouse, and mooring.

SECTION 9 - PROJECT CLASSIFICATION FOR STORMWATER MANAGEMENT.

A. Minor Projects. The following development activities shall be considered to be minor projects.
(1) Any building, land clearing or development activity affecting less than 15,000 square feet.
(2) Creation of a two-lot, three-lot or four-lot subdivision which may result in the construction of no more than one single-family residential structure and related accessory structures per lot, and will require land clearing or alteration activities of less than 15,000 square feet per lot and less than 15,000 square feet total for any subdivision road.
(3) Any building, alteration, or modification of a stormwater control measure, excluding maintenance, cleaning or repair of such stormwater control measure.

B. Major Projects. Any project not expressly exempted from regulation or defined as a minor project shall be a major project.
(1) The following may be considered to be major projects:
(a) Any part of the activity listed in Section 9. A. (1),(2) or (3) which occurs on (i) soils of high potential for overland or through-soil pollutant transport; (ii) an area with a slope of fifteen percent (15%) or greater when measured in any direction over a distance of one hundred (100) feet from the center of the proposed building site; (iii) or an area with a soil

percolation rate slower than sixty (60) minutes per inch.
(b) Any minor project may be treated as a major project if such treatment is desirable due to specific site limitations or constraints, anticipated environmental impacts, or the need or advisability of additional public notice and comment. When determining whether to treat a minor project as a major project, the criteria to be considered shall include, but shall not be limited to, whether the site lies within or substantially contiguous to any of the following: (i) a Critical Environmental Area established pursuant to SEQR; (ii) a wetland; (iii) a stream corridor; (iv) an area of significant habitat for any wildlife or plant species; (v) or an area of particular scenic, historic or natural significance.

The project sponsor of a minor project that will be treated as a major project shall be given a written statement of the reasons for such a determination.

SECTION 10 - DESIGN REQUIREMENTS AND PERFORMANCE STANDARDS

A. Minor Projects. The following requirements shall apply to minor projects:
(1) Stormwater shall be managed on-site using stormwater control measures designed to afford optimum protection of ground and surface waters. Stormwater control measures shall be selected by giving preference to the best management practices for pollutant removal and flow attenuation as specified in the NYS DEC's *Reducing the Impacts of Stormwater Runoff from New Development*. Stormwater may be calculated in accordance with the methodology for determining stormwater volume and flow rates for major projects found in Schedule B, Part III or, in the alternative, at a flat rate of 1.5 gallons of stormwater for every square foot net increase in impervious area. Net increase is the difference between pre-development and post-development conditions. All water from newly created impervious areas which would otherwise run off the parcel shall be directed to an infiltration device. Location of the infiltration devices shall be determined based upon soil test results.
(2) Stormwater control measures may include, but shall not be limited to, dry wells of pre-cast concrete, pits of crushed rock lined with geotextile fabric, and infiltration trenches. Such measures may also include natural and human made landscape features such as depressions, blind ditches, retention ponds, swales and others. Inlets to infiltration devices shall be protected from sediment at all times in order to maintain their capacity.
(3) Infiltration devices shall not be installed up gradient within twenty (20) feet of the subsurface treatment system of a wastewater treatment system. Infiltration devices for roadways, parking lots, and other areas subject to vehicle traffic shall not be installed within 100 feet of any water well, wetland or water body.
(4) Infiltration devices and buildings shall be designed to maintain maximum attainable horizontal distance separation from wells, water bodies and wetlands. Pumping stormwater shall not be permitted.
(5) The bottom of any infiltration device shall be a minimum of two feet above seasonal high ground water mark and two feet above bedrock.
(6) Temporary erosion controls shall be required to prevent siltation of water bodies during construction.
(7) Stormwater control measures proposed to be installed at locations with slope > 15% before grading, soil percolation rate slower than 60 minuets per inch or which require placement of fill to meet horizontal distance separations specified in this subpart shall be designed by a licensed professional engineer, architect or exempt land surveyor.

B. Major Projects. The following requirements shall apply to major projects:

(1) Stormwater volumes and rates of flow shall be calculated using the methods specified in Schedule B Part III.

(2) Design Requirements for Stormwater Control Measures.

(a) Stormwater control measures shall be designed so that there will be no increase in runoff volume from a ten-year frequency/twenty-four hour duration storm event following development over the pre-development volume.

(b) For storm events exceeding the 10-year design storm, the stormwater control measures shall function to attenuate peak runoff flow rates for a 25-year frequency storm to be equal to or less than predevelopment flow rates. For development greater than five (5) acres, consistent with New York State Guidelines, stormwater control measures shall function to attenuate peak runoff flow rates for a 100-year storm to be equal to or less than predevelopment flow rates. Attenuation of the 100-year storm is intended to reduce the rate of runoff from development to prevent expansion of the 100-year flood plain so as to alleviate flooding of improved properties and roadways. The minimum requirement for peak flow attenuation can be waived for the 100-year storm event where it can be proven that downstream flooding is not a concern, such as where excess stormwater runoff is discharged to Long Island Sound or its tributaries or to a regional stormwater facility designed to handle additional volume and peak discharge. The cumulative effect of all proposed development projects within the watershed should be considered in making this determination. Rainfall intensity curves for Westchester County, New York shall be used in the design of the stormwater control measures. These curves are annexed to this Ordinance as Schedule D entitled Rainfall Intensity Curves. Additionally, for development greater than five (5) acres, coverage is required under a State Pollutant Discharge Elimination System (SPDES) General Stormwater Permit administered by the Department of Environmental Conservation.

(c) Infiltration devices shall be designed such that the bottom of the system will be a minimum of two feet above the seasonal high groundwater level to be realized following development. Where compliance with this requirement would prevent compliance with subparagraph (e) of this Section, compliance with this requirement may be waived. This provision shall not apply to wet ponds and similar stormwater control measures which are designed to be built in the saturated soil zone.

(d) Infiltration devices for major projects shall be located a minimum of one hundred (100) feet from Long Island Sound and any watercourse having a NYS DEC classification of C or more stringent and any downgradient drinking water supply, lake, river, protected stream, water well, pond, wetland; a separation of more than one hundred (100) feet may be required in cases where contamination of the water supply is possible due to highly permeable soils, shallow groundwater and similar situations. The separation distance shall be a minimum of fifty (50) feet from upgradient water supplies. Designs shall mitigate adverse effects that groundwater recharge will have on adjacent wells, water supplies, wastewater treatment systems, buildings, roadways, properties, and stormwater control measures. Stormwater recharge areas shall be located a minimum of one hundred (100) feet from the subsurface treatment system of a wastewater treatment system unless it is demonstrated that a lesser separation will not adversely affect the functioning of such leach fields.

(e) Infiltration devices shall be designed to extend a minimum of ten percent of the

infiltration surface area below the prevailing frost depth or four feet (whichever is greater) in order to provide infiltration during winter months.

(f) Infiltration devices shall be designed based on the infiltration capacity of the soils present at the project site. Soil evaluation methods shall be in accordance with Schedule B, Part IV, Soil Evaluation Methods.

(3) Additional Requirements for Major Projects.

(a) Stormwater control measures shall be used in the following order of preference: (i) infiltration devices; (ii) artificial wetlands and acceptable natural treatment systems; (iii) flow attenuation by use of open vegetated swales and depressions; (iv) stormwater detention. Stormwater control measures shall be selected by giving preference to the best management practice for pollutant removal and flow attenuation as indicated in Schedule C.

(b) All stormwater control measures shall be designed to completely drain to return to design levels in accordance with the following: infiltration basin 5 days; infiltration trench 15 days; dry well 15 days; porous pavement 2 days; vegetation depression 1 day.

(c) Pretreatment devices such as sediment traps, detention/stilling basins, filter strips, grassy swales, or oil/water separators shall be provided for runoff from paved areas or other areas subject to human-induced pollution including grease and oils, fertilizers, chemicals, road salt, sediments, organic materials and solids capable of being settled out of solution, which shall be sufficient to remove pollutants from the runoff.

(d) Stormwater control measures shall, at a minimum, incorporate the best available pollutant removal technology, which shall mean that which constitutes appropriate and cost effective means for removing pollutants from runoff so that the resulting treated stormwater will not degrade the water quality of any water body.

(e) Stormwater control measures shall be designed to preserve and maintain the base flow in all streams passing through, adjoining or receiving runoff from the site.

(f) For development or redevelopment occurring on a site where development has previously occurred, the applicant shall be required to prepare concept plans and to develop construction estimates for stormwater control measures to control existing stormwater discharges from the site in accordance with the standards of this Ordinance to the maximum extent practicable. At a minimum the control measures shall include those reasonable and necessary to infiltrate the runoff from the first one-half inch of precipitation from any storm event for all areas within the site which have been previously developed. The phased implementation of such stormwater control measures for previously developed areas may be authorized.

C. General Requirements For Major and Minor Projects. The following requirements shall apply to major and minor projects:

(1) Stormwater control measures shall include such other measures as are deemed necessary to prevent any increase in pollution caused by stormwater runoff from development which would otherwise degrade the quality of water in Long Island Sound and its tributaries, render them unfit for human use, interfere with water-based recreation, or adversely affect aquatic life.

(2) Emergency overflow provisions shall be made as necessary to prevent erosion, flooding, and damage to structures, roads and stormwater control measures.

(3) Stormwater control measures shall be designed to minimize adverse impacts to water bodies, minimize disturbance of water bodies, minimize land clearing, minimize the creation

of impervious surfaces, and to maximize preservation of natural vegetation and existing contours.

(4) Development which involves the creation of areas subject to intensive landscape maintenance such as: golf courses, public parks and botanical gardens, shall require that a pest control and fertilizer management plan shall be prepared and included with the permit application.

SECTION 11 EROSION CONTROL MEASURES.

A. Temporary erosion control shall be provided for all disturbed areas in accordance with the Westchester County *Best Management Practices Manual for Erosion and Sediment Control* and New York *Guidelines for Urban Erosion and Sediment Control*. The temporary erosion control measures shall be maintained continuously until permanent control measures are in service. Infiltration devices shall be protected from siltation during the period of construction and until the site is successfully re-vegetated by use of silt screens, inlet protection devices, sediment detention ponds or other suitable erosion control measures.

B. Staging of construction to facilitate erosion control shall be required. Only those areas where construction is actively occurring shall remain open and unvegetated. All areas that are not within an active construction area shall be mulched and stabilized or shall be mulched and re-vegetated. An active construction area is defined as one that has seen substantial construction within the past seven (7) calendar days. Mulching or re-vegetation for erosion control shall be completed within ten (10) days following the last substantial construction activity.

C. Compliance with the following restrictions shall be required.

(1) No vegetation shall be felled into any lake, pond, river, stream or intermittent stream and if inadvertently felled into one of these water bodies, shall be removed immediately from the water body. The removal of dead, or dying, diseased trees or trees presenting a health or safety hazard shall not be exempt from this requirement.

(2) Within five hundred feet of the mean high water mark of any lake, pond, river, stream, or wetland, no land area, including areas stockpiled with earthen materials, which has been cleared may be made or left devoid of growing vegetation for more than twenty-four (24) hours without a protective covering securely placed over the entire area and/or erosion control measures properly installed to prevent sediments from entering the water body. Acceptable protective coverings include natural mulch of a depth of two inches, rock rip-rap, nondegradable materials such as plastic or canvas coverings, and impervious structures.

(3) Any area of land from which the natural vegetative cover has been either partially or wholly cleared or removed by development activities shall be revegetated within ten (10) days from the substantial completion of such clearing and construction. Acceptable re-vegetation shall consist of the following:

(a) Re-seeding with an annual or perennial cover crop accompanied by placement of straw mulch or its equivalent of sufficient coverage, but not less than fifty percent (50%) of the total disturbed area, to control erosion until such time as the cover crop is established over ninety percent (90%) of the seeded area.

(b) Replanting with native woody and herbaceous vegetation accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until the plantings are established and are capable of controlling erosion.

(c) Any other recognized method which has been reviewed and approved by the municipality as satisfying the intent of this requirement.

(4) Any area of re-vegetation must exhibit survival of a minimum of seventy-five percent (75%) of the cover crop throughout the year immediately following re-vegetation. Re-vegetation must be repeated in successive years until the minimum seventy-five percent (75%) survival for one (1) year is achieved.

(5) Ground clearing or grading activities which occur during the period October 15 to April 15, during which germination of vegetation typically will not take place, shall be required to incorporate extra measures during re-vegetation to reduce erosion and maintain water quality. These extra measures include, but are not limited to, the use of screen mesh, netting, extra mulch, and siltation fences.

SECTION 12 - MAINTENANCE OF STORMWATER CONTROL FACILITIES REQUIRED.

A stormwater permit shall include, at a minimum, provisions for the future maintenance of the site, consistent with the following:

A. Applicability. Prior to issuance of a certificate of completion for any major project, or any minor project where it is deemed necessary, the project sponsor shall provide for arrangements for the future maintenance of stormwater control measures subject to the approval of the municipality. This may include, but not be limited to, the following: approval of the by-laws and/or certificate of incorporation of a transportation corporation or Home Owners Association; posting of a performance bond; placing of funds on deposit; and a stormwater management maintenance agreement between the owner(s) of the site and the municipality.

B. Purpose. Stormwater management maintenance arrangements shall be those necessary to ensure that stormwater control measures are maintained in working condition throughout the life of the project.

C. Notice. The stormwater management maintenance agreement shall be recorded in the office of the County Clerk or its terms shall be incorporated into covenants appearing in the deed, declarations of covenants and restrictions or other such documents to ensure that record notice of its terms is provided to future owners of the site. It shall also be included in the offering plan, if any, for the project.

D. Initial Maintenance Security. The project owner(s) or sponsor shall establish a maintenance security in the form of a bond, letter of credit, escrow account, or other acceptable security, for the purpose of rebuilding, maintaining or repairing the stormwater control facilities during the first two years following the approved completion of construction.

SECTION 13 - PERMIT APPLICATION REVIEW PROCEDURES.

A. Plan Review. It is the responsibility of the applicant to provide a detailed plot plan showing the location and dimensions of all existing and proposed structures and impervious surfaces, water courses, water bodies, wetlands, wells, septic systems, and stormwater control

measures on the site and within 100 feet of the site, and a location map of the site. Applications shall be submitted on forms prescribed by the municipality and shall require an application fee, tax map number of affected parcels, a completed Part 1 Environmental Assessment Form, if required, and names and addresses of adjacent parcel owners as required.

B. Minor Projects. The zoning/land use office of the municipality shall have primary responsibility for the review, approval and issuance of stormwater management permits for minor projects. The zoning/land use office may request technical assistance from the Westchester County Soil and Water Conservation District.
(1) Prior to permit decisions a test pit may need to be witnessed.
(2) The zoning/land use officer shall determine whether notice to adjacent owners is warranted by public interest or other considerations.
(3) Prior to the issuance of a permit for any project, the zoning/land use officer shall determine that the project as proposed is in accordance with the design standards of this Ordinance.

C. Major Projects. Major projects shall require site plan review in accordance with Municipality's Land Use Ordinances.
(1) Preparation of a Stormwater Control Report in accordance with Schedule B Part II is required. Preparation of a Stormwater Concept Plan in accordance with Schedule B, Part I may be required if deemed necessary by the municipality. The SCP and SCR shall be prepared by an engineer or architect or exempt land surveyor licensed to practice under the laws of the State of New York, who shall be employed by the applicant or developer to design and supervise the installation of all stormwater management facilities. Stormwater management shall be within the area of expertise of the particular individual or firm performing the design and construction supervision, and if requested, that individual or firm shall furnish a listing and description of all stormwater management projects designed or supervised by them within the past five (5) years.
(2) Approval of the Stormwater Concept Plan and stormwater control report may require a public hearing if the Municipal Zoning and Subdivision Ordinances require such a hearing.
(3) The Final Subdivision Plat shall contain stormwater control measures for all commonly owned roads, buildings, parking areas and impervious areas. Approved stormwater design plans shall be filed together with the Final Subdivision Plat with the County Clerk.
(4) Prior to the approval of the Final Subdivision Plat or commonly owned facilities, it shall be first determined that there is sufficient information to support a finding that the stormwater measures subject to future approval can be designed and constructed in accordance with this Ordinance.

SECTION 14 - CRITERIA FOR ISSUANCE OF STORMWATER CONTROL PERMITS.

A. An application for a stormwater control permit may be approved, denied, or approved with modifications or conditions, including modifications to non-stormwater aspects of the development necessary to achieve the required level of stormwater management.

B. No stormwater management permit shall be issued unless the municipality makes the following findings which shall be supported by substantial evidence. The facts supporting

such findings shall be set forth in the decision document or permit. The issued permits shall set forth all required conditions and incorporate all necessary documents and maps. The findings are as follows:

(1) That the project meets the design requirements and performance standards set forth in this Ordinance.

(2) That the project will not have an undue adverse impact on the health, safety and welfare of the public or on the resources of Long Island Sound or its tributaries and will not lead to a diminution of water quality, an increase in erosion, or an increase in stormwater runoff from the site either during or following construction.

(3) That the stormwater control measures proposed for the proposed project will function as designed and that such measures represent the best possible methods and procedures for controlling stormwater runoff that is feasible and practicable at the particular project site.

(4) That adequate and sufficient measures have been taken to ensure accountability and responsibility over the life of the project should the stormwater control measures not function as intended, fail, or suffer from inadequate maintenance to ensure its proper functioning. The municipality may require formation of a homeowner's association registered pursuant to Section 352-E of the New York State General Business Law and execution of a maintenance agreement consistent with Schedule E.

(5) That the proposed project will not contribute to flooding, siltation or streambank erosion and will not result in any increase, directly or indirectly, in pollution to Long Island Sound or its tributaries from stormwater runoff.

SECTION 15 - VARIANCES.

A. If during the review of an application it is determined that the application of any design or dimensional requirement contained in this Ordinance will result in the denial of the project, the applicant shall be afforded an opportunity to modify the project plans or in the alternative to make application for a variance. Upon denial of any permit application for a project for failure to conform with specific provisions of this Ordinance, the applicant may make an application for a variance.

B. If the applicant determines that any aspect of the project cannot meet any design or dimensional requirement contained in this Ordinance, the applicant may make direct application for a variance to the Zoning Board of Appeals.

C. Variance applications shall be on such forms as may be prescribed and shall conform with and contain the permit application requirements set forth in this Ordinance.

D. The granting of any variance shall be done in accordance with the New York State Town Law, the New York Village Law or the New York General City Law and any amendments.

E. No variance shall be granted by a municipality until first providing notice a minimum of fifteen (15) days in advance. The New York Department of Environmental Conservation shall be deemed a party to the proceeding for all purposes with the right to initiate or intervene in any action or proceeding in which the grant or denial of a variance is an issue or in any proceeding involving an interpretation of the municipality's Plan or Program.

SECTION 16 - ENFORCEMENT AND PENALTIES. Violations. Any development activity that is commenced or is conducted contrary to this Ordinance, may be restrained by injunction or otherwise abated in a manner provided by law.

A. Civil and Criminal Penalties. In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this Ordinance shall be punished by a fine of not less than One Hundred Dollars ($100) nor more than One Thousand Dollars ($1,000) or by imprisonment for a period not to exceed sixty (60) days, or both such fine and imprisonment. Such person shall be guilty of a separate offense for each day during which the violation occurs or continues.

B. Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the municipality may take necessary corrective action, the cost of which shall become a lien upon the property until paid.

C. Notice of Violation. When the municipality determines that an activity is not being carried out in accordance with the requirements of this Ordinance, it shall issue a written notice of violation to the owner of the property. The notice of violation shall contain:
(1) the name and address of the owner or applicant;
(2) the street address when available or a description of the building, structure or land upon which the violation is occurring;
(3) a statement specifying the nature of the violation;
(4) a description of the remedial measures necessary to bring the development activity into compliance with this Ordinance and a time schedule for the completion of such remedial action;
(5) a statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;
(6) a statement that the determination of violation may be appealed to the municipality by filing a written notice of appeal within fifteen (15) days of service of notice of violation.

The notice of violation shall be served upon the person(s) to whom it is directed either personally, in a manner provided for personal services of notices by the court of local jurisdiction, or by mailing a copy of the notice of violation by certified mail, postage prepaid, return receipt requested to such person at his or her last-known address.

A notice of violation issued pursuant to this section constitutes a determination from which an administrative appeal may be taken to the municipality.

SECTION 17 - SEVERABILITY. Each separate provision of this Ordinance is deemed independent of all other provisions herein so that if any provision or provisions of this Ordinance be declared invalid, all other provisions shall remain valid and enforceable.

SCHEDULE A

DEFINITIONS

The following terms shall have the stated meanings when used in this Ordinance or in documents prepared or reviewed under this Ordinance:

(1) Agricultural activities means the activities of an active farm including grazing and watering livestock, irrigating crops, harvesting crops, using land for growing agricultural products, and cutting timber for sale, but shall not include the operation of a dude ranch or similar operation, or the construction of new structures associated with agricultural activities.
(2) Base flow means the stream discharge from groundwater runoff.
(3) Blind drain means a drain consisting of an excavated trench refilled with pervious materials, such as coarse sand gravel or crushed stone through which water percolates and flows toward an outlet, often referred to as a French drain.
(4) Building footprint means that two-dimensional plane area of a building or structure which results when the height dimension is removed and which shows an aerial view of said building or structure including garages, sheds, porches, eaves, covered breezeways, entryways and other similar attached appurtenances.
(5) Catch basin means an inlet structure for the collection of stormwater from impervious surfaces designed with a sump to trap sediment.
(6) Department means the Department of Environmental Conservation of the State of New York.
(7) Detention means the practice and procedures associated with the delayed release of stormwater so as to reduce peak flow, maintain base flow, increase opportunity for recharge to groundwater, and reduce opportunity for surface runoff and soil erosion.
(8) Detention structure means a permanent structure for the temporary storage of runoff which is designed so as not to create a permanent pool of water.
(9) Develop land means to change the runoff characteristics of a parcel of land in conjunction with residential, commercial, industrial or institutional construction or alteration.
(10) Development means any building, construction, expansion, alteration, modification, demolition or other activity, including land clearing, land disturbance, grading, roadway construction or expansion, mining or mineral extraction which materially changes the use or appearance of land or a structure, or the intensity of the use of land, or the creation of a subdivision which may result in such activity, but not including interior renovations to a structure, a change in use of a structure which results in no land disturbance, or the construction or modification of a dock, wharf or mooring.
(11) Development area or site means any parcel of property or lot or combination of contiguous lots which (a) are in common ownership, or (b) are in diverse ownership where development is to occur in common. For the purposes of this Ordinance contiguous lands shall include those separated by a public highway.
(12) Disturbed area means that part of a development site area where actual land disturbance, vegetation removal, or construction of buildings, structures or utilities will occur or has occurred.
(13) Drainage area means all of the area of land contributing runoff flow to a single point.
(14) Erosion means the wearing away of the land surface by water, wind, or ice or the detachment and movement of soil or rock fragments by water, wind, ice or gravity.
(15) Filter strip means a strip of permanent vegetation above ponds, diversion terraces and other structures to retard flow of runoff, causing deposition of transported material, thereby reducing sediment flow.
(16) Flow attenuation means prolonging the flow time of runoff to reduce the peak discharge.
(17) Hydrograph means a graph showing variation in stage (depth) or discharge of a stream of water over a period of time.

(18) Impervious area means an area covered by pavement, rooftops, and/or other structures or materials, which is either impervious to water or which substantially prevents the infiltration of water into the soil at that location.
(19) Infiltration means the downward movement of water from the surface to the subsoil. Infiltration rate is typically expressed as inches per hour.
(20) Infiltration device means a stormwater recharge area, dry well, recharge basin, retention basin or any other engineered structure designed to infiltrate stormwater.
(21) Infiltration rate means a soil characteristic determining or describing the maximum rate at which water can enter the soil under specified conditions, including the presence of an excess of water.
(22) Land disturbance or land clearing means grading, digging, cutting, scraping, excavating, removing of soil, placement of fill, paving or otherwise covering, construction, substantial removal of natural or human-made vegetation, replacement of natural vegetation with lawn or other human-made vegetation, demolition or other removal of human-made features, or any activity which bares soil or rock. For the purposes of calculating the square footage affected by any development in order to determine a project's classification, all affected areas of the development site shall be considered in aggregate whether or not the affected areas are contiguous.
(23) Mulch means a natural or artificial layer of plant residue or other materials, such as sand or paper, on the soil surface which reduces erosion, maintains soil moisture and facilitates seed germination.
(24) Municipality means the Town of, Village of, or City of.
(25) Nonpoint source means any source from which pollutants are or may be discharged which is not a point source.
(26) Offering plan means a prospectus as required by §352-e of the General Business Law.
(27) Peak flow means the maximum instantaneous flow of water from a given condition at a specific location.
(28) Person means any individual, firm, partnership, club, trust, company, association, cooperative, corporation (including a government corporation), municipality, the State or Federal government and any agency thereof.
(29) Pollution means the condition caused by the presence in the environment of substances of such character and in such quantities that the quality of the environment is impaired or rendered offensive to life.
(30) Pollution source controls means the structures and practices used in reducing contaminants from point and/or nonpoint sources.
(31) Porous pavement means a paving material that allows water to pass through it.
(32) Predevelopment means those site conditions which legally existed prior to the commencement of any activity regulated by this Ordinance.
(33) Project means any land use or development activity proposed by an applicant which is subject to this Subpart.
(34) Project life means the anticipated or actual time a project will be used, utilized or remain in functional existence.
(35) Rainfall intensity means the rate at which rain is falling at any given instant, usually expressed in inches per hour.
(36) Rational method means a widely accepted method for calculating stormwater runoff, volume and rates of flow for stormwater shed areas up to twenty acres.
(37) Redevelopment means any activity which alters a previously developed site.

(38) Retention means the practice of holding or directing stormwater except that portion evaporated or bypassed in an emergency, in or to a given area so that all the stormwater will be infiltrated into the subsoil.
(39) Retention pond means a recharge basin which is designed to infiltrate all of the stormwater it receives and which normally has no outflow.
(40) Revegetation means the natural or artificial replacement of vegetation on a project site to reduce erosion, decrease runoff, improve water quality and improve aesthetic qualities of exposed soils.
(41) Runoff controls means those structures and/or devices, including, but not limited to, dry wells, porous pavements, ditches, wetlands, holding ponds, recharge areas, and retention/detention basins which recharge groundwater and provide for peak flow attenuation.
(42) Significant habitat means that area or region important in fulfilling the daily or seasonal habitat requirements of any species of plant or animal designated as endangered, threatened, rare, or of special concern by the Department pursuant to ECL Sections 11-0535 and 9-1503 and the Department's regulations thereunder, or by any individual species or any group or natural community of nonlisted plants and animals of significant economic, recreational, aesthetic, ecological or scientific importance.
(43) Siltation trap means a structure designed to trap sand and silt sized particulate matter from stormwater.
(44) Site - (See Development Area)
(45) Stormwater means water produced by precipitation including snow melt which does not evaporate and which flows over a natural or human-made surface or into a natural or human-made channel.
(46) Stormwater Concept Plan or SCP means a report prepared in accordance with Schedule B of this Ordinance or on behalf of a project sponsor which includes analysis of a site's environmental characteristics, potential impacts of the development on water resources and the effectiveness and acceptability of the proposed stormwater management system in order to determine the types of stormwater measures necessary for the proposed development.
(47) Stormwater control measures means all those natural and man-made structures, infiltration devices, erosion controls, systems, facilities, agreements, institutional arrangements, and financial provisions to manage stormwater including, but not limited to, any of the following: dry wells, pits of crushed rock, infiltration trenches, retention ponds, detention ponds, blind ditches, swales, pipes, culverts, natural depressions, porous paving, recharge areas, and basins.
(48) Stormwater Control Report or SCR means a report prepared in accordance with Schedule B of this Ordinance or on behalf of a project sponsor which evaluates the quantity and quality of stormwater runoff resulting from the proposed project. The report shall include a set of drawings and other documents to provide all the necessary information and specifications pertaining to stormwater management and associated pollution control for a particular site. The SCR is intended to implement the SCP.
(49) Stormwater design plan means the written narrative, maps, and diagrams prepared for the purpose of runoff control on a specific development site, based upon survey and analysis of the site.
(50) Stormwater management means: (1) for quantitative control, a system of vegetative and structural measures that control the increased volume and rate of surface runoff caused by human-made changes to the land; and (2) for qualitative control, a system of vegetative, structural and other measures that reduce or eliminate pollutants that might otherwise be carried by surface runoff.

(51) Stormwater Management Maintenance Agreement means an agreement between the project sponsor and some other entity to ensure adequate maintenance and repair of the stormwater management system over the life of the project.
(52) Stormwater Management Plan or Plan means a local stormwater management plan adopted by a municipality pursuant to this Subpart and ECL Section 43-0112.
(53) Stormwater recharge area means an area of land used for the purpose of infiltrating stormwater.
(54) Stormwater Regulatory Program or Program means a local stormwater regulatory control program adopted by a municipality pursuant to 6NYCRR 646-4 and ECL Section 43-0112.
(55) Stormwater runoff means any surface water runoff or runoff in channels which results directly either from a rainstorm or from the melting of snowpack.
(56) Stream shall include any permanent or intermittent watercourse.
(57) Stream corridor means that area within one hundred (100) feet of the high water mark of any stream or river protected and/or regulated by New York State Department of Environmental Conservation, or wetlands adjacent thereto.
(58) Subcatchment means an identifiable drainage area contained within a larger watershed or drainage area.
(59) Subdivision means a division of any land into two or more lots, parcels or sites, whether the new lots are adjoining or not, for the purpose of sale, lease, license or any form of separate ownership or occupancy by any person, including the conveyance of lands in common ownership which are divided only by a road or utility right-of-way. Creation of a condominium or townhouse project shall be considered a subdivision. This definition shall not apply to conveyances of small parcels of land to correct a boundary of a lot, so long as such conveyance does not create additional lots.
(60) Surface water runoff means water which flows over the land and does not percolate into the soil, and which may run off as a sheet, rill or stream flow.
(61) Time of concentration means the time required for water to flow from the most remote point of a watershed, in a hydraulic sense, to the outlet.
(62) Water body means any lake, pond, river, stream, intermittent stream or wetland.
(63) Water table means the upper surface or top of the saturated portion of the soil or bedrock layer, indicating the upper extent of groundwater.
(64) Watershed means the total drainage area contributing runoff to a single point.

SCHEDULE B

ENGINEERING SPECIFICATIONS FOR DESIGN PROFESSIONALS

PART I CONTENT OF STORMWATER CONCEPT PLAN.

(1) A Stormwater Concept Plan (SCP), if required, shall include sufficient information to evaluate the environmental characteristics of the project site, the potential impacts of the proposed development on water resources and the effectiveness and acceptability of measures proposed for managing stormwater runoff. Sufficient engineering analysis shall be performed and provided to show that the stormwater control measures in the Plan are viable and capable of managing runoff from the site in compliance with these regulations and the municipality's Stormwater Management Plan and Regulatory Program. All anticipated development of the site and phases of the project, both present and future, shall be addressed in the SCP. The intent of

this conceptual planning process is to determine the type of stormwater measures necessary for the proposed project. The SCP shall include any modifications to the proposed project necessary to achieve the required level of stormwater management. In order to ensure adequate planning for management of runoff from future development, a municipality may also require any SCP to consider the maximum development potential of a site under existing zoning, regardless of whether the applicant presently intends to develop the site to its maximum potential.

(2) For development or redevelopment occurring on a site where development has previously occurred, an applicant shall be required to include within the stormwater concept plan measures for controlling existing stormwater runoff discharges from the site in accordance with the standards of this Ordinance to the maximum extent practicable. Such measures shall also include those measures reasonable and necessary to, at a minimum, infiltrate the runoff from the first one-half inch of precipitation from any storm event for all areas within the site which have previously been developed.

PART II CONTENT OF THE STORMWATER CONTROL REPORT

A Stormwater Control Report (SCR) shall be submitted which evaluates the quantity and quality of stormwater runoff resulting from the proposed project for all phases, both present and future, and if required, for the maximum potential runoff from the site if it were to be developed to its maximum potential under existing zoning. The Stormwater Control Report shall be consistent with, and shall be reviewed on the basis of the approved SCP. Contents of Stormwater Control Report (SCR). A SCR shall contain, at the minimum, the following information:

(1) A description of the project site and surrounding area within five hundred (500) feet as it exists prior to the commencement of the project; a location map; description of the watershed of the subcatchment and its relation to the project site; soil types and descriptions on the site and surrounding area; topography of the project site and surrounding area; surface characteristics including percent cover by asphalt, concrete, crushed stone, grasses, brush, and trees; current land use including all structures, and characteristics of the shoreline and its development, if applicable; drainage patterns including streams, ponds, culverts, ditches, and wetlands; and locations of utilities, roads, and easements.

(2) A detailed description of the proposed project including surface characteristics; proposed land use with tabulation of the percentage of surface area to be adapted to various uses; drainage patterns; locations of utilities, roads and easements; the limits of clearing and grading; and construction cost estimates of stormwater management structures.

(3) Hydrologic and hydraulic computations of stormwater volume and flow for existing and proposed conditions shall be performed. Such computations shall include (i) description of the design storm frequency, intensity and duration, (ii) time of concentration, (iii) soil curve numbers or runoff coefficients, (iv) peak runoff rates and total runoff volumes for each watershed area or subcatchment area, (v) infiltration rates, (vi) culvert capacities, (vi) flow velocities, (viii) data on the increase and volume of runoff for the 10-year storm and on the change in the rate of runoff for the 2-, 10-, 50- and 100-year storms, (ix) documentation of sources for all computation methods and field test results, and (x) sufficient information to demonstrate that the proposed development, with its necessary stormwater controls, has been designed to preserve and maintain the base flow in all streams passing through, adjoining or receiving runoff from the site.

(4) A description of how the stormwater control measures for the project will provide the best available pollutant removal technology.

(5) A detailed description of and plans of, stormwater and erosion control measures including (i)

proposed containment facilities and structures, (ii) calculations of infiltration area required, (iii) calculation of retention and/or detention/retention storage requirements and storage volume provided, (iv) calculation or documentation of infiltration rate, (v) calculation for release rate controls (orifice or pipe size), (vi) description of pollution control measures such as filter strips, sand filters, infiltration, (vii) provision for emergency overflow, and (viii) measures taken to obviate or reduce the need for runoff control such as use of porous pavement or crushed stone, or the minimization of land clearing or paving.

(6) Drainage maps at a scale specified by the municipality showing existing and proposed conditions and contours, including the watershed area and subcatchment boundaries, acreage, inlet and outlet points of streams, culverts and drainage ditches, surface features, existing and proposed structures, buildings, pavement, flow directions, existing and proposed storm sewers, streams and other drainage channels, water quantity and quality control structure including retention basins and infiltration trenches, and a location map at a scale specified by the municipality showing the entire watershed area and indicating the project site.

(7) A certification that the stormwater control measures as designed and presented in the SCR will function adequately, will not adversely affect adjacent or downstream waters or properties, and has been designed in accordance with this Ordinance. The report and plans shall bear the stamp and signature of the licensed professional engineer or architect or exempt land surveyor executing the above certification.

(8) A project schedule which shall indicate the proposed starting and completion dates for all major work phases including but not limited to clearing and grading, road construction, utility placement, septic systems, stormwater control measures, wharf construction, pouring or laying of footings and foundations, building construction, and interim and permanent revegetation. Particular emphasis shall be placed on those elements of the schedule relating to stormwater runoff and erosion control. In general, the control facilities shall be installed first in the construction stages of a project to minimize the impacts associated with construction. Further, the project schedule shall take into account appropriate seasonal limitations for temperature and weather sensitive operations. Special measures or procedures may be required to undertake land disturbance activities occurring between October 15 and April 15.

(9) A maintenance schedule which includes (i) the construction costs related to stormwater control, (ii) the proposed stormwater control maintenance program and annual costs of implementing such, (iii) identification of the party or parties responsible for maintenance of the system over the life of the project, (iv) a copy of any maintenance agreement, (v) identification of the party or parties responsible for correcting failures or inadequate function of stormwater control measures and responsible for assuming control of the systems in the event of failure to properly maintain the system.

(10) Application Inspections. Each application shall contain the written consent of the landowner that the municipality may conduct site inspections, tests, and evaluations as are deemed necessary by it to verify site data contained in the application. Such data shall include, but are not limited to, soil type, topography, depth to seasonal high groundwater, depth to bedrock and distance to surface bodies of water. During the site inspection one or more deep test holes and percolation tests may be required by the municipality to be performed by the applicant.

PART III METHODOLOGIES FOR DETERMINING RUNOFF VOLUMES

Methodologies for determining runoff volume. Stormwater volumes and rates of flow shall be calculated using the following methods: (i) for small watershed areas (up to 20 acres), the

Rational Method may be used, and (ii) for larger watershed areas (up to 2,000 acres), and as the overall preferred method, the United States Department of Agriculture method shall be used, (this method is described in "Urban Hydrology for Small Watersheds-Technical Release 55") or (iii) any other equivalent and widely accepted method may be used.

PART IV SOIL EVALUATION METHODS

The design infiltration rate shall be based on the results of hydrogeologic studies performed by the applicant during preparation of the Stormwater Control Report. The studies shall include test pits or borings located to present a clear picture of geologic and hydrologic conditions existing at the site and the areas, both on and off the site, affecting, or to be affected by, the development. A minimum of three subsurface excavations shall be conducted and the results shall be included in the SCR. Interpretive logs of all excavations shall be submitted with the report. Hydrogeologic interpretations and conclusions shall be developed by qualified persons only. Following design of infiltration devices, additional subsurface investigations to confirm soil and groundwater conditions will be required in the areas proposed for infiltration devices. The design of any project or development shall ensure that the ability to manage stormwater is not affected by the placement of structures on those soils or locations best suited for stormwater management purposes.

A MODEL ORDINANCE for

EROSION & SEDIMENT CONTROL

Prepared and Published by
The Westchester County Soil & Water Conservation District
August 1986

The Westchester County Soil and Water Conservation District, created in 1967, is charged with providing for "the prevention of soil erosion, and for the prevention of flood-water and sediment damages and for furthering the conservation, development, utilization, and disposal of water and thereby to preserve natural resources, assist in the control of floods, assist in the drainage and irrigation of agricultural lands, prevent impairment of dams and reservoirs, assist in the drainage and irrigation of agricultural lands, prevent impairment of dams and reservoirs, assist in maintaining the navigability of rivers and harbors, preserve wildlife, protect the tax base, protect public lands, and protect and promote the health, safety and general welfare of the people of the state."

Over the past several years, Westchester County has experienced rapid growth and development. The land disturbing activities associated with construction have caused erosion and sedimentation of wetlands and surface waters due to inadequate environmental controls and monitoring. The consequences of these impacts include pollution of rivers, streams, harbors, and reservoirs; reduced channel capacities of watercourses hence increased flooding; costly repair of gullies, washed out fill, and embankments; and more frequent, more expensive maintenance of bridge abutments, culverts, and channels. The "Model Ordinance for Erosion and Sediment Control" has been developed by the District to provide a tool for use by Westchester municipalities to prevent the potential adverse impacts due to construction.

May 1986

ARTICLE I TITLE

This local law shall be known and cited as the Erosion and Sediment Control Law of the (municipality).

ARTICLE II STATUTORY AUTHORITY

This local law is enacted pursuant to the authority of the (municipality) **to promote the public health, safety, and general welfare of its citizenry under New York State Municipal Home Rule Law, Section 10, and New York Environmental Conservation Law, Article 36, and other applicable provisions of State and Federal law.**

ARTICLE III FINDINGS AND PURPOSE

A. FINDINGS

The (**Board of Trustees**) of the (**municipality**) hereby finds that:

1. excessive quantities of soil may erode from areas undergoing development for certain uses, including, but not limited to, the construction of dwelling units, commercial buildings, and industrial plants, the building of roads and highways, and the creation of recreation facilities;

2. the washing, blowing, and deposition of eroded soil across and upon roadways endangers the health and safety of users thereof by decreasing visibility and reducing traction of road vehicles;

3. soil erosion necessitates the costly repair of gullies, washed-out fills, and embankments;

4. sediment from soil erosion clogs sewers and ditches and pollutes and silts rivers, streams, lakes, harbors, and reservoirs;

5. sediment limits the use of water and watercourses for beneficial purposes, promotes the growth of undesirable aquatic weeds, destroys fish and other desirable aquatic life, and is costly and difficult to remove; and

6. sediment reduced the channel capacity of water courses and increases the likelihood of flooding.

B. PURPOSE

The (**Board of Trustees**) therefore declares that the purpose of this local law is to safeguard persons, protect property, prevent damage to the environment, and promote the public welfare by guiding, regulating, and controlling the design, construction, use, and maintenance of any development or other activity which disturbs or breaks the topsoil or

results in the movement of earth on land situated in the (**municipality**).

ARTICLE IV DEFINITIONS

Unless specifically defined below, words and phrases used in this local law shall be interpreted to have the meaning they have in common English usage, to give effect to the purpose set forth in Article IIIB, and to provide reasonable application of this local law.

"**Addition**" means any work on an existing structure which changes the external dimensions of such structure.

"**Agent**" means the (**municipal officer**) who is designated to administer this local law.

"**Appeal**" means a request for a review of the Agent's interpretation of any provision of this local law or a request for a variance.

"**Best Management Practices**" are procedures and measures pertaining to construction activities, which are intended to minimize water pollution, retain valuable topsoil, and prevent erosion and sedimentation, and include, but are not limited to, those practices contained in the Westchester County Best Management Practices Manual series.

"**Best Management Practices Manual**" (**BMP**) is a series of manuals, prepared, published, and occasionally amended by Westchester County, consisting of various volumes on best management practices for certain described activities, and, specifically, the volume for "Construction Related Activities,"

"**Building Permit**" means a permit issued by the municipality for the construction, erection, and alteration of a structure or building.

"**Certification**" means formal attestation that the specific inspections and tests, where required, have been performed, and that such tests comply with the applicable requirements of this local law.

"**Cubic Yards**" means the amount of material in excavation and/or fill measured by the method of "average and areas."

"**Development**" means any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, removal of vegetation, excavation, blasting, or drilling operations.

"**Development Permit**" means any permits, grants, or licenses issued by the municipality including, but not limited to, building grading, clearing, demolition, wetlands, and excavation permits, and subdivision and site plan approvals.

"**Erosion & Sediment Control Plan**" means a set of plans prepared by a New York State licensed engineer indicating the specific measures and sequencing to be used in controlling sediment and erosion on a development site both during, and after,

construction.

"**Excavation**" means any act by which organic matter, earth, sand, gravel, rock, or any other similar material is cut into, dug, quarried, uncovered, removed, displaced, or bulldozed, and shall include the conditions resulting therefrom.

"**Existing Grade**" means the vertical location of the existing ground surface prior to excavation or filling.

"**Fill**" means any act by which earth, sand, gravel, rock, or any other material is deposited, placed, replaced, pushed, dumped, pulled, transported, or moved by man to a new location and shall include the conditions resulting therefrom.

"**Final Grade**" means the vertical location of the ground or pavement surface after the grading work is completed and in accordance with the site development plan.

"**Grading**" means excavation or fill or any combination thereof and shall include the conditions resulting from any excavation or fill.

"**Land-Disturbing Activity**" means any land change which may result in soil erosion from water or wind and the movement of soil into waters or onto lands, or increased runoff of waters including, but not limited to, clearing, grading, excavating, transporting, and filling of land.

"**Natural Drainage**" means channels formed in the existing surface topography of the earth prior to changes made by unnatural causes.

"**Parcel**" means all contiguous land under one ownership.

"**Permanent Vegetation**" means ground cover mature enough to control soil erosion satisfactorily and to survive severe weather conditions.

"**Permittee**" means any person to whom a site development permit is issued.

"**Person**" means any individual, firm, or corporation, public or private, the State of New York and its agencies or political subdivisions, and the United States of America, its agencies and instrumentality's, and any agent, servant, officer, or employee of any of the foregoing.

"**Removal**" means cutting vegetation to the ground or leaving it as stumpage, complete extraction, or killing by spraying.

"**Site**" means a lot or parcel of lank or a contiguous combination thereof, where grading work is performed as a single unified operation.

"**Site Development**" means altering terrain and/or vegetation and constructing improvements.

"**Site Plan**" means the map or drawn representation of a proposed development, which is submitted to the municipal Planning Board of consideration and approval.

"**Site Development Permit**" means a permit issued by the municipality for the construction or alteration of ground improvements and structures for the control of erosion, turnoff, and grading.

"**Soil Stabilization**" means measures which protect soil from the erosive forces of raindrop impact and flowing water and include, but are not limited to, vegetative establishment, mulching, and the early application of gravel base on areas to be paved.

"**Start of Construction**" means the first land-disturbing activity associated with a development, including land preparation such as clearing, grading, and filling; installation of streets and walkways; excavation for basements, footings, piers, or foundations; erection of temporary forms; and installation of accessory buildings such as garages.

"**Stripping**" means any activity which removes the vegetative surface cover including tree removal, clearing, and storage or removal of topsoil.

"**Subdivision**" means any tract of land which is divided into two or more habitable building sites, or parcels on any site along an existing or proposed street, highway, easement, or right-of-way, or other means or proposed means of access, road, or street, for sale, lease, or rent, regardless of whether the sites are to be sold or offered for sale or leased for any period of time, are described by metes and bounds, or by reference to a map or survey of the property or by any other method of description. Subdivision also has any meaning it presently has under the laws of the (**municipality**).

"**Temporary Stream Crossing**" means a temporary structural span installed across a flowing watercourse for use by construction traffic. Structures may include bridges, round pipes, or pipe arches.

"**Variance**" means a grant of relief from the requirements of this local law, which permits a person to undertake construction in a manner otherwise prohibited by this local law where specific enforcement would result in unnecessary hardship.

"**Watercourse**" means any body of water, including, but not limited to, lakes, ponds, rivers, streams, intermittent streams, and bodies of water which are classified by the New York State Department of Environmental Conservation under Part 6 of the New York Code of Rules and Regulations, and/or delineated on the Hydrologic Features Map of the Westchester County Environmental Planning Atlas, and/or delineated on the USGS 7.5-Minute Quadrangle Sheet(s) for the (**municipality**).

ARTICLE V GENERAL PRINCIPLES

The objective of this local law is to control soil erosion and sedimentation caused by development activities in the (**municipality**). Measures taken to control erosion and

sedimentation shall be adequate to ensure that sediment is not transported from the site by a storm event of ten-year frequency or less. The following principles shall apply to all development activities within the (**municipality**) and to the preparation of the submissions required under Article VI of this local law:

1. **Selection of Control Measures**

   The selection of erosion and sedimentation control measures shall be based on assessment of the probably frequency of climatic and other events likely to contribute to erosion, and on an evaluation of the risks, costs, and benefits involved.

2. **Protection of Adjacent Properties**

   Properties adjacent to the site of a land disturbance shall be protected from sediment deposition. This may be accomplished by preserving a well-vegetated buffer strip around the lower perimeter of the land disturbance, by installing perimeter controls such as sediment barriers, filters, dikes, or sediment basins, or by a combination of such measures.

   Vegetated buffer strips may be used alone only where runoff in sheet flow is expected. Buffer strips should be at least 20 feet in width. If, at any time, it is found that a vegetated buffer strip alone is ineffective in preventing sediment movement onto adjacent property, additional perimeter controls must be provided.

3. **Cut and Fill Slopes**

   Development shall reflect the topography and soils of the site so as to create the least potential for erosion. Areas of steep slopes were high cuts and fills may be required shall be avoided wherever possible, and natural contours shall be followed as closely as possible.

4. **Vegetation**

   Natural vegetation shall be retained and protected wherever possible. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation and related structures shall be installed as soon as practical, or within the time specified in the permit. Permanent vegetation shall not be considered established until a groundcover is achieved which, in the opinion of the (**permitting authority**) or designated agent, is mature enough to control soil erosion satisfactorily and to survive severe weather conditions.

5. **Stabilization of Denuded Areas and Soil Stockpiles**

   Permanent or temporary soil stabilization must be applied to denuded areas within 15 days after final grade is reached on any portion of the site. Soil stabilization must also be applied within 15 days to denuded areas which may not be at final grade but will remain dormant (undisturbed) for longer than 60 days.

Soil stabilization refers to measures which protect soil from the erosive forces of raindrop impact and flowing water. Applicable practices include vegetative establishment, mulching, and the early application of gravel base on areas to be paved.

6. **Sediment Basins**

Sediment basins, debris basins, silt traps or filters shall be installed and maintained to remove sediment from runoff waters from land undergoing development.

7. **Timing and Stabilization of Sediment Trapping Measures**

Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment on-site must be constructed as a first step in grading and must be made functional before upslope land disturbance takes place. Earthen structures such as dams, dikes, and diversions must be seeded and mulched within 15 days of installation.

8. **Stabilization of Waterways and Outlets**

All on-site stormwater conveyance channels shall be designed and constructed to withstand the expected velocity of flow from a 10-year frequency storm without erosion. Stabilization adequate to prevent erosion must also be provided at the outlets of all pipes and paved channel.

9. **Storm Sewer Inlet Protection**

All storm sewer inlets which are made operable during construction shall be protected so that sediment-laden water will not enter the conveyance system without first being filtered or otherwise treated to remove sediment.

10. **Working In or Crossing Watercourses**

Construction vehicles should be kept out of watercourses to the greatest extent possible. Where in-channel work is necessary, precautions must be taken to stabilize the work area during construction to minimize erosion. The channel (including bed and banks) must be restabilized immediately after in-channel work is completed.

Where a live (wet) watercourse must be crossed by construction vehicles regularly during construction, a TEMPORARY STREAM CROSSING must be provided.

11. **Stormwater Management Criteria for Controlling Off-Site Erosion**

Provision shall be made to accommodate the increased runoff caused by changed

soil and surface conditions during and after development. Drainageways shall be designed so that the final gradients and the resultant velocities of discharges will not create additional erosion.

Stormwater management design will follow the procedures and methodology set forth in the *Westchester County Best Management Practices Manual for Stormwater Runoff* unless a comprehensive stormwater management plan and model has been adopted by the municipalities which compose the watershed in which the development is located.

12. **Underground Utility Construction**

The construction of underground utility lines involving installation, maintenance or repair which disturbs more than 10,000 square feet shall be subject to the following criteria:

a. No more than 500 feet of trench are to be opened at one time.
b. Where consistent with safety and space considerations, excavated material is to be placed on the uphill side of trenches.
c. Trench dewatering devices shall discharge in a manner which will not adversely affect flowing streams, drainage systems, or off-site property.

Individual service connections, telephone and electric lines, and underground public utility lines under existing hard-surfaced roads, streets, or sidewalks, provided such land-disturbing activity is confined to the area which is hard-surfaced, are exempt from the above requirements.

13. **Construction Access Routes**

Wherever construction vehicle access routes intersect paved public roads, provisions must be made to minimize the transport of sediment (mud) by runoff or vehicle tracking onto the paved surface. Where sediment is transported onto a public road surface, the roads shall be cleaned thoroughly at the end of each day. Sediment shall be removed form roads by shoveling or sweeping and transported to a sediment control area. Street washing shall be allowed only after sediment is removed in this manner.

14. **Disposition of Temporary Measures**

All temporary erosion and sediment control measures shall be disposed of within 30 days after final site stabilization is achieved or after the temporary measures are no longer needed, unless otherwise authorized by the (**permitting authority**). Trapped sediment and other disturbed soil areas resulting from the disposition of temporary measures shall e permanently stabilized to prevent further erosion and sedimentation.

15. **Maintenance**

All temporary and permanent erosion and sediment control practices must be maintained and repaired as needed to assure continued performance of their intended function.

16. **Aesthetics**

In the design of erosion control facilities and practices, aesthetics and the requirements of continuing maintenance shall be considered.

17. **Review by the Westchester County Soil & Water Conservation District**

The Westchester County Soil and Water Conservation District shall be consulted for review and recommendations for all erosion and sediment control plans for proposed developments submitted to the **(municipality)**.

ARTICLE VI SITE DEVELOPMENT PERMIT

A. PERMIT REQUIRED

1. Except as otherwise provided in this local law, no person shall commence or perform any land-disturbing activity, including, but not limited to, grading stripping, excavating, or filling, without first obtaining a site development permit from the **(permitting authority)** upon approval by the Municipal Engineer in consultation with the Westchester County Soil and Water Conservation District, all other necessary local, state, and federal permits, and thereafter comply with the requirements of this local law.

2. An application for a site development permit shall be made in the same manner as prescribed for a building permit except that such application shall be made to the Municipal Engineer.

B. EXCEPTIONS

A permit shall not be required for any of the following activities:

1. Normal lawn and landscaping maintenance.

2. Existing nursery and agricultural operations conducted as either a permitted main, or accessory, use.

3. Grading of land in a uniform manner, provided the elevation of land is not altered by more than three (3) inches, the normal flow of surface water at the property lines is not altered and, upon completion of the grading, the exposed surfaces are permanently stabilized with vegetation.

4. Alteration of the exterior of a building and alteration of the exterior of a building, provided such exterior alteration does not increase land coverage.

5. Installation, renovation, or replacement of a septic system to serve an existing dwelling or structure.

6. Any emergency activity which is immediately necessary to the protection of life, property, or natural resources.

C. APPLICATION FOR PERMIT

An application for a site development permit shall be made by the owner of the property or his authorized agent to the **(permitting authority)** on a form furnished for that purpose. Each application shall bear the name(s) and address(es) of the owner or developer of the site, and of any consulting firm retained by the applicant together with the name of the applicant's principal contact at such firm, and shall be accompanied by a filing fee of $_____. Each application shall include a certification that any land clearing, construction, or development involving the movement of earth shall be in accordance with the plans approved upon issuance of the permit.

D. SUBMISSIONS

Each application for a site development permit shall be accompanied by the following information:

1. A vicinity map in sufficient detail to easily locate, in the field, the site for which the permit is sought, including the boundary line and approximate acreage for the site, existing zoning, and a legend and scale.

2. A development plan of the site showing:

   a. Existing topography of the site and adjacent land within approximately 100 feet of the boundaries, drawn at no greater than two-foot contour intervals and clearly portraying the conformation and drainage pattern of the area.

   b. The location of existing buildings, structures, utilities, waterbodies, floodplains, drainage facilities, vegetative cover, paved areas, watershed divides, and other significant natural or man-made features on the site, and adjacent land within approximately 100 feet of the boundary.

   c. A description of the predominant soil types on the site, their location, and their limitations for the proposed use.

   d. Proposed use of the site, including both present development and planned utilization; areas of excavation, grading, and filling; proposed contours, finished grades, and street profiles; provisions for storm drainage, including the control of accelerated runoff, with a drainage area map and computations; kinds and locations of utilities; and areas and acreages proposed to be paved, covered, sodded or seeded, vegetatively stabilized, or left undisturbed.

3. An erosion and sediment control plan, or plans, showing:

   a. All erosion and sediment control measures necessary to meet the objectives of this local law throughout all phases of construction and permanently, after completion of development of the site. Depending upon the complexity of the project, the drafting of intermediate erosion and sediment control plans also may be required.

   b. Seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, and kind and quantity of mulching for both temporary and permanent vegetative control measures.

   c. Provisions for maintenance of control facilities, including easements and estimates of the cost of maintenance.

   d. Identification of the person(s) or entity which will have legal responsibility for maintenance of erosion control structures and measures after development is completed.

4. The proposed phasing of development of the site, including stripping and clearing, rough grading and construction, and final grading and landscaping. Phasing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, and the sequence of clearing, installation of temporary sediment control measures, installation of storm drainage, paving of streets and parking areas, and establishment of permanent vegetative cover.

These submissions shall be prepared in accordance with the standards and requirements contained in the *Westchester County best Management Practices Manuals* prepared by the County of Westchester, which standards and requirements are hereby incorporated into this local law by reference.

The **(permitting authority)** may waive specific requirements for the content of submissions upon finding that the information submitted is sufficient to show that the work will comply with the objectives and principles of this local law.

E. BONDS

The application may be required to file with the **(municipality)** a faithful performance bond or bonds, letter of credit, or other improvement security satisfactory to the Municipal Attorney in an amount deemed sufficient by the **(permitting authority)** to cover all costs of improvements, landscaping, maintenance of improvements, and landscaping for such period as specified by the **(municipality)**, and engineering and inspection costs to cover the cost of failure or repair of improvements installed on the site.

F. REVIEW AND APPROVAL

Each application for a site development permit shall be reviewed and acted upon according to the following procedures:

1. The (**permitting authority**) will review each application for a site development permit to determine its conformance with the provisions of this local law. The (**permitting authority**) will also refer any application to the Westchester County Soil and Water Conservation District and/or any other local government or public agency within whose jurisdiction the site is located, for review and comment. Within thirty (30 days after receiving an application, the (**permitting authority**) shall, in writing,
   (a) approve the permit application if it is found to be in conformance with the provisions of this local law, and issue the permit;
   (b) approve the permit application subject to such reasonable conditions as may be necessary to secure substantially the objectives of this local law; and issue the permit subject to these conditions; or
   (c) disapprove the permit application, indicating the deficiencies and the procedure for submitting a revised application an/or submission.

2. No site development permit shall be issued for an intended development site unless:

   a. The development has been approved by the (**municipality**) where applicable, or

   b. Such permit is accompanied by or combined with a valid building permit issued by the (**municipality**), or

   c. The proposed earth moving is coordinated with any overall development program previously approved by the (**municipality**) for the area in which the site is situated.

3. Failure of the (**permitting authority**) to act on original or revised applications within thirty (30) days of receipt shall authorize the applicant to proceed in accordance with the plans as filed unless such time is extended by agreement between the applicant and the (**permitting authority**). Pending preparation and approval of a revised plan, development activities shall be allowed to proceed in accordance with conditions established by the (**permitting authority**).

G. APPEALS

The applicant, or any person or agency which received notice of the filing of the application, may appeal the decision of the (**permitting authority**) as provided in paragraph F(3) of this Article VI, to the (**Board of Appeals**). Upon receipt of an appeal, the (**Board**) shall schedule and hold a public hearing, after giving 15 days notice thereof. The (**Board**) shall render a decision within thirty (30) days after the hearing. Factors to be considered on review shall include, but not be limited to, the effects of the proposed

development activities on the surface water flow to tributaries and downstream lands; any comprehensive watershed management plans, or the use of any retention facilities; possible saturation of fill and unsupported cuts by water, both natural and domestic; runoff surface waters that produce erosion and silting of drainageways; nature and type of soil or rock which, when disturbed by the proposed development activities, may create earth movement and produce slopes that cannot be landscaped; and excessive and unnecessary scarring of the natural landscape through grading or removal of vegetation.

H. RETENTION OF PLANS

Plans, specifications, and reports of all site developments shall be retained in original form or on microfilm by the (**permitting authority**).

ARTICLE VII OPERATION STANDARDS AND REQUIREMENTS

A. APPLICABILITY

All grading, stripping, excavating, and filling which is subject to the permit requirements of this ordinance, and any grading, stripping, excavating, and filling which is exempted from the permit requirements by paragraph B of Article VI, shall be subject to the applicable standards and requirements set forth in this Article VII.

B. RESPONSIBILITY

The permittee shall not be relieved of responsibility for damage to persons or property otherwise imposed by law, and the (**municipality**) or its officers will not be made liable for such damage, by (1) the issuance of a permit under this local law, (2) compliance with the provisions of that permit or with conditions attached to it, (3) failure of municipal officials to observe or recognize hazardous or unsightly conditions, (4) failure of municipal officials to recommend denial of, or to deny a permit, or (5) exemptions from the permit requirements of this local law.

C. MANUAL ADOPTED BY REFERENCE

The standards and specifications contained in the *Westchester County Best Management Practices Manuals* cited in paragraph D of Article VI, are hereby incorporated into this Article VII and made a part thereof by reference for the purpose of delineating procedures and methods of operation under site development and erosion and sedimentation control plans approved under Article VI. In the event of conflict between provisions of said manual and local law, the local law shall govern.

D. INSPECTION

1. The (**permitting authority**) or designated agent shall make inspections as hereinafter required and shall either approve that portion of the work completed or shall notify the permittee wherein the work fails to comply with the site development or erosion and sediment control plan as approved. Plans for grading,

stripping, excavating, and filling work bearing the stamp of approval of the (**permitting authority**) shall be maintained at the site during progress of the work. In order to obtain inspections, the permittee shall notify the (**permitting authority**) or designated agent at least two (2) working days before the completion of:

1. Stripping and clearing
2. Rough grading
3. Final grading
4. Final landscaping

If stripping, clearing, grading, and/or landscaping are to be done in phases or areas, the permittee shall give notice and request inspection at the completion of each of the above work stages in each phase or area. If an inspection is not made and notification of the results given within five (5) working days after notice is received by the municipality from the permittee, the permittee may continue work at this own risk, without presuming acceptance by the municipality. Notification of the results of the inspection shall be given in writing at the site.

2. The permittee or his agent shall make regular inspections of all control measures in accordance with the inspection schedule outlined on the approved erosion and sediment control plan(s). The purpose of such inspections will be to determine the condition and need for replacement or repair of in-place control measures, the overall effectiveness of the control plan, and the need for additional control measures. All inspections shall be documented in written form and submitted to the (**permitting authority**) at the time interval specified in the approved permit.

E. SPECIAL PRECAUTIONS

1. If at any stage of the grading of any development site the (**permitting authority**) or designated agent determines by inspection that the nature of the site is such that further work authorized by an existing permit is likely to imperil any property, public way, watercourse, or drainage structure, the (**permitting authority**) may require, as a condition of allowing the work to be done, that such reasonable special precautions be taken as are considered advisable to avoid the likelihood of such peril. "Special precautions" may include, but shall not be limited to, a more level exposed slope, construction of additional drainage facilities, berms, terracing, compaction, or cribbing. Installation of plant materials for erosion control, and recommendations of a registered soils engineer and/or engineering geologist which may be made requirements for further work.

2. Where it appears that storm damage may result from incomplete grading on any development site, work may be stopped and the permittee required to install temporary structures or take such other measures as may be necessary to protect adjoining property or the public safety. On large developments, or where unusual site conditions prevail, the (**permitting authority**) may specify the time of start of grading and time of completion or may require that the operations be conducted in specific stages to ensure completion of protective measures or devices prior to the

advent of seasonal rains.

F. AMENDMENT OF PLANS

Major amendments of the site development or erosion and sediment control plans shall be submitted to the **(permitting authority)** and shall be processed and approved, or disapproved, in the same manner as the original plans. Field modifications of a minor nature may be authorized by the **(permitting authority)** by written authorization to the permittee.

G. EXPIRATION OF PERMIT

Every site development permit shall expire and become null and void if the work authorized by such permit has not begun within one hundred and eighty (180) days, or is not completed by a date which shall be specified in the permit, except that the **(permitting authority)** may, if the permittee presents satisfactory evidence that unusual difficulties have prevented the start of work or completion of same within the specified time limits, grant a reasonable extension of time if written application is made before the expiration date of the permit.

ARTICLE VIII ENFORCEMENT

A. EXCEPTIONS

The **(Board of Appeals)** may, in accordance with the following procedures, authorize exceptions to any of the requirements and regulations set forth in this local law:

1. Application for any exception shall be made by a verified petition of the applicant for a site development permit, stating fully the grounds of the petition and the facts relied upon by the applicant.

   Such petition shall be filed with the site development permit application. IN order for the petition to be granted, it shall be necessary that the **(Board)** find all of the following facts with respect to the land referred to in the petition:

   a. That the land is of such shape or size or is affected by such physical conditions or is subject to such title limitations of record that it is impossible or impractical for the applicant to comply with all of the requirements of this ordinance.
   b. That the exception is necessary to prevent unreasonable and unnecessary hardship; and
   c. That the granting of the exception will not be detrimental to the public welfare or injurious to other property in the vicinity of the subject property.

2. Each application for an exception shall be referred to the **(permitting authority)** for review. The **(permitting authority)** shall transmit its recommendations to the **(Board)** which shall review such recommendations prior to granting or denying the

exception.

3. The (**Board**) shall hold a public hearing on each application for exception, within 30 days after receiving application, in the manner provided with respect to appeals. After public hearing, the (**Board**) may approve the site development permit application with the exceptions and conditions it deems necessary, or it may disapprove such site development permit application and exception application, or it may take such other action as appropriate.

B. STOP-WORK ORDER; REVOCATION OF PERMIT

In the event any person holding a site development permit pursuant to this ordinance violates the terms of the permit, or implements site development in such a manner as to materially adversely affect the health, welfare, or safety of persons residing or working in the neighborhood or the development site or so as to be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood, the (**permitting authority**) may suspend or revoke the site development permit.

1. Suspension of a permit shall be by a written stop-work order issued by the (**permitting authority**) and delivered to the permittee or his agent or the person performing the work. The stop-work order shall be effective immediately, shall state the specific violations cited, and shall state the conditions under which work may be resumed. A stop-work order shall have the affect of suspending all authorizations and permits granted by the Town or any agency thereof, and shall remain in effect until the next regularly scheduled meeting of the (**Board**) at which the conditions of sub-paragraph 2 below can be met.

2. No site development permit shall be permanently suspended on revoked until a hearing is held by the (**Board**). Written notice of such hearing shall be served on the permittee, either personally or by registered mail, and shall state:

   a. grounds for complaint or reasons for suspension or revocation, in clear or concise language;
   b. the time and place of the hearing to be held.

   Such notice shall be served on the permittee at least five (5) days prior to the date set for the hearing. At such hearing, the permittee shall be given an opportunity to be heard and may call witnesses and present evidence on his behalf. At the conclusion of the hearing, the (**Board**) shall determine whether the permit shall be suspended or revoked.

C. VIOLATIONS AND PENALTIES

No person shall construct, enlarge, alter, repair, or maintain any grading, excavation, or fill, or cause the same to be done, contrary to or in violation of any terms of this

ordinance.

Any person violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor, and each day during which any violation of any of the provisions of this ordinance is committed, continued, or permitted, shall constitute a separate offense. Upon conviction of any such violation, such person, partnership, or corporation shall be punished by a fine of not more than $1,000) for each offense. In addition to any other penalty authorized by this section, any person, partnership, or corporation convicted of violating any of the provisions of this ordinance shall be required to restore the site to the condition existing prior to commission of the violation, or to bear the expense of such restoration.

D. SEPARABILITY

The provisions and sections of this ordinance shall be deemed to be separable, and the invalidity of any portion of this ordinance shall not affect the validity of the remainder.

Prepared by:

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