THE TOWN OF WRIGHTSVILLE BEACH

National Pollution Discharge Elimination System Phase II Comprehensive Stormwater Management Program

This program implements the permit to discharge stormwater from the Town of Wrightsville Beach Municipal Separate Storm Sewer System (MS4).

Town of Wrightsville Beach
Stormwater Services
5/1/2007

Preface

Plan Purpose: The purpose of this plan is to implement the Town of Wrightsville Beach's permit to discharge stormwater from the municipal separate storm sewer system (MS4) to the receiving waters of the Cape Fear River Basin under the National Pollution Discharge Elimination System (NPDES). This plan is designed to reduce the pollutants discharged from the MS4 to the maximum extent practicable, to protect water quality and to satisfy the applicable water quality requirements of the Clean Water Act.

Enforceability: All parts of this plan are enforceable under the authority of Section 402(p) of the Clean Water Act and implementing regulations 40 CFR Part 122, 123 and 124, North Carolina General Statutes 143-215.1 and Session Law 2004-163.

Implementation: This plan is to be implemented in accordance with Section 402(p)(3)(B) of the Clean Water Act and provisions of the permit.

Modifications: Modifications to this plan must to submitted to the Director, North Carolina Department of Environmental and Natural Resources Division of Water Quality for approval.

Acknowledgment: The following people made significant contributions to this program:

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1.0 Storm Sewer System Information

1.1. Jurisdictional and MS4 Service Areas: The total jurisdictional and MS4 Service area for the Town of Wrightsville Beach is 1.15 square miles.

1.2. MS4 Conveyance System: The storm sewer system within the jurisdiction of the Town of Wrightsville Beach consists of approximately 47,000 feet of piping system, manholes and outfall pipes. There are approximately 500 feet of open ditch and 2,500 linear feet of sheet flow area.

The last major construction involving storm drainage occurred in the mid–1980's with the development of the northern part of the Shell Island area. As part of the development of that area, efforts were made to contain the stormwater on the properties developed through the use of French-drain systems. The most notable are Shell Island Resort, Duneridge and the municipal parking lots at 2398 N Lumina, 2498 N Lumina and 2698 N Lumina. The Wrightsville Dunes development made use of brick pavers as a component of the driveway/parking areas to provide a more pervious surface than would be typical with concrete or asphalt. Adjacent to, but on the opposite side of Hwy 74 at Duneridge, there is a sheet flow area of 700 feet. The border between the road surface and the sound has been left to natural growth in order to provide a buffer for the sound and to assist in trapping potential pollutants.

Harbor Island saw significant developmental changes in the late 1960's post-annexation by Wrightsville Beach. These changes included paving of roadways, the installation of sewer systems and the installation of storm drainage systems. There were also improvements to the NCDOT highway systems of Hwy 74 and Hwy 76 that included storm drainage. The construction of Federal Desalination Plant included storm drainage systems for those areas.

The construction of the NCDOT highway systems of Hwy 74, 76 and the N Lumina connector included the construction of storm drainage systems appropriate to those areas. During this time, portions of these systems have been extended to provide drainage for Town streets and some private entities. Some of these private entities include Station 1, Blockade Runner Hotel, Carolina Yacht Club and the Coast Guard Station at the south end of Wrightsville Island.

The ownership of the storm drainage systems within the area of Wrightsville Beach are divided as follows:

Ownership	% feet	Total feet	Total outfalls
New Hanover County	< 1%	375 feet	1
Private systems	13.2%	6,200 feet	6
Town	42.5%	20,052 feet	34
NC DOT	42.7%	20,055 feet	48

New Hanover County and Private systems are those systems that are located on properties other than Town or State and do not have a recorded easement or maintenance contract with the Town. The Town performs no maintenance on those systems. Maintenance activities by the Town are limited to Town systems and routine non-construction maintenance on NCDOT systems. Routine non-construction maintenance activities include street sweeping, leaf collection, video inspection, high-pressure water cleaning and vacuum debris removal. In

addition, Town systems also benefit from construction maintenance activities such as line repair, line replacement and catch basin repairs. Maintenance activities are triggered by one of two methods:

1. Direct complaint

2. Scheduled maintenance

The Town maintains a work order system that allows for the scheduling of maintenance activities with variable intervals. These activities are scheduled on a monthly, bi-monthly, quarterly, semi-annual and annual basis. Work orders, so issued, document the issue date; completion date; and total man-hours required for job completion.

1.3 Land Use Composition Estimates: The land use percentages are as follows:

- Residential – 40%
- Undeveloped – 17% of which is 29% marshland
- Commercial- 19%
- Condos and Common Area- 21%
- 42 lots over 1 acre
- Approximately 14 vacant lots

1.4. Estimate Methodology: Land use percentages were calculated using Geographic Information System (GIS) to sum parcel areas based on land use codes. This information is maintained as part of New Hanover County Land Records information.

1.5. TMDL Identification: At the current time, neither the EPA nor the NCDENR have issued Total Maximum Daily Load allocations on a body of water or receiving steam within the Town's jurisdiction.

2.0 Receiving Streams

Table 2.1 Water Quality Summary*

Receiving Stream Name	Stream Segment	Water Quality Classification	Use Support Rating	Water Quality Issues
Howe Creek	From source to Intracoastal Waterway including tributaries	SA, ORW	Fully Supported	Waters classified as SA water are subject to closure for shell-fishing activities based on Division of Marine Fisheries classification. Bacterial pollution from stormwater runoff is generally understood to be the primary reason for this issue
Intracoastal Waterway	From the western mouth of Howe Creek to the SW mouth of Shinn Creek, exclusive of the Wrightsville Beach Recreational Area	SA, HQW	Partially Supporting	Waters classified as SA water are subject to closure for shell-fishing activities based on Division of Marine Fisheries classification. Bacterial pollution from stormwater runoff is generally understood to be the primary reason for this issue. Marinas are another source of pollution.
Wrightsville Recreation Area (including Lees Cut, Motts Channel and portion of Banks Channel	In any waters within a line beginning at a point on the mainland along the Intracoastal Waterway 1400 feet north of the U.S. Hwy. 74-76 bridge extending directly across the waterway to the northern edge of Lees Cut, thence along the northern edge of Lees Cut to the end of the Cut crossing the Cut in a northeasterly direction to a point on Wrightsville Beach 1900 feet northeast of the U.S. Hwy. 74 bridge, thence along the western shoreline of Wrightsville Beach to a point 4000 feet southwest of the U.S. Hwy. 76 bridge, thence in a northwesterly direction across Banks Channel and mud flats to a point on the eastern side of the Intracoastal Waterway across from the southern edge of Bradley Creek, thence along the eastern side of the waterway to a point 1750 feet northeast of Channel Marker #128, thence directly across the waterway in a easterly direction to Money Point and along the western edge of the Intracoastal Waterway in a northeasterly direction to the point of beginning.	SB: #	Partially Supporting	Urban Runoff and Marinas
Banks Channel	Entire Channel south of the Wrightsville Recreation Area	SA; HQW	Partially Supporting	Waters classified as SA water are subject to closure for shell-fishing activities based on Division of Marine Fisheries classification. Bacterial pollution from stormwater runoff is generally understood to be the primary reason for this issue. Marinas are another source of

**Data obtained from NC DENR – Division of Water Quality. Retrieved November 21, 2006 from: http://h2o.enr.state.nc.us/bims/reports/basinsandwaterbodies/hydroCapeFear.pdf*

				pollution.
Bradley Creek	From source to U.S. Hwys. 17, 74 & 76 bridge	SC, HQW	Partially Supporting	Fecal Coliform
Bradley Creek	From U.S. Hwys. 17, 74 & 76 bridge to Intracoastal Waterway	SC,	Partially Supporting	Fecal Coliform
Shinn Creek	From Masonboro Inlet to Intercoastal Waterway	SA; HQW	Fully Supported	Waters classified as SA water are subject to closure for shell-fishing activities based on Division of Marine Fisheries classification. Bacterial pollution from stormwater runoff is generally understood to be the primary reason for this issue
Hewlett Creek	From source to Intracoastal Waterway including tributaries	SA, HQW	Fully Supported	Waters classified as SA water are subject to closure for shell-fishing activities based on Division of Marine Fisheries classification. Bacterial pollution from stormwater runoff is generally understood to be the primary reason for this issue

SA - Surface waters that are used for shellfishing or marketing purposes and all SC and SB uses. All SA waters are also HQW by definition. Stormwater controls are required under CAMA. No domestic discharges are permitted in these waters.

SB - Surface waters that are used for primary recreation, including frequent or organized swimming and all SC uses. Stormwater controls are required under CAMA and there are no categorical restrictions on discharges

SC - All tidal salt waters protected for secondary recreation such as fishing, boating and other activities involving minimal skin contact; aquatic life propagation and survival; and wildlife. Stormwater controls are required under CAMA and there are no categorical restrictions on discharges.

HQW – High Quality Waters - Supplemental classification intended to protect waters with quality higher than state water quality standards. In general, there are two means by which a water body may be classified as HQW: 1)by definition or 2) they may be supplementally classified as HQW through the rule-making process.

- Discharges of sewage are prohibited to segments classified SB or SC with a pound sign according to the provisions of 15 NCAC 2B .0203 and 2H .0404(a) in order to protect adjacent shellfishing waters.

3.0. Existing Water Quality Programs

3.1. **Local Programs:** the Town of Wrightsville Beach's MS4 service area implements the following water quality programs.

Coastal Area Management Act (CAMA) Land Use Plan: the Act requires the establishment of a cooperative program of coastal land management between local government and the State of North Carolina for preparing, adopting and enforcing local land use plans. CAMA requires that local governments within the 20 coastal counties prepare land use plans that provide for the protection, preservation, orderly development, and management of the coastal area of North Carolina.

The intent of the Wrightsville Beach CAMA Land Use Plan is to anticipate and cope with development pressures in an organized fashion. It is intended to protect and enhance the quality of life of area residents and to conserve and manage the natural resources within the Town limits.

3.2 **State Programs:** The existing programs that are implemented by the state within the Town's MS4 service area are as follows:

- Coastal Area Management Act
- State Stormwater Management
- Erosion and Sediment Control

3.3 **County Program:** The existing program implemented by the county within the Town's MS4 service area is:

- New Hanover County Sediment and Erosion Control Program

4.0. Permitting Information

4.1 Responsible Party Contact List: Section 7.0. contains BMP tables which specifies the measurable goals and identifies specific positions responsible for implementation of these goals. The following summarizes the responsible departments and positions:

PUBLIC WORKS DEPARTMENT
200 Parmele Boulevard
Wrightsville Beach, NC 28480
Phone (910) 256-7935
Fax (910) 256-7939

Responsible Positions:
Public Works Director
Stormwater Manager
Building Maintenance Supervisor
Streets Supervisor
Fleet Maintenance Supervisor
Sanitation Supervisor

PLANNING AND INSPECTIONS
321 Causeway Drive
Wrightsville Beach, NC 28480
Phone: (910) 509-5019
Fax: (910) 256-7926

Responsible Positions:
Planning and Inspections Director
Building Inspector
Code Enforcement Officer
Animal Control Officer

PARKS AND RECREATION
1 Bob Sawyer Dr
Wrightsville Beach, NC 28480
Phone (910) 256-7925
Fax (910) 256-7926

Responsible Positions:
Parks and Recreation Director
Parks Maintenance Supervisor

POLICE DEPARTMENT
321 Causeway Dr
Wrightsville Beach, NC 28480
Phone (910) 256-7911

Responsible Positions:
Patrol Officers

4.2. Signing Official Statement:

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designated 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 fines and imprisonment for knowing violations

Signature: _____

Robert Simpson
Town Manager
321 Causeway Drive
P.O. Box 626
Wrightsville Beach, NC 28480

5.0. Co-permitting Information

The Town of Wrightsville Beach **is not** working with any other MS4, or group of MS4s, to develop, implement or administer the Phase II stormwater program.

6.0. Reliance on other government entities to satisfy permit obligations

6.1. **Name of the entity: New Hanover County**

6.2. **Element to be implemented:** Construction Site Runoff Control

6.3. **Contact Information for the Responsible Party:**

Address: 230 Market Place Drive
Wilmington, NC 28403
Contact Telephone Number: (910) 798-7139

6.4. Under Part II, Section E of the Town of Wrightsville Beach permit to discharge stormwater, the New Hanover County Sediment and Erosion Control Program meets the requirements of the Construction Site Runoff Controls to reduce pollutants form construction site activities.

7.0. Stormwater Management Program

In compliance with the North Carolina Division of Environment and Natural Resources permit issued to the Town of Wrightsville Beach, this Management Program outlines the implementation plans for six designated program areas:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Site Runoff Control
6. Pollution Prevention and Good Housekeeping Operations

The following subsections provide specific guidance on how each of these programs areas will be implemented.

7.1. Public Education and Outreach

7.1.1. Outreach Program: Public Education/Outreach Program

Through an established stormwater public education and outreach program, the public can become informed and educated about stormwater issues and subsequently be more likely to support and comply with the program. The Wrightsville Beach public education/outreach program incorporates many different approaches in its overall strategy. One of the primary means of implementing the stormwater program is to develop a regional stormwater partnership with the surrounding communities. Since the receiving waters surrounding Wrightsville Beach are affected by activities in the City of Wilmington and New Hanover County communities, the only effective way to maintain water quality is through a regional cooperative. Therefore, the Wrightsville Beach stormwater program strategies for educating the public about water quality issues include:

- Developing a Regional Education Cooperative to establish educational partnerships in an effort to develop and disseminate information about water quality and its importance on a large-scale basis.
- Develop and coordinate a campaign with local area media to educate and reach the public regarding clean water practices.
- Scheduling presentations for various local community groups to increase awareness of stormwater pollution and facilitate partnering with these groups to increase the program's effectiveness.

These strategies have been selected to cope with the impact of tourism on the area waterways, local impacts on area watersheds and an increasing amount of redevelopment and impervious surface area within the Town limits. All of these have a significant affect on human health and the ecosystem. These outreach and education measures are intended to assist citizens in recognizing the connection between individual actions and the degradation of the area's water quality and the need for compliance with an established stormwater program.

A series of Best Management Practices (BMP), measurable goals and person(s) responsible are listed below:

- ***Regional Educational Cooperative***- Since the waters surrounding the Town of Wrightsville Beach are affected by several municipalities, a regional education cooperative plan has been established to provide stormwater education. The Stormwater Manager is responsible for the development, implementation and maintenance of this regional cooperative education plan and the establishment of educational partnerships with other local agencies. In addition to providing better educational products to a wider target audience, this regional approach also assists in lowering operating costs and increasing efficiency of the program.

- ***Educational Materials***- The Stormwater Manager is responsible for locating and assessing existing stormwater informational materials available through the internet and other local agencies. When particular information cannot be located, or when a specific need arises, the Manager will coordinate the design and publication of the educational material. Educational materials may include: annual stormwater newsletters, targeted direct mailings, signage, brochures, giveaways and local media releases.
- ***Public Service Announcements***- The Stormwater Manager will use Public Service Announcements (PSA) as needed as part of the education and outreach program. These PSAs may include: advertisement on local government television, newspaper

articles and other local area media. The target goal for using PSAs is disseminating information in two different media at least twice per year.

- ***Educational Curriculum***– Several target audiences may be reached through a variety of methods which include: presentations at Board of Alderman meetings, Wrightsville Beach Elementary School, Wrightsville Beach Garden Club, and community group meetings such as Kiwanis, Rotary or Lion's Club. The Stormwater Manager will coordinate these presentations with cooperative partners with a goal of one elementary school presentation and one community presentation per year..

- ***Hotline*** – A hotline is available for community members to provide comments and present stormwater issues. The hotline can assist in bolstering community education and involvement by making information more easily assessable and in turn make it easier for the public to recognize and report possible stormwater incidents and concerns to proper authorities.

- **Internet Website** –A stormwater information link is available on the Town of Wrightsville Beach website to provide pertinent information to the community. This website link may also help with community education and involvement by making information more easily assessable and, in turn, make it easier for the public to recognize and report possible stormwater incidents and concerns to proper authorities.

7.1.2. Public Education and Outreach Summary Table

Project	Person(s) Responsible	Goal	Yr
Regional Education Cooperative	Stormwater Manager	Establish regional cooperative or education partnerships.	1
	Stormwater Manager	Identify preexisting brochures and education materials. Determine if any additional materials should be created.	1
Education Materials	Stormwater Manager Planning Dept. Public Works Dept.	Distribute material; direct targeted mailing	1-5
	Stormwater Manager IT Specialist	Establish informational website and keep updated.	1-5
Public Service Announcements (PSA)	Stormwater Manager PIO	Develop and/or submit PSAs.	1-5
	Stormwater Manager	Establish program to track reach and frequency of media campaign	2
Educational Signs	Stormwater Manager	Identify locations to place signs.	3
	Public Works Dept.	Install 50% of signs	4
	Public Works Dept.	Install remainder of signs.	5
Education Opportunities	Stormwater Manager	Identify elements for local outreach (Public meetings, community events, etc)	1
	Stormwater Manager	Identify frequency of each outreach opportunity	1-5
Illicit Discharge Education Program	Stormwater Manager	Develop/obtain education materials for municipal workshops.	1
	Stormwater Manager Public Works Dept.	Hold annual workshop for municipal employees.	2-5
Construction Site Stormwater Education Program	Planning Dept.	Hold annual workshop covering different aspects of construction site stormwater control.	3-5

	Planning Dept.	Distribute annual newsletter to construction professionals	3-5

7.1.3. Cooperative Partners: There are a number of organizations that have agreed to partner with the Town of Wrightsville Beach in the implementation of the Town's Stormwater Management Plan. These partners include:

- ***Airlie Gardens-*** can assist in the education of school age children at Wrightsville Beach Elementary School.
- ***Chamber of Commerce-*** through its economic development and promotional campaigns, can help to shape the image and agenda of Wrightsville Beach and the surrounding community.
- ***City of Wilmington-*** has a very capable stormwater staff that can assist with the creation/location of educational materials and the delivery of presentations to community organizations.
- ***New Hanover County Soil and Water District-*** provides storm water management technical support and assistance with education and outreach development.
- ***North Carolina Cooperative Extension-*** provides easy access to the resources and expertise of NC State University and NC A&T State University. This organization can assist with the development of educational programs, publications, and events.
- ***Schools-*** Students residing in Wrightsville Beach and the vicinity will have the opportunity to positively affect stormwater programs and subsequently water quality on the whole.
- ***Surfrider-*** Through its local chapters, Surfrider promotes water quality issues and the conservation of coastal ecosystems through environmental education.
- ***Watershed Management Advisory Board (WMAB)-*** This board is comprised of New Hanover County commissioners, representatives from local municipalities, UNC-Wilmington, NC Extension and other NC State organizations.

7.1.4. Target Audience: The public education/outreach program is designed to target individuals and organizations within the community that will likely have the most significant impact on the stormwater of Wrightsville Beach and nearby communities. These include:

- ***Out-of-town Tourists-*** Tourism and its economic impact are critically important to the local economy of Wrightsville Beach. Tourism must be managed to maximize the positive economic benefit while preserving various resources such as water quality. Tourist education is essential to the successful implementation of a stormwater program.
- ***Day Trip Tourists-*** An often-overlooked component of tourism is the regional and local use of Wrightsville Beach as a day trip destination. This includes recreational users such as boaters, beachgoers, surfers, walkers/joggers; as well as shoppers and restaurant patrons.
- ***Small Business Owners-*** This group impacts water quality through actions such as waste handling and interaction with the public.
- ***City of Wilmington/New Hanover Co. Residents-*** It will be essential to include the surrounding community in any successful outreach effort. The shared interest and benefits of improved water quality make municipal and private cooperation essential.

- ***Community Organizations-*** Meetings with groups such as Wrightsville Beach Association, Kiwanis, Lions Club and the Rotary Club are excellent forums to reach active community members.

- ***Construction Companies-*** Because of the rapid pace of coastal re-development and the high potential for water quality degradation connected to improper site preparation, builders are important participants in the process.

- ***Property Owners-*** Participation in stormwater management by private and commercial property owners is key to the program's success.

7.1.5 Target Pollutant Sources:

The pollutant sources the Town will address include:

Trash: Trash and litter are obvious problems in the Wrightsville Beach waterways and necessitate constant public outreach and education efforts. Plastic and glass bottles, fast food wrappers, and cigarette butts are the most ubiquitous items of trash collected in stream clean up events. In addition to aesthetic impacts, trash also has an immediate influence on the storm drainage system, which can become easily clogged with trash and debris and result in street and property flooding. Trash is also a serious threat to local wildlife, which can easily mistake trash for food, ingesting it to their detriment.

Car Washing: Washing vehicles on driveways and other impervious surfaces are a common practice in Wrightsville Beach. This practice sends soaps, toxins, and other chemicals down storm drains and into the local waterways. Toxins in car washing soaps, such as phosphates, can contribute to algal blooms and depletion of dissolved oxygen which can kill fish and other aquatic life. The Wrightsville Beach Zoning Ordinance does not allow commercial car washes. Ongoing outreach and education efforts are needed to encourage citizens to wash vehicles on grass area or to patronize a commercial car wash outside of the Town's limits in order to protect water quality.

Disposal of household chemicals and used oil: Dumping household hazardous chemicals, cleaners, grease, and automobile fluids into storm drains or ditches are activities that have occurred in Wrightsville Beach. Dumping these materials can result in waterways with high levels of pollutants including: heavy metals, toxins, oil, grease, solvents, and nutrients. Elevated pollutant levels seriously degrade water quality and threaten aquatic life, wildlife, and human health. Outreach efforts will focus on educating the public about the proper disposal methods of hazardous materials and the impacts of dumping them into storm drains or ditches.

Application of lawn care products: In Wrightsville Beach, the application of fertilizers and pesticides is a common practice, particularly by lawn care companies and single-family households in the spring. Outreach efforts continue to focus on educating the public that fertilizers contain nutrients, which, in excess, can wash into area waterways and result in lower dissolved oxygen levels, excessive weed and algae growth, and impaired aquatic habitat. Education efforts also encourage the use of soil testing kits to determine specific lawn nutrient needs and on saving the consumer money by spending less on unnecessary fertilization.

Other (Pet Waste): Pathogens in uncollected pet waste are a threat to human health, aquatic life, and water quality. Certain bacteria, parasites, and viruses found in pet waste can be transmitted to other animals and people, especially children. Pathogens in pet waste can contribute to shellfish area closings, degraded water quality for recreational resources, and human health risks. Pet waste also contains nutrients that encourage weed and algae growth in water. This nutrient rich water becomes cloudy, green, unattractive, and unhealthy for recreational activities such as swimming, boating, and fishing. Continuous outreach and education efforts are extremely important to combat this health hazard and water pollutant.

7.1.6. Program Evaluation:

Project	Evaluation Measure
Regional Education Cooperative	⇒ Number of agencies contacted in order to set up regional cooperative/educational partnerships to accomplish educational goals (yr 1) ⇒ ratio of agencies willing to work together in regional cooperative/educational partnerships compared to the total number contacted (yr 1)
Education Materials	⇒ Number of brochures and materials developed/located (yr 2) ⇒ % of direct mailings that contain educational materials as compared to the total number of utility bills distributed (yrs 2-5) ⇒ % of businesses that receive educational brochures and materials as compared to the total number of business located on the island (yrs 2-5) ⇒ Number of internet viewers signing onto informational website (yrs 2-5)
Public Service Announcements (PSA)	⇒ Number of PSA's created (yrs 1-5) ⇒ Number of PSA's run (yrs 1-5) ⇒ Number of news articles (yrs 1-5)
Educational Signs	⇒ Number of locations identified for educational signs (yr 3) ⇒ Number of educational signs created (yrs 3-5) ⇒ Number of educational signs posted (yrs 3-5)
Educational Curriculum	⇒ Number of community events held (yrs 4-5) ⇒ Number of persons reached (yrs 4-5)
Illicit Discharge Education Program	⇒ ratio of municipal employees in attendance at work shops compared to the total number of municipal employees (yrs 2-5)
Construction Site Stormwater Education Program	⇒ Number of participants in each workshop (yrs 2-5) ⇒ Number of newsletters distributed (yrs 3-5)

7.2. Public Involvement and Participation

7.2.1. Participation Program: The EPA mandates that municipalities must incorporate public participation and involvement components into the stormwater program development. Involving the public serves not only increase awareness, but also increases feelings of ownership in the program and fosters future coalitions between various groups. The following measures are necessary to involve the public in the improvement of the stormwater management program:

7.2.3.1. Stormwater Hotline: The hotline serves as an immediate gateway for citizens to be involved in the stormwater program. Developing a stormwater hotline and internet link to enable citizens to easily access information or communicate questions and concerns about water quality or stormwater.

7.2.3.2. Suggestion Program: This program provides residents with an opportunity to suggest changes for the stormwater program. This program utilizes a stormwater website and suggestion forms for citizen input

7.2.3.3. Public Comment: Conduct a bi-annual public comment period to solicit public input for changes to Stormwater Program.

7.2.3.4. Beach/Water Clean Up: Conduct bi-annual beach and water clean ups in conjunction with regional cooperative partners to involve the local citizens.

7.2.3.5. "Green Yard" Programs: Work to involve Wrightsville Beach residents in creating and establishing this program to educate and involve citizens in environmentally friendly methods for lawn care and maintenance.

7.2.3.6. Beachfront Protection: Work with oceanfront property owners to encourage the planting of protective vegetation.

7.2.3.7. Pet Waste Cleanup: Continue to work with local residents and tourists to clean up after their pets. Supplement the local ordinance with educational brochures and "pet waste cleanup bags" to keep the beach users actively involved in pet waste management.

7.2.2. Public Involvement and Participation BMP Summary Table

Project	Person(s) Responsible	Goal	Yr
Green Yard Program	Stormwater Manager Local Program Chapter	Create Green Yard Program or partner with existing program, advertise at garden centers, public places and in newspapers.	2
Stormwater Hotline	Stormwater Manager	Implement and advertise hotline.	2-5
Suggestion Program	Stormwater Manager	Establish a community suggestion program	2
	Stormwater Manager	Chair periodic information session	4
	Stormwater Manager	Include suggestion forms in utility bills, hotel rooms, etc.	3
Ocean Front Development Standards	Planning Dept.	Sand fences shall be required for the trapping of sand and, by nature of construction and vegetation is encouraged in Shore Line Development Boundary vegetation installation and restoration	2
Public Comment	Stormwater Manager	Implement a bi-annual public comment period for the revision of the stormwater plan	3,5
Water Clean Ups	Stormwater Manager	Identify groups to partner with and identify clean up sites	1
	Stormwater Manager	Work with NC State Cooperative Extinction in the harvesting and planting of natural vegetation	3
	Stormwater Manager Program volunteers	Hold 2 clean ups annually	1-5
	Stormwater Manager Program volunteers	Involve 30 volunteers and remove 75 bags of trash/clean up.	3
	Stormwater Manager Program volunteers	Involve 75 volunteers and remove 150 bags of trash/clean up.	5

7.2.3. Target Audience: The public involvement and participation program is an essential component of comprehensive stormwater management. This program is intended to reach all beach users, local businesses and tourists.

7.2.4. Evaluation:

Project	Evaluation Measure
Stormwater Hotline	⇒ Implementation of stormwater hotline (yr 2) ⇒ number of calls received compared to total target audience population (yrs 2-5) ⇒ number of complaints compared to total number of calls received (yrs 2-5)
Suggestion Program	⇒ Total number of suggestions received via suggestion forms ⇒ Total number of suggestions via the website
Water Clean Ups	⇒ Number of groups identified in order to partner with and identify clean up sites (yr 1) ⇒ Number of groups contacted in order to partner with and identify clean up sites (yr 1) ⇒ % of groups contacted that are willing to partner with and identify clean up sites (yrs 1-5) ⇒ Number of clean ups held annually (yrs 1-5) ⇒ Number of volunteers involved (yrs 1-5) ⇒ Number of bags of trash collected (yrs 1-5)
Green Yard Program	⇒ Number of advertisements placed at garden centers, public places and newspapers (yr 2) ⇒ Number of participants in attendance at information sessions about the Green Yard Program (yr 3) ⇒ Number of participates that have completed the Green Yard Program (yr 5)
Pet Waste Management	⇒ Number of waste collection bags used per year (yrs 2-5) ⇒ % of pet shops, vets, parks, and beaches given educational brochures as compared to the overall number of total pet shops, vets, parks and beaches (yrs 2-5)
Ocean Front Development Standards	⇒ % of properties/locations with sand fences (yr 2) ⇒ Number of natural vegetation harvested and planted (yr 3)

7.3 Illicit Discharge and Elimination

7.3.1. Illicit discharges can be a significant contributor to stormwater pollution even after all other aspects of the stormwater management program have been successfully implemented. Illegal sanitary sewer hook ups or leaks can be extremely devastating to the preservation of high water quality standards for shell fishing and recreation.

The formation of the Illicit Discharge Detection and Elimination for Municipal Operations program and the strategies selected are deemed necessary for municipal activities including: developing a storm sewer system map, regulatory mechanisms, enforcement and detection and elimination of illicit discharges as well as defined Best Management Practices. These measures assist the Town of Wrightsville Beach in recognizing the connection between individual actions on the area's water quality and assist citizens in realizing the need for an established stormwater program.

7.3.2. Illicit Discharge and Elimination BMP Summary Table:

Project	Person(s) Responsible	Goal	Year
Illicit Discharge Detection Program	Public Works Director	Adopt Illicit Discharge Detection Ordinance.	1
	Stormwater Manager	Complete map and conduct initial shoreline surveys of stormwater drainage system.	1-2
	Stormwater Manager	Prioritize areas for further inspection.	2
	Stormwater Manager	Conduct detailed inspection and repair illicit discharges (2 priority areas/yr).	3-5
	Stormwater Manager	Conduct annual assessment of program.	1-5
	Stormwater Manager	Implement regular shoreline survey program to update maps and check up on priority areas.	2-5
	Stormwater Manager	Establish procedures for detecting and tracing sources	3
	Stormwater Manager	Conduct training for municipal employees to detect and report illicit discharges	3
Illegal Dumping Program	Public Works	Adopt illegal dumping ordinance.	1
	Public Works	Establish illegal dumping enforcement program.	2
	Public Works	75% reduction in illegal dumping.	5
Public Education	Stormwater Manager	Implement program to inform businesses and public	4
MS4 Mapping	Stormwater Manager	Obtain map of all storm drains in MS4.	1
	Stormwater Manager	Maintain map database	1-5
Storm Drain Stenciling Program	Planning Dept.	Stencil 25% of MS4's storm drains/yr.	2-5

7.3.2. Storm Sewer Map: The storm sewer map data are maintained in the Public Works GIS files and include: pipe inlets, pipe outlets, catch basins and manholes. The layers used for

MS4 maps are updated semi-annually or at other times as required. The current maps attached represent over 95% of the storm sewer system within the Town.

7.3.3. Regulatory Mechanism: An important component of the regulatory mechanism is the Pet Waste Control Ordinance that is enforced by Animal Control. Anyone within the Town limits who does not have on their person the means to cleanup after their pet can be charged under the Town's civil penalty process. A second component is the ordinance making it illegal for any individual, group, or business to dispose of waste (solid or liquid) in unauthorized locations, especially in or around a water body or into a storm drain. The ordinance includes yard debris, such as leaves and grass trimmings. The final component is an Illicit Discharge Detection Ordinance to provide illicit discharge detection teams legal authority to access private property to conduct site inspections. The ordinance outlines the legal responsibility of the different parties to repair the illicit discharges and include language requiring dye or smoke tests before the sale of a building.

7.3.4. Enforcement: The Illicit Discharge Detection Program will be assessed bi-annually. Priority sites and/or investigation procedures used will be modified to more effectively meet program goals and requirements of the NPDES Phase II permit. Sites where illicit discharges have been identified will be monitored a minimum of once per quarter for one year to ensure that identified problems have been corrected. In addition, a staggered, five-year shoreline survey monitoring schedule has been developed for all shorelines within the MS4's jurisdiction.

7.3.5. Detection and Elimination:

7.3.5.1. Sanitary Sewer Leaks. The Town of Wrightsville Beach eliminated storm sewer/sanitary sewer interconnections. Sanitary sewer pump stations are equipped with high-level alarm systems that include visual and audible annuniciators. These alarm systems are tested on a weekly basis. Pump stations are equipped with flow meters that will be integrated into the SCADA system to provide notification of abnormal flow variations. The Town has, by ordinance, prohibited septic tank systems for more than 25 years. Sanitary sewer forcemains that are routed over recreational waters are inspected to verify line condition. In addition, five specific points have been selected for sampling bacterial levels in the recreational waters around the Town of Wrightsville Beach; the boat ramp area at the Intracoastal Waterway, Hwy 74 near the Scotch Man, Wynn Plaza municipal boat docks, the Coast Guard Station at the south end of Wrightsville Beach and the waters immediately south of Johnnie Mercer's Pier. These tests are used to establish background levels and identify areas in need of additional testing or investigation. If an area of concern is found, additional testing will be used to trace the contamination back to the source area.

In the event of petroleum contamination, visual methods such as oil sheen will be used to trace the contamination back to its source. Visual methods will also be used for other types of contamination such as paint spills and dumps. With any of the above methods, when a source of contamination is identified, the procedures outlined in the proposed ordinances will be the mechanism of enforcement.

Procedures for locating priority areas or ambient sampling to locate impacted reaches will include: developing a storm sewer system map, showing the location of all outfalls and the names and locations of all waters of the United States that receive discharges from those outfalls. The map will depict the location of all stormwater outfalls including pipes, swales, parking lots, or other structures that funnel stormwater to waterways. The names and DWQ water classification (SA, SB, SC) for the water bodies receiving stormwater outfalls will also be included. The size and type of the stormwater discharge is described as well as the quantity of water typically flowing from the discharge area, if any.

7.3.5.2. **Other Discharges**. Discharge water from potential illicit outfalls will be tested for fecal coliform, ammonia and other contaminants. Water temperature will also be recorded. If water quality tests indicate an improper discharge does exist, smoke and/or dye tests will be used to determine which building(s) are connected to the discharge pipe and determine if any leaks or improper sewer hook-ups exist or if illegal dumping has occurred. Closed circuit television cameras may also be used to trace storm water pipes to detect improper hook-ups. The land surrounding suspected illicit discharge areas will be surveyed for evidence of illegal dumping or other potential ground contaminating activities such as gas stations, roadways, farms, or bird roosts that may also contribute to storm water pollution.

7.3.5.3. Calls received on the Strom Water Hotline will be prioritized for further investigations. Areas with the highest concentration of suspected discharges to SA/ORW waters approved for shell fishing or 303(d) listed waters will be addressed first, followed by outfalls to other SA, SB, and finally SC waters. Once an illegal hook-up or discharge is detected, building owners will be sent a letter informing them of the violation, instructions to correct the problem, and educational material about illicit discharges and their impacts on water quality. Individuals that fail to address the illicit discharge will be fined accordingly. Additionally, a Stormwater Ordinance will be adopted to provide right of access, enforcement and removal procedures. This ordinance will implement the use of a dated notice explaining the violation, a plan for satisfactory correction within an appropriate timeframe. The responsible party will then notify appropriate authorities upon correction of the problem.

7.3.6. Non Stormwater Discharges: There are no current non-stormwater discharges that are significant contributors of pollutants to our MS4.

7.3.7. Outreach: As part of the Public Education and Public Outreach Program, the general public, local businesses and community organizations will receive information and materials regarding Illicit Discharge Elimination. This information includes; (1) what constitutes an illicit discharge, (2) how these discharges effect water quality, (3) how to recognize indicators of an illicit discharge and (4) how to report possible illicit discharges to authorities.

Public employees will receive training regarding Illicit Discharge Elimination under the Pollution Prevention/Good Housekeeping Program. This program will teach BMPs regarding fleet and facilities maintenance, construction and other municipal activities.

7.3.8. Evaluation:

Project	Evaluation Measure
Illicit Discharge Detection Program	⇒ Adoption of Illicit Discharge Detection Ordinance (yr 1) ⇒ Number of Illicit Discharge violations (yrs 1-5) ⇒ Number of areas identified and prioritized as areas for further inspection (yr 2) ⇒ Number of detailed inspections completed (yrs 3-5) ⇒ Number of repairs completed (yrs 3-5) ⇒ Annual assessment conducted (yrs 1-5)
Illegal Dumping Program	⇒ Passage of Illegal Dumping Ordinance (yr 1) ⇒ Number of violations (yrs 2-5) ⇒ % of reduction in illegal dumping (yr 5)
Storm Drain Stenciling Program	⇒ Map obtained of all storm drains in MS4 (yr 1) ⇒ % of drains stenciled (yr 1)

7.4 Construction Site Stormwater Runoff Control

The Town of Wrightsville Beach relies on the New Hanover County's Erosion and Sediment Control Program and the DWQ general stormwater permit construction activities to meet construction site stormwater runoff requirements.

7.5. Post Construction Stormwater Site Runoff Controls

7.5.1. The post-construction stormwater management program for new development and redevelopment is designed to address all construction sites in the Town's jurisdiction, regardless of property size. Due to the immediate proximity of all potential development sights to important water resources and the lack of available area to construct larger structural measures such as detention ponds, The Town's policy is to:

1. Reduce the sources of stormwater discharges.
2. Mitigate which stormwater discharges that cannot be eliminated through impervious surface reduction and other BMPs.
3. Treat the stormwater that is not able to be retained to improve the quality of the water.

7.5.2. Post Construction Stormwater Management in New Development and Redevelopment BMP Summary Table:

Project	Person(s) Responsible	Goal	Year
Post-Construction Stormwater Watershed Management Strategy	Stormwater Manager	Adopt post-construction stormwater ordinance.	2
	Stormwater Manager	Begin implementation of plan.	2
Land Use Plan	Planning Department	Calculate current and projected future impervious surface coverage within each 6th order sub watershed.	1
	Planning Department	Update CAMA Land Use Plan.	3-5
	Planning Department	Change relevant master plans and zoning regulations to achieve targeted impervious surface goals.	2-3
	Planning Department	Set boundaries for infrastructure development.	3
Stormwater System Maintenance Program	Stormwater Manager	Develop inspection program for public and private systems.	2
	Stormwater Manager	Inspect 100% of stormwater permit sites/yr.	2
Pervious Surface Management Plan	Planning Department	Develop pervious surface management plan.	2 4
	Planning Department	Adopt local landscaping ordinance.	5
	Stormwater Manager	Map Pervious and impervious surfaces	5
Preserve/ Enhance Wetlands	Planning Department	Obtain map of existing wetlands within MS4 jurisdiction.	2
	Planning Department	Adopt wetlands preservation ordinance.	3

7.5.3. Construction Projects: The Town of Wrightsville Beach requires stormwater control measures to be implemented which:

(I) Require all Structural stormwater treatment systems used to be designed to have 90% average annual removal for Total Suspended Solids;

(II) Require the structural stormwater management systems will control and treat the first 1 ½ inches of rain;

(III) Comply with General Engineering Design Criteria for all projects in accordance with 15A NCAC 02H.1008 (c);

(IV) Require recorded deed restrictions and protective covenants to ensure that development activities maintain the development consistent with the approved project plans.

7.5.4. The Town of Wrightsville Beach stormwater plan includes an operation and maintenance component which ensures adequate long-term operation of the structural BMP's as required by the program. A protocol of standards for structural controls has been developed and implemented through an approved Design Manual which complements the Town ordinance. The program also includes a requirement that the owner of a permitted structural BMP allow a qualified professional to conduct annual maintenance inspections for each structural BMP permitted. .

7.5.5. The Town of Wrightsville Beach continues to develop a program to control, to the maximum extent practicable, the sources of fecal coliform. This program includes development and implementation of an oversight program to ensure proper operation and maintenance of on-site wastewater treatment systems for domestic wastewater. This oversight is primarily conducted through the review of plans and documentation of data through a technical review committee (TRC) comprised of various staff members and outside agencies.

7.5.6. In order to maintain SA water quality, the Town has implemented:

7.5.6.1. Local ordinances requiring BMP's for reducing fecal coliform loading where applicable. The best management practices attempt, to the maximum extent practicable, to provide the highest degree of fecal die off and control for sources of fecal coliform;

7.5.6.2. A pet waste management program.

7.5.6.3. Prohibitions against allowing new direct points of stormwater discharge into SA waters or expansion of existing points of discharge to any constructed stormwater conveyance system which discharges to SA waters. Expansion is defines as an increase in drainage area resulting in a net increase in peak flow or volume from the 1 year/24 hour storm. Overland sheetflow of stormwater or stormwater discharge to a wetland vegetated buffer or other natural area capable of providing treatment or absorption is not considered a direct point of stormwater discharge.

7.5.7. Non- Structural BMPs: The Town has implemented a series of non-structural BMPs to help reduce the quantity and increase the quality of stormwater discharge. These include:

- The development of a comprehensive post-construction stormwater strategy. The strategy seeks to maintain designated water uses, protect shellfish beds, primary nursery areas, and other areas of environmental concern by reducing bacteria, sediment and nutrient loading, minimizing stormwater impacts on wetlands, and preventing excessive flooding from 10 year storm events by relying heavily on good land use planning.
- The Town updates relevant zoning and planning regulations to achieve the targeted impervious surface and other land preservation goals within each sub-watershed class. The modifications and new ordinances are intended to ensure that development is targeted for the most appropriate areas within each sub-watershed class and away from identified critical or sensitive areas such as shellfish beds, primary nursery habitats, and wetlands.
- The implementation of a stormwater inspection program
- The implementation of a stormwater utility fee.

- The implementation of a pervious surface management plan. An attempt is made to maximize the amount of "high quality" pervious surfaces and reduce the number of areas that must be irrigated and/or treated with fertilizers, pesticides and herbicides.
- Wetland preservation and enhancement includes efforts to map existing Town wetlands and subsequently develop ordinances to protect these resources.
- Identification and prioritization of intact riparian buffers. Potential funding sources for future acquisition will be identified.

As part of the Public Education and Outreach Program, various entities including: local lawn care and garden stores, construction and landscape companies, municipal government employees, area residents and others will receive information regarding these activities.

7.5.8. Structural BMPs: A combined approach to stormwater control, which employs several different BMPs in a series, can enhance runoff attenuation and pollutant. Because Wrightsville Beach is primarily a barrier beach with a shallow water table, many common structural BMPs including wet detention ponds and grass swales, are not appropriate in all areas. The most common BMPs that meet engineering standards are included in the Town's Stormwater Design Manual.

7.5.9. Regulatory Mechanism: The Town's Stormwater Manager will inspect structural stormwater systems at least once annually. The Stormwater Manager will examine the sites for compliance within their stormwater permit and operation and maintenance requirements. Inspectors will examine the sites for compliance with their stormwater permit and operation and maintenance requirements. For non-compliance or poor compliance with any portion of the stormwater permit, inspectors will coordinate with the appropriate state and local officials to enforce compliance standards. A notice of non-compliance will be issued to the party responsible for the system. If the problem has not been remedied in a suitable amount of time, a notice of violation will be issued and appropriate fines levied

7.5.14. Evaluation:

	Evaluation Measures
Post – Construction Stormwater Watershed Management Strategy	⇒ Passage of stormwater ordinance (yr 2) ⇒ Number of violations due to the implementation and enforcement of stormwater ordinance (yrs 2-5)
Stormwater System Maintenance Program	⇒ Development of Stormwater System Maintenance Program (yr 2) ⇒ % of stormwater permit sites inspected as compared to the total number of stormwater permit sites (yrs 3-5) ⇒ Number of violations due to stormwater maintenance program (yrs 3-5)
Stormwater Utility	⇒ Completion of Stormwater Utility (yr 1)
Pervious Surface Management Plan	⇒ Creation of pervious surface management plan (yr 4) ⇒ Passage or denial of local landscaping ordinance (yr 5) ⇒ Number of violations due to landscaping ordinance (yr 5)

7.6. Pollution Prevention / Good Housekeeping for Municipal Operations

7.6.1. The Pollution Prevention/Good Housekeeping for Municipal Operations program include: training, maintenance and inspection, vehicular operations, waste disposal and flood management projects. Not only do these measures assist municipal employees in recognizing the connection between individual actions on the area's water quality, but also assists citizens in realizing the need for an established stormwater program

7.6.2. Pollution Prevention/ Good Housekeeping for Municipal Operations BMP Summary Table:

Project	Person(s) Responsible	Goal	Year
Pollution Prevention Plan	Public Works	Develop Pollution Prevention Plan.	2
	Public Works	Hold 2 training workshops/yr on pollution prevention for municipal employees.	2-5
	Public Works	Implement and enforce stormwater control maintenance and hazardous materials storage requirements.	2-5
	Public Works	Procedures in place for catch basin cleaning and regular street and parking lot sweeping.	2
	Public Works	30% reduction in pesticide and fertilizer use.	5
	Public Works	80% compliance rate with BMP maintenance schedules.	5
Spill Response Procedures	Public Works	Continue to update spill response training	2-5
Vehicle & Equipment Cleaning	Public Works	Conduct an annual review of cleaning procedures and standards	2-5

7.6.3. Affected Operations: Water & Sewer, Sanitation, Fleet Maintenance, Facilities Maintenance, Public Works Administration

7.6.4. Training: Water & Sewer; Pacific-Tek manual/video for vacuum operation; vendor supplied courses for operation of pipeline inspection system and hydraulic line cleaning machine. This division is the primary workforce for cleaning, line repair operations, inspection and illicit connection/discharge of the stormwater system. Sanitation, spill control & containment training is provided by the Fleet Maintenance Supervisor. This division provides initial spill control for its operations.

Fleet Maintenance: Conduct an annual 8-hour refresher course for spill control & containment. This division provides limited spill control & containment operations for the Public Works Department and, to a small extent, other departments of the Town. Spill control & containment operations are limited to gas, diesel, oil and similar petroleum products. This division is not a HAZMAT unit. Those operations would be coordinated through the City of Wilmington and Hew Hanover County.

Facilities Maintenance: ITRE provides a Roads Scholar Program that includes classes on storm drainage concepts, design and installation. This department is the primary workforce for catch basin repairs.

7.6.5. Maintenance & Inspections: Through the use of the scheduling component of the Public Works Work Order System, storm drain maintenance and inspection work orders are automatically generated for the Town's system on an area-by-area basis. Work orders are also created on demand in those areas where high volumes of rainfall have caused the screens of storm drain system to become blocked with floatable debris. Pilot programs are under development to further enhance

screens at the entry points to the drainage system. Other modifications would involve hydrocarbon-absorbent materials that are placed within the catch basin.

7.6.6. Vehicular Operations: Vehicle washing is performed at the Public Works Vehicle Wash Facility, which is equipped with an oil/water separator or in a grassy depression that contains the wash water. Vehicles carrying large hydraulic oil volumes have been modified to carry spill control/containment materials. All vehicles are scheduled for annual and semi-annual inspections to check for leaking or damaged components. Municipal parking areas primarily discharge to grassy swales or detention areas. Screens that trap a majority of floatable material protect those areas that discharge into storm drain systems.

7.6.7. Waste Disposal: Waste disposal procedures exist for three primary types of wastes handled by the Public works Department (excluding garbage, trash and yard waste). Those types are: sanitary sewer wastes, storm drain wastes and petroleum-contaminated materials.

- Currently, sanitary sewer wastes are sent to the City of Wilmington Northside Wastewater Treatment Plant for dewatering and testing for hazardous material contamination. Upon completion of dewatering, they are sent to New Hanover County for landfill disposal.

- Storm drain wastes are primarily comprised of sand swept from roadways, parking lots and catch basin accumulations. These non-hazardous materials are collected at the Public Works facility until disposal at the New Hanover County landfill.

- Soil and spill cleanup materials are typically contaminated by oils and fuel. Once collected by Public Works personnel, small quantities spill control materials are sent to Safety Kleen for proper disposal coordinated through an annual contractual agreement. Contaminated soils are either collected by Public Works personnel or, in the event of a large spill, Southeast Response and Remediation. Final disposal of these materials is arranged by Southeast Response and Remediation.

Under development are two additional waste control methods; installation of oil/water separator for the Fleet Maintenance parking area and the creation of a debris drying facility for sanitary wastes to eliminate the need to send all such wastes to the City of Wilmington for treatment. Dredge spoil is deposited in the Public Works facility work area near other short-term items such as clean yard trash, C&D from municipal operations and appliances. After a drying period, the dredge spoil is available for use as fill in needed areas.

7.6.8. Flood Management Projects: The primary flood events for this area are not rainfall events, but larger storms such as hurricanes. Therefore, the main flood control project for the town is the Berm & Dune Structure located on the eastern side of the main island and extending from the south end to the 1800 block of N Lumina. This structure is jointly maintained by the Town of Wrightsville Beach, New Hanover County, the State of North Carolina and the US Army corps of Engineers with the assistance of federal funding.

7.6.9. Existing Ordinances: Develop attainable goals; select processes and requirements to meet goals; review existing ordinances relating to Water, Sewer, Sanitation, Planning. Determine if new processes and requirements are applicable within the existing ordinances. If not, propose required changes to the ordinance(s)

7.6.9 Other Evaluations: All operations at Public Works are routinely reviewed to determine consistency with the changing environmental requirements and evolving technologies. The review takes place free of external pressure.

7.6.10. Evaluation:

Project	Evaluation Measure
Pollution Prevention Plan	⇒ Number of training workshops held on pollution prevention for municipal employees (yrs 2-5) ⇒ Number of employees in attendance at training workshops on pollution prevention as compared to total number of municipal employees (yrs 2-5) ⇒ Number of violations in conjunction with the enforcement of the stormwater control maintenance and hazardous materials storage requirements (yrs 2-5) ⇒ % Reduction in pesticide and fertilizer use as compared to previous years usage (yr 5) ⇒ % Compliance rate with BMP maintenance schedule (yr 5)
Pollution Prevention Ordinance	⇒ Passage of Pollution Prevention Ordinance (yr 2) ⇒ Number of violations due to Pollution Prevention Ordinance (yrs 2-5)