

**NPDES PHASE I
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
PERMITTING
RESOURCE MANUAL**



NPDES Stormwater Program
Division of Water Resource Management
Tallahassee, Florida

FINAL APRIL 30, 2012 Version

DOCUMENT HISTORY AND REVISIONS

DATE	CHAPTER	REVISION
July 18, 2011		Original final document sent to MS4 community
August 17, 2011		Revised all tables and figures to be ADA compliant. Corrected reporting requirement for Component 2 Redevelopment activities
August 18, 2011	11 Annual Reports	Included ftp site URL for submittal of ARs electronically
August 25, 2011	6 – Herbicides, Fertilizer education 7.c – Refresher training	Added discussion of evaluating education program effectiveness Added discussion on refresher training
September October 2011	6 – Herbicides, Fertilize Part V – Monitoring Part VIII – TMDLs	Added question and answer about whether applicators regulated by new NPDES pesticide GP should be reported Revised EMC Table to update with additional data and labeled columns Added questions from MS4 community and responses
November – December 2011	8 High Risk Industrial Facilities monitoring	Added several pages on parameters appropriate to monitor
Jan-May 2012	9 – Construction permitting Part V – Monitoring Part VIII TMDLs	Added alternative for checking on whether ERP and CGP have been obtained EMC Table revised and completed Updated web link to EPA Query Tool Updated QA on outfall monitoring

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INTRODUCTION

This resource manual has been produced to provide NPDES Municipal Separate Storm Sewer System (MS4) permittees in Florida with additional information and resources to assist them in interpreting and meeting their permit requirements. While it primarily addresses the requirements of the third cycle of Phase I MS4 permits, Phase II MS4 permittees also will find it useful. **This manual does not establish any new regulatory requirements or supersede any regulations or facility specific permit conditions.** Regulatory requirements for NPDES MS4 permits are set forth in Chapter 62-624, F.A.C. based on the legal authority established in Section 403.0885, Florida Statutes, and in Section 402(p) of the Federal Clean Water Act (FCWA).

For this manual to provide maximum benefits to the MS4 community, it needs:

- To be a “living document” that is revised regularly
- To include contributions from the MS4 community so that the information is useful to permittees in meeting their permit requirements.
- To include useful information that can be used to improve stormwater management

It is for this reason that the manual has a “DRAFT” watermark – it is an evolving document that is revised with assistance from the MS4s. We hope that the MS4 community will help to “take ownership” of this document by providing DEP staff with examples of ordinances, written plans, SOPs, inspection checklists, training materials, etc. We will then incorporate these materials into subsequent revisions and make them available online.

Section 402(p), adopted in 1987 amendments to the FCWA, establishes the National Pollutant Discharge Elimination System (NPDES) Stormwater Program which regulates stormwater discharges from three potential sources: municipal separate storm sewer systems (MS4s), construction activities, and industrial activities. These stormwater discharges are considered point sources under Federal law, and operators of these sources may be required to receive an NPDES permit before they can discharge. This permitting mechanism is designed to reduce the impact of stormwater runoff in washing harmful pollutants into local surface waters such as streams, rivers, lakes or coastal waters.

The NPDES Stormwater Program covers the following types of stormwater discharges:

- [MS4s](#) - Operators of large, medium and regulated small MS4s may be required to obtain authorization to discharge stormwater from their “master stormwater system.”
- [Construction Activities](#) - Operators of construction sites that are one acre or larger (including smaller sites that are part of a larger common plan of development) may be required to obtain authorization to discharge stormwater under an NPDES construction stormwater permit. Florida has adopted a [generic permit](#) for both large (> 5 acres) and small construction sites. This permit is in addition to a state Environmental Resource permit.
- [Industrial Activities](#) - Industrial sectors may require authorization under an NPDES industrial stormwater permit for stormwater discharges. Florida has adopted a [Multi-Sector Generic Permit](#) which establishes the requirements for operators of these stormwater discharges.

PHASE 1 AND PHASE 2 MS4 PERMITS

Phase 1 MS4s

A municipal separate storm sewer system (MS4) is defined as a conveyance or system of conveyances (like roads with stormwater systems, municipal streets, catch basins, curbs, gutters, ditches, constructed channels, or storm drains) that is designed or used for collecting or conveying stormwater, that discharges to waters of the United States, and is:

- (a) Owned or operated by a State, city, town, county, special district, association, or other public body (created by or pursuant to State Law) having jurisdiction over management and discharge of stormwater and which discharges to surface waters of the state;
- (b) Designed or used for collecting or conveying stormwater;
- (c) Which is not a combined sewer; and
- (d) Which is not part of a Publicly Owned Treatment Works (POTW). POTW means any device or system used in the treatment of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality." This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment. An MS4 can be operated by municipalities, counties, drainage districts, colleges, military bases, or prisons, to name a few examples.

By definition, the components of an MS4 system do not include waters of the United States. Instead, the MS4 ultimately discharges into such waters.

The FCWA establishes two types of MS4 permits - Phase 1 and Phase 2. Phase I rules were adopted by EPA in 1990 and address discharges of stormwater runoff from "medium" and "large" MS4s. All Phase I large and medium MS4s were previously designated by EPA, based on the total population within the geo-political boundaries of the municipalities:

- A **large MS4** is any MS4 that is located in an incorporated place or county with a population of 250,000 or greater.
- A **medium MS4** is any MS4 that is located in an incorporated place or county with a population between 100,000 and 249,999.

In addition, other MS4s located in areas with populations below 100,000 can also be designated and brought into the program as Phase I MS4s by EPA. In Florida, this was done extensively at the beginning of the program since most municipal stormwater systems within Florida are interconnected resulting in a large number of co-permittees for most of the Phase 1 MS4 permits (**Appendix A, Table 1**). Chapter [62-624](#), F.A.C. establishes the permitting requirements for MS4s within Florida. There are 14 primary components of a Phase 1 MS4 permit (**Table 1**). In addition, all permittees must address legal authorities and financial and other resources needed to implement the program.

Phase 2 MS4s

Under Phase II, the program regulates discharges from certain MS4s not regulated under Phase I. EPA adopted the Phase 2 rules in 1999 and Florida regulates them through Chapter 62-624, F.A.C. and through a generic permit. Specifically, the Generic Permit for Stormwater Discharge from Phase II MS4s, [Rule 62-621.300\(7\)\(a\)](#), F.A.C. Phase 2 MS4 permittees include those that were automatically designated based on population criteria and those that are designated by DEP based on the designation criteria in Chapter 62-624 (**Appendix A, Table 2**). Phase II MS4s include all MS4s not regulated under Phase I as either medium or large MS4s. This includes federally-operated systems which were not included in the Phase I large and medium MS4 definitions, and therefore, were not previously regulated. Regulated MS4 operators must obtain an NPDES stormwater permit and implement a stormwater management program consisting of six components (**Table 2**) to reduce the contamination of stormwater runoff and prohibit illicit discharges to the MS4. In addition, the regulations require all permittees

to address legal authorities and financial and other resources needed to implement the program.

REQUIRED PROGRAM ELEMENT	REGULATORY REFERENCES
Operation and maintenance of structural controls.	40 CFR§122.26(d)(2)(iv)(A)(1)

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Table 1. Components of the Phase 1 MS4 permit

Control of discharges from areas of new development and significant redevelopment.	40 CFR§122.26(d)(2)(iv)(A)(2)
Operation and maintenance of public streets, roads, and highways.	40 CFR§122.26(d)(2)(iv)(A)(3)
Ensure that flood control projects consider water quality impacts.	40 CFR§122.26(d)(2)(iv)(A)(4)
Identification, monitoring, and control of discharges from municipal waste treatment, storage, or disposal facilities.	40 CFR§122.26(d)(2)(iv)(A)(5)
Control of pollutants related to application of pesticides, herbicides, and fertilizers.	40 CFR§122.26(d)(2)(iv)(A)(6)
Implementation of an inspection program to enforce ordinances which prohibit illicit connections and illegal dumping into the MS4.	40 CFR§122.26(d)(2)(iv)(B)(1)
Field screening the MS4 for illicit connections and illegal dumping.	40 CFR§122.26(d)(2)(iv)(B)(2)
Implementation of standard investigative procedures to identify and terminate sources of illicit connections or discharges.	40 CFR§122.26(d)(2)(iv)(B)(3)
Prevention, containment, and response to spills that may discharge into the MS4.	40 CFR§122.26(d)(2)(iv)(B)(4)
Limit the infiltration of sanitary seepage into the MS4.	40 CFR§122.26(d)(2)(iv)(B)(7)
Identification, monitoring, and control of discharges from municipal landfills; hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and any other industrial or commercial discharge the permittee determines are contributing a substantial pollutant loading to the MS4.	40 CFR§122.26(d)(2)(iv)(C)(1)
Control of pollutants in construction site runoff	40 CFR§122.26(d)(2)(iv)(D)(1)
Public education	40 CFR§122.26(d)(2)(iv)(A)(6) 40 CFR§122.26(d)(2)(iv)(B)(5) 40 CFR§122.26(d)(2)(iv)(B)(6)

Regulated Phase II MS4s are brought into the program in one of two ways:

1. Automatic Designation

Any part of or an entire MS4 located in urbanized area boundaries, as defined by the U.S. Bureau of the Census (based on the latest decennial census), will be automatically designated and required to seek coverage.

An urbanized area (UA) is a central place (or places) and the adjacent densely surrounding territory that together has a minimum residential population of 50,000 and a minimum average density of 1,000 people/square mile. All UA calculations and mapping are done by the U.S. Bureau of the Census.

Remember: The determination of which MS4s are automatically designated as regulated Phase II MS4s is based SOLELY on the boundaries of the U.S. Bureau of Census urbanized areas – not political boundaries (unlike the Phase I MS4 program).

Furthermore, entities such as military bases, prison complexes, universities, and highway departments that operate an MS4 within a UA are also subject to the Phase 2 MS4 permitting regulations but they are not individually listed in the regulations. It is important to keep in mind that, since counties and city political boundaries may be located both within and outside a UA boundary, only portions of your MS4 may be located within the UA and, therefore, subject to permitting requirements.

You can determine if your MS4 is included within a UA by checking at: <http://www.census.gov/geo/www/ua/uacbdndy.html>. Other resources that are available to check whether your MS4 is within a UA and may be subject to Phase 2 MS4 permitting include:

- [Guidance for locating MS4s within 1990 Urbanized Area Boundaries](#)
Refer to the list of [Regulated Phase II Small MS4s in Florida](#). This list contains cities and counties not currently regulated under Phase I, but are located either fully or partially within a UA boundary based on 1990 and 2000 Census data.
- Additionally, refer to the [Bureau of Census Urbanized Area boundary maps based on the 2000 Census results](#).

Table 2. Six Components of the Phase 2 MS4 permit
2.

REQUIRED PROGRAM ELEMENT	REGULATORY REFERENCES
Public education and outreach	40CFR§122.34(b)(1)
Public involvement and participation	40CFR§122.34(b)(2)
Illicit discharge detection and elimination	40CFR§122.34(b)(3)
Construction site stormwater control	40CFR§122.34(b)(4)
Post-construction stormwater controls for new development and redevelopment	40CFR§122.34(b)(5)
Municipal operations good housekeeping and pollution prevention	40CFR§122.34(b)(6)

2. *Designation by DEP*

DEP was required to develop a set of **designation criteria** to use for the evaluation of all Phase II MS4s that are located outside of UAs. These have been adopted in [Chapter 62-624.800, F.A.C.](#) The public also may petition the Department to designate a Phase II MS4 as a regulated MS4 using the designation criteria.

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MS4 PERMIT REQUIREMENTS AND REFERENCE MATERIALS

This section of the reference manual addresses each of the required components of the Phase 1 MS4 permit listed in Table 1 and provides guidance on interpreting and meeting the permit requirements. In addition to the required program components in Table 1, the foundation of a successful stormwater management program is its legal authority and its financial and staffing resources which are essential program components for both Phase 1 and Phase 2 permittees.

LEGAL AUTHORITY

Questions to consider:

1. Do we have the legal authority to control discharges into our MS4?
2. Do we have the legal authority to take action against dischargers into our MS4?
3. Do we have the legal authority to inspect facilities that discharge into our MS4?

Unlike many states, Florida has a long history of regulating stormwater at the state, regional, and local level. Chapters 373 and 403, Florida Statutes, set forth the legislative authority for DEP and the WMDs to regulate stormwater management systems and their associated discharges. Based on this legislative authority DEP and the WMDs have adopted numerous regulatory requirements for the design, construction, operation, and maintenance of stormwater management systems. DEP has adopted the Water Resource Implementation Rule, Chapter 62-40, F.A.C, which establishes broad directives for the implementation of surface and ground water resource regulations and programs, including stormwater management. Legislative authority for county government operations is found in Chapter 125, F.S. while similar authority for municipalities is found in Chapter 166, F.S. One of the most important Florida statutes with regard to local government land planning and regulation is Chapter 163, F.S., the Local Government Comprehensive Planning and Land Development Regulation Act. This law, and rules adopted by the Department of Community Affairs to implement the law, establishes requirements for local governments with respect to land use, zoning, and infrastructure requirements, including level of service standards.

The first action the MS4 permittee needs to accomplish is to review their existing ordinances or other legal authorities to determine their adequacy in providing adequate legal authority to:

- prohibit non-stormwater discharges to the MS4
- prohibit and eliminate illicit connections and discharges to the MS4
- prohibit spills or other releases into the MS4
- require dischargers into the MS4 to be accountable for their stormwater flows and loads
- require implementation of appropriate BMPs to control discharges from construction sites, new development or redevelopment projects, or industrial facilities into the MS4
- conduct reviews and approve site plans, erosion and sediment control plans, stormwater management plans for construction sites and post-construction stormwater discharges
- conduct inspections of activities that discharge stormwater into the MS4 system to assure compliance with state, regional, or local laws or regulations.
- respond to violations by requiring dischargers to the MS4 system to reduce pollutant loads, flows, or even cease discharging, if needed.
- impose civil or criminal penalties, including monetary fines, for persistent non-compliance or for repeat or escalating violations.
- cooperatively implement the MS4 permit requirements with co-permittees, if applicable.

FINANCIAL AND STAFFING RESOURCES

Questions to consider:

1. Do we have a dedicated funding source, such as a stormwater utility fee, to implement our stormwater program?
2. Do we have adequate resources to implement our stormwater management program in a manner that is consistent with our MS4 permit requirements?
3. How much do we spend implementing the MS4 permit each year?

Implementing a stormwater program is neither an easy nor inexpensive undertaking. However, the permittee must have the resources necessary to meet the MS4 permit requirements – inadequate resources are NOT an excuse for not complying with your permit! The permittee must undertake an annual assessment of the financial, staffing, equipment, and other resources necessary to implement the stormwater management program set forth in the MS4 permit. Since stormwater program needs do not successfully compete with other essential needs such as police, fire, ambulance, and social services during local government budget negotiations, it is highly recommended that a local government implement a dedicated funding source such as a stormwater utility fee, stormwater benefit areas, or municipal services taxing units. Section 403.0893, F.S., was enacted by the Florida Legislature in 1986 providing legal authority for the implementation by local governments of these dedicated funding sources for stormwater management programs. Today, Florida has over 150 enlightened communities that have implemented a stormwater utility or other stormwater dedicated funding source. DEP, in cooperation with the Florida Stormwater Association(FSA), developed the manual entitled [*Establishing a Stormwater Utility*](#), and FSA conducts workshops on setting up a stormwater utility. Another resource that may be of assistance to local governments that wish to implement a dedicated funding source is the web site [An Internet Guide To Financing Stormwater Management](#).

One of the MS4 Annual Report requirements is to report on the total expenditures for the NPDES stormwater management program for the current year and also the total budget for the NPDES SMWP for the subsequent year. One of the easiest ways to do this is to simply add a column to the AR form and enter the amount of money that was spent doing that activity.

COMPONENT 1: STRUCTURAL CONTROLS AND STORMWATER SYSTEM OPERATION

As seen below, there are two major requirements within this component of the MS4 permit – (1) inventory and mapping of the stormwater management system, and (2) inspecting, operating, and maintaining the municipal stormwater system and its structural controls to assure that they function properly and continue to provide their intended stormwater management benefits.

1. *Structural Controls and Stormwater Collection Systems Operation*

PERMIT ACTIVITY	PERMIT REPORTING
Maintain an up-to-date inventory of the structural controls and roadway stormwater collection structures operated by the permittee. Update MS4 mapping, as needed.	Report the current known inventory in each ANNUAL REPORT.
Provide an inventory of all known major outfalls covered by the permit and a map depicting the location of the major outfalls (hard copy or CD-ROM).	Provide the outfall inventory and map with the Year 1 ANNUAL REPORT.
Annually review (and revise, as needed) and implement the permittee's written procedures to conduct inspections and maintenance of the structural controls and roadway stormwater collection systems operated by the permittee. Maintain an internal record keeping system to schedule and document inspections and maintenance activities conducted on the structural controls and roadway stormwater collection structures operated by the permittee	Report the number of inspection and maintenance activities conducted for each type of structure included in Table II.A.1.a, and the percentage of the total inventory of each of those structures inspected and maintained. If the minimum inspection frequencies set forth in Table II.A.1.a were not met, provide as an attachment an explanation of why they were not and a description of the actions that will be taken to ensure that they will be met in each ANNUAL REPORT

1. *Inventory and Mapping - All Phase 1 and Phase 2 MS4s*

Questions to consider:

1. Do we know the “who, what, where, when, and why” of the components of our MS4?
2. Do we know the location, age, condition, drainage area, and land use associated with each outfall of our MS4 and the conveyance systems that connect to the outfall?
3. For each outfall, do we know the name of the receiving water body, whether it is healthy or impaired, whether a TMDL or BMAP has been adopted?
4. Is our stormwater system map and inventory up-to-date?
5. Is our inventory of the industrial activities that are located in each drainage basin up-to-date?

The first step in managing the municipal stormwater system is to map and inventory the system. This includes identifying all outfalls that discharge to surface waters, especially “major outfalls”

which are regulated by the MS4 permit. A “major outfall” is defined as a municipal separate storm sewer outfall that:

- discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or ,
- for municipal separate storm sewers that receive stormwater from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

What if I have an elliptical rather than a circular pipe? According to EPA, only round pipes meeting the sizes above are considered to be major outfalls. However, a conveyance or discharge from a noncircular pipe is considered a major outfall if the contributing drainage areas exceeds 50 acres. The second bullet of the definition actually applies to outfalls of drainage areas that include both industrial and nonindustrial activities. For example, if a three acre drainage area includes 1.5 acres of industrial land use and 1.5 acres of non-industrial land use, the outfall serving that drainage area is a major outfall.

In addition to mapping the outfalls, the drainage area for each outfall and the land use within the drainage area need to be mapped and tabulated. Additionally, all major structural BMPs need to be inventoried and mapped, including their associated drainage areas and land uses. This information will be essential to calculate the annual stormwater pollutant loadings discharged from each major outfall as required in the third year of each permit cycle. To accomplish this task typically requires close coordination between the stormwater program and other local government departments such as Planning and Development Department. Additionally, a Geographic Information System data base is an invaluable tool for this effort. Not only does a GIS allow you to map and visually depict the information, but it also can be linked to a data base that allows basic information about each outfall to be easily maintained. Even photographs of outfalls and tracking or scheduling of stormwater system operation and maintenance activities can be entered into such a data base.

The next step in this process is to develop an inventory, organized by drainage basin or watershed, of the industrial activities that discharge stormwater into the MS4. The industrial stormwater discharges must include those that fall into the 11 classes of industrial activities subject to the [NPDES multisector stormwater permit](#) for industrial activities. The inventory must include the location, name, address, contact people and information, and type of industrial activity being conducted.

Remember, both the stormwater system inventory and maps and the industry stormwater discharger inventory must be routinely kept up to date during the permit cycle.

2. Inspection, Operation, and Maintenance – Phase 1 MS4s

Questions to consider:

1. Do we know the operational status of the components of our stormwater management system?
2. Do we have written procedures to establish an annual inspection and maintenance work plan?
3. Do we properly dispose of materials removed from stormwater systems in accordance with DEP rules and policies?
4. Do we have staff that is trained and certified to be stormwater inspectors?
5. Do we have staff that is trained and knowledgeable about maintaining the various types of stormwater BMPs and the components of our stormwater management system?
6. Do we have adequate resources and equipment to properly maintain our stormwater management system?
7. Do we have adequate legal authority to inspect stormwater dischargers into our MS4 and to require them to take action to maintain their stormwater system?

Table II.A.1.a in the Phase 1 MS4 permit, entitled “Inspection And Maintenance Schedule For Structural Controls And Roadways” establishes the minimum inspection and maintenance requirements for those stormwater controls **operated by the permittee**. The 2010-11 permits require inspections of new stormwater systems ANNUALLY for the first two years of operation and then ONCE EVERY THREE YEARS. This inspection schedule is similar to the one being used by some of the WMDs for stormwater systems with Environmental Resource Permits. Accordingly, if the permittee is within the area served by the NFWFMD, SJRWMD, or SWFWMD, any inspections and recertifications of the permittee’s stormwater system components to meet WMD ERP requirements can be used to satisfy MS4 permit requirements.

The purpose of the requirements in Table II.A.1.a is to assure that the permittee’s stormwater system functions as permitted and designed thereby providing the expected flood control and stormwater treatment benefits. How a permittee undertakes these inspections will vary greatly since there are many ways to do it. For example, a permittee may decide to inspect its outfall during a storm. This allows the permitted to determine if flow from the outfall is as expected. If the inspector finds that the flow from the outfall is not as expected, this may indicate that the inlets and pipes leading to the outfall may have an obstruction that needs clearing or cleaning. On the other hand, if the flow from the outfall is as expected, this indicates that the inlets and pipes upstream of the outfall are functioning correctly.

To meet MS4 permit reporting requirements, the permittee must implement a written inspection and maintenance program. This should include information on scheduling of inspections, determining actions needed, scheduling the actions, etc. A key element is a tracking system of all inspections and maintenance activities performed during the year as this information must be reported in the Annual Report.

Additionally, to track load reductions, which is needed to evaluate the effectiveness of the stormwater management program or is especially important if the MS4 discharges to an impaired water body with either an adopted Total Maximum Daily Load (TMDL) or Basin Management Action Plan (BMAP), it is important to quantify the amount of material removed from stormwater controls and their associated pollutant concentrations. Similar tracking needs to occur for street sweeping and the materials removed during street sweeping. This

information can be tracked in the GIS data base for the stormwater inventory, tracked in an Excel spreadsheet, or in software available from various vendors.

Materials collected by street sweepers or Vector trucks, along with sediments removed from roadside ditches, swales, or stormwater systems contain a variety of pollutants. Accordingly, these materials must be disposed of properly. DEP, in cooperation with DOT, FSA, and local governments, has undertaken several projects to determine the concentration of pollutants in these "stormwater sediments". The results of these projects are online at: <http://www.dep.state.fl.us/water/nonpoint/pubs.htm#Urban%20Stormwater%20Management> as is the corresponding DEP [Guidance For The Management Of Street Sweepings, Catch Basin Sediments and Stormwater System Sediments](#).

In addition to inspecting and maintaining stormwater controls operated by the permittee, the MS4 **may** want to consider implementing a Stormwater Operating Permit system to assure that stormwater controls implemented on private properties that discharge into the MS4 system actually are being properly operated and maintained. Unfortunately, only the SJRWMD, SWFWMD, and NFWMD currently require permitted stormwater systems to be periodically inspected and certified by a registered professional to assure that they continue to meet permit requirements. Both Leon County and the City of Tallahassee have implemented local Stormwater Operating Permit systems. Leon County's ordinance is provided in **Appendix B**.

If problems are found with a private stormwater system that has been permitted by DEP or the applicable WMD (generally this includes all systems built after February 1982), there are two options for addressing the problem and bringing the system into compliance. First, the MS4 should use its legal authority to control discharges into the MS4 and require the owner of the private stormwater facility to make necessary repairs. Second, if the MS4 has difficulty in obtaining compliance, report the problem to the applicable WMD or DEP District Office and request that an inspection be done and any problems corrected. The contact persons and their contact information to report such problems are included in **Appendix C**.

COMPONENT 2. AREAS OF NEW DEVELOPMENT AND SIGNIFICANT REDEVELOPMENT

This component of the MS4 permit focuses on reducing impacts from stormwater discharges from new development and redevelopment activities. The three major activities within this component of the MS4 permit include: (1) assuring that stormwater requirements in state, regional, and local laws, ordinances, or regulations are met; (2) ensuring that Environmental Resource Permits and NPDES Construction Generic Permit coverage have been obtained before issuing any local permits or authorizations for land clearing or construction begins; and (3) periodically reviewing the permittee's land development regulations and site plan approval requirements to promote low impact development and further minimize the stormwater impacts from new development or redevelopment projects.

Areas of New Development and Significant Redevelopment

PERMIT ACTIVITY	PERMIT REPORTING
Continue to adhere to the policies of the permittee's current Comprehensive Plan (or similar document) and the requirements of local codes and regulations, as well as development review and permitting procedures, that incorporate stormwater quality considerations into land-use planning and development activities	Report the number of significant redevelopment projects reviewed by the permittee for post-development stormwater considerations in each ANNUAL REPORT
Conduct an inter-departmental review of the permittee's current local codes and land development regulations to determine where changes can be made to reduce the stormwater impact of new development and areas of significant redevelopment. In particular, focus on changes to the code that will promote: reductions in impervious surfaces, the use of swales, the incorporation of low impact development principles, reduction in flow and volume of stormwater, increase in natural hydrology, and adherence to the principles of the Florida Yards and Neighborhoods program in new landscaping.	Provide in the Year 2 ANNUAL REPORT the summary report of the review activity. Provide in the Year 4 ANNUAL REPORT the follow-up report of the review activity
FDOT - Continue to employ the FDOT Drainage Connection Permit (DCP) requirements. Connecting entities will be required to maintain the discharge of acceptable water quality for the duration of the FDOT DCP. Refer connecting entities failing to meet this requirement after sufficient warning by FDOT to DEP and/or the applicable Water Management District to regulate the stormwater quality through local or State rules, ordinances, and codes.	Report the number of enforcement referrals completed in each ANNUAL REPORT.

1. Assuring that state, regional, and local stormwater requirements are met.

Questions to consider:

1. Has the proposed development activity obtained its Environmental Resource Permit from the applicable WMD or DEP?
2. If the proposed development activity will clear one or more acres of land and discharges to waters or to a MS4, has the development obtained coverage under the NPDES construction generic permit?
3. If applicable, has the proposed development met all stormwater and land use planning requirements imposed by the local government?

Because Florida's stormwater laws and regulations already require nearly all new development and redevelopment projects to obtain an Environmental Resource Permit and properly treat and manage their stormwater, Florida's MS4 permittees do not have to establish a separate program to issue such permits or review stormwater management plans for such activities. However, many local governments have stormwater permitting requirements that are more stringent than the ERP requirements in which case they will have their own stormwater plan review and approval processes.

Accordingly, the MS4 permittee needs to have adequate legal authority and procedures to require an applicant for local government site plan, development, or clearing and grading approvals (as appropriate) to provide evidence that their project has received the Environmental Resource Permit from the applicable WMD or DEP and has received coverage under DEP's NPDES Construction Generic Permit.

2. Periodically reviewing the permittee's land development regulations and site plan approval requirements

Questions to consider:

1. Does your community's comprehensive plan and land development regulations promote sustainable growth and development?
2. Does your community's comprehensive plan and land development regulations promote the use of low impact design principles such as minimizing clearing, minimizing imperviousness, allowing the use of swales or pervious pavements or greenroofs, etc?
3. Does your community's site plan review process assure that stormwater impacts are minimized?

Stormwater problems are created by changes in land use. To address the impacts of land use changes, local governments in Florida have adopted comprehensive plans and land development regulations to guide development within the community and to establish procedures for the review and approval of development plans. As part of the MS4 permit, local governments are required to periodically review their land development regulations to assure that they are promoting sustainable development with adequate infrastructure to protect the public health, safety, and welfare. In recent years there has been increased interest in "low impact design" also known as "LID" which seeks to minimize the hydrologic and water quality changes that result as part of site development. Low impact design principles seek to integrate the following concepts into the design process:

- Use hydrology as the integrating framework

- Think micromanagement
- Control stormwater at the source
- Use simplistic, non-structural methods
- Create a multi-functional landscape and infrastructure

LID provides the opportunity to recharge groundwater supplies, protect surface waters, and reduce waste and disposal through the use of natural processes with waste that can be composted. It reduces potable water demand through the use of cisterns and also improves air quality and reduces urban heat island effects through the use of vegetation and trees. LID also improves neighborhoods by beautifying the common spaces and adding aesthetic value. One of the reasons that LID is a sustainable solution is the fact that it addresses more than just one issue.

The Department of Community Affairs, in cooperation with DEP, has developed LID strategies and a model land development code that can assist local governments in modifying their land development regulations to promote low impact design within the community. These materials can be downloaded from <http://www.floridajobs.org/community-planning-and-development/programs/technical-assistance/planning-initiatives/natural-resource-planning/springs-protection>.

COMPONENT 3. ROADWAYS

Roads are one of the largest potential contributors of stormwater pollutants. This is related to the large amount of impervious surfaces associated with roads and the diverse variety of pollutants that are deposited on roads that can become entrained in stormwater. The primary goal of Component 3 is to implement source controls to reduce the amount of pollutants that remain on roads and can become washed off by rainfall and runoff. As seen below, activities under Component 3 include the implementation of basic litter control programs, the implementation of a street sweeping program, and the implementation of procedures to minimize stormwater pollutant loads from road maintenance activities and from equipment yards and maintenance shops that support road maintenance activities.

3. Roadways.

PERMIT ACTIVITY	PERMIT REPORTING
Annually review (and revise, as needed) and implement the permittee's written procedures for the litter control program(s) for public streets, roads, and highways.	Report on the litter control program, including the frequency of litter collection, an estimate of the total number of road miles cleaned or amount of area covered by the activities and an estimate of the quantity of litter collected, in each ANNUAL REPORT.
Consider actively promoting and coordinating an "Adopt-A-Road" program	If an Adopt-A-Road or similar program is implemented, report the total number of road miles cleaned and an estimate of the quantity of litter collected, in each ANNUAL REPORT
Annually review (and revise, as needed) and implement the permittee's written procedures for the street sweeping program. The procedures shall include criteria for determining which roadways will be swept and for determining the frequency of sweeping. The permittees shall use the results of the ongoing Florida Stormwater Association MS4 Project to calculate the total nitrogen (TN) and total phosphorus (TP) load reductions.	Report on the street sweeping program, including the frequency of the sweeping, total miles swept, an estimate of the quantity of sweepings collected, and the TN and TP loadings that were removed by the collection of sweepings, in each ANNUAL REPORT. If no street sweeping program is implemented, provide the explanation of why not in the Year 1 ANNUAL REPORT.
Annually review (and revise, as needed) and implement the permittee's written standard practices to reduce the pollutants in stormwater runoff from areas associated with road repair and maintenance, and from permittee-owned or operated equipment yards and maintenance shops that support road maintenance activities	Report the number of applicable facilities and the number of inspections conducted for each facility in each ANNUAL REPORT.

1. Implementation of Litter Control Programs

Questions to consider:

1. Is our litter control program effective in reducing the amount of materials on roadways that could be washed off by rainfall or runoff?
2. If the program is not effective, why not and what revisions are needed to make it more effective?

Litter control programs are one of the foundations of Florida's solid waste management program. Section 403.704, F.S., authorizes DEP to implement solid waste management programs, including litter control programs, in cooperation with local governments. This includes managing a program of grants, using funds from the Solid Waste Management Trust Fund and solid waste management funds provided by the Legislature, for programs for recycling, composting, litter control, and special waste management and for programs that provide for the safe and proper management of solid waste. Additionally, Section 403.4131, F.S., requires the Florida DOT to establish an "Adopt a Highway" program and encourages local governments to implement litter control and prevention programs or to expand upon its existing program. It also allows FDOT to establish a system of grants for municipalities and counties to implement litter control and prevention programs. The grant funds may be used for the "Adopt a Highway" program or for litter cleanup, grassroots educational programs involving litter removal and prevention, and the placement of litter and recycling receptacles. Accordingly, implementing a litter control program to meet MS4 permit obligations should be relatively easy. However, tracking of the litter program's activities and accomplishments for the Annual Report may present challenges that can be met by implementing a simple data base.

The permit requires the permittee to develop and implement a municipally-operated litter control program(s) for highways and streets, including rights-of-way, within each permittee's jurisdictional area. The description of the program shall include a map identifying the highways and streets (including rights-of-way), the total miles addressed under the litter control program, the frequency of the litter collection activities, and the method for documenting the litter control program activities (including the amount of litter collected).

2. Implementation of Street Sweeping Programs

Questions to consider:

1. Is our street sweeping program effective in reducing the amount of materials on roadways that could be washed off by rainfall or runoff? If it is not, why not and what revisions are needed to make it more effective?
2. Do our street sweeping program procedures establish priority areas for sweeping and the frequency of sweeping based on pollutant load potential?
3. How much total nitrogen and total phosphorus loading is reduced by street sweeping?

The value of implementing street sweeping programs to improve water quality has been debated since the original National Urban Runoff Program studies in the 1970s. However, it is now widely recognized that source control programs, such as street sweeping, remove a wide variety of materials that can potentially be washed off the landscape by rainfall and runoff thereby reducing stormwater pollutant loads.

The street sweeper was designed with the primary objective of removing trash from streets with curbs and gutters to maintain aesthetic goals and safety. Those goals did not change until the 1980's when policymakers began to reflect concern for water quality. As older street sweepers were only effective in removing large particles of road debris, small particles of debris remained behind in large quantities. The remaining debris was not seen as an aesthetic issue because rain would wash them away. Today small particles are known to carry a substantial portion of the stormwater pollutant load.

Today, there are a wide variety of street sweepers available that are much more effective in removing materials from the street than previous models. Newer street sweepers are capable of collecting small particles of debris. Many street sweepers produced today are [PM10](#) certified, meaning that they are capable of collecting and holding particulate matter sized less than 10µm. Despite advancements in street sweeping technology, the mechanical broom type street sweeper accounts for approximately 80 percent of all street sweepers used in the United States today. Other types of street sweepers include regenerative air sweepers and vacuum sweepers.

Written procedures or standard operating procedures are one of the keys to implementing a street sweeping program that is effective in reducing stormwater pollutant. The procedures should establish criteria for:

- prioritizing areas within the community where street sweeping will produce the greatest stormwater pollution control benefits.
- determining the appropriate frequency of street sweeping to maximize benefits
- determining the best type of street sweeper to use
- determining how street sweepings will be recycled or disposed of properly

For example, areas within the community that have a large amount of deciduous tree canopy should be targeted for sweeping during and soon after leaf fall to prevent the leaves from entering the stormwater system. Other priority areas for street sweeping might be associated with high average daily traffic counts such as downtown areas or commercial areas.

Tracking street sweeping activities in a data base is essential to assure that MS4 permit reporting requirements are met. This includes tracking the frequency of the sweeping, the total miles swept, an estimate of the quantity of sweepings collected, and the TN and TP loadings that were removed by the collection of sweepings. To assist in this last requirement, DEP, FSA, and local stormwater programs have funded a project undertaken by Dr. John Sansalone at the UF to quantify the TN and TP concentrations typically found in stormwater sediments and street sweepings. The results of this project were presented at the Florida Stormwater Association's winter meeting in December 2010 and the final project report is available on the [FSA website](#) with a link from the DEP [MS4 website](#). This data will make it easier for MS4s to estimate the TN and TP loadings removed by their street sweeping program.

Materials collected in street sweepers must be disposed of properly in accordance with DEP's [Guidance For The Management Of Street Sweepings, Catch Basin Sediments and Stormwater System Sediments](#).

3. Reduce pollutants in stormwater from road repair and maintenance activities.

Questions to consider:

1. Do our standard procedures for road repair or maintenance assure that all applicable BMPs are used to minimize erosion, sedimentation, and stormwater loadings? If they are not, why not and what revisions are needed to make them more effective?

Road repair and maintenance activities can involve a wide range of activities that can increase the potential for stormwater pollution. Accordingly, written standard procedures are needed to evaluate the potential for erosion, sedimentation, or stormwater loadings for the various types of activities undertaken to repair and maintain roads and to assure that applicable BMPs are used

to minimize erosion, sedimentation, and stormwater loadings. In 1999, the Transportation Research Board of the National Research Council released [Best Management Practices for Environmental Issues Related to Highway and Street Maintenance: A Synthesis of Highway Practice](#). This document is a good starting point to develop the standard procedures required under this component of the MS4 permit. Additional information on applicable BMPs for highway maintenance activities can be found in the [California BMP Manual](#) and the [Partners for a Clean Environment Manual](#).

4. Reduce stormwater pollutants from equipment yards and maintenance shops that support road maintenance activities.

Questions to consider:

1. Do our standard procedures for our equipment yards and maintenance shops that support road maintenance activities assure that stormwater pollutant loads are minimized and that all appropriate BMPs are used? If they are not, why not and what revisions are needed to make them more effective?

Nearly all local governments have an equipment yard or maintenance shop where equipment used for road repairs or maintenance, or for other types of activities, is stored and maintained. Many local governments also have fleet maintenance yards where buses, trucks, or other vehicles are stored and maintained. These types of facilities **MAY** need coverage under the multisector generic permit for stormwater discharges from industrial activities. A permit is required for any yard where maintenance on any type of vehicle involved in land transportation such as buses, garbage trucks, etc is performed. Reducing stormwater pollutant loads through the implementation of pollution prevention source controls, and when necessary, structural controls are the focus of this component of the MS4 permit. Because of the wide range of activities undertaken at such areas, and the diversity of potential pollutants that can occur, written procedures are again an important tool to help minimize water quality impacts. The written procedures should identify the potential pollutants that may be generated by each of the activities undertaken at equipment yards or maintenance shop, a list of potential BMPs for each activity, and a well written BMP summary for each activity. Some good examples of such procedures and BMPs can be found in the following documents:

- [Volume 5: Stormwater: Catalog of Stormwater BMPs for Idaho Cities and Counties](#)
- [Implementing Pollution Prevention for Municipal Operations \(PACE\)](#)
- [California Municipal BMP Manual](#)
- [California Industrial BMP Manual](#)
- EPA's [Menu of BMPs](#)

An example inspection checklist for these types of facilities can be found in Appendix D-1.

COMPONENT 4. MINIMIZING WATER QUALITY IMPACTS FROM FLOOD CONTROL PROJECTS

4. Flood Control Projects.

PERMIT ACTIVITY	PERMIT REPORTING
Stormwater treatment shall be provided for all flood management projects undertaken by the permittee as required by the Environmental Resource Permitting rules of the applicable Water Management District	Report the total number of flood control projects that were constructed during the reporting period and the number of those projects that did NOT include stormwater treatment, in each ANNUAL REPORT. The permittee shall provide a list of the projects where stormwater treatment was not included with an explanation for each of why it was not.
Existing structural flood control devices shall be evaluated to determine if retrofitting the device to provide additional pollutant removal from stormwater is needed or feasible.	Report on any stormwater retrofit planning activities and the associated implementation of retrofitting projects to reduce stormwater pollutant loads from existing drainage systems that do not have treatment BMPs.

Stormwater management is a multi-objective approach to dealing with the changes in stormwater characteristics that accompany urbanization. However, while federal and state stormwater regulations are focused primarily on reducing stormwater pollution and water quality impacts, drainage or flood control still drives most stormwater programs, especially with respect to capital improvement projects. Citizens, and local officials, are most concerned about whether stormwater is in their yard, home, or business and not whether the stormwater is clean. Because of Florida's state stormwater treatment regulations, all flood control projects within the state must obtain an environmental resource permit and provide stormwater treatment. In addition, since the late 1980s, Florida has led the nation in urban stormwater retrofitting – undertaking projects to install BMPs in existing drainage systems to reduce stormwater pollution. This component of the MS4 permit has two elements as shown above.

Questions to consider:

1. Do our standard procedures for designing projects to reduce flooding also assure that stormwater treatment is provided for in their design?
2. Do our standard procedures for implementing flood control projects assure that we obtain all required permits from the WMD or DEP?
3. In evaluating our MS4 system, do we routinely evaluate the need and the opportunities to add BMPs to retrofit the system to reduce stormwater pollutant loadings?

Evaluating existing drainage systems to determine how to best retrofit them to reduce stormwater pollutant loads requires a systematic approach to assure the most “bang for the buck.” Given the fact that urban stormwater retrofitting is difficult, expensive, and takes time from planning to construction, the first step in the process is to prioritize the outfalls where retrofitting should occur. Obviously, given TMDL and BMAP requirements, outfalls that discharge to waters with an adopted TMDL or BMAP should be the highest priority for retrofitting. The basic steps in the retrofit planning process include:

- Drainage system mapping, inventory, land uses, etc

- Identification and assessment of potential retrofit sites (e.g., undeveloped lands, golf courses, parks, etc)
- Evaluation of potential BMPs – pollutants removed, effectiveness, costs, etc
- Ranking and prioritization of possible retrofit projects
- Public involvement and buy-in
- Design and permitting
- Bidding and construction
- Operation and maintenance

For more information about these steps, please refer to [An Eight-Step Approach to Stormwater Retrofitting: How to Get Them Implemented](#).

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COMPONENT 5. MUNICIPAL WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES NOT COVERED BY AN NPDES STORMWATER PERMIT

5. Municipal Waste Treatment, Storage, or Disposal (TSD) Facilities Not Covered By An NPDES Stormwater Permit

PERMIT ACTIVITY	PERMIT REPORTING
<p>Annually review (and revise, as needed) and implement the permittee's written procedures for inspections and the implementation of measures to control discharges from the following facilities that are NOT otherwise covered by an NPDES stormwater permit: *</p> <ul style="list-style-type: none"> • operating municipal landfills, • municipal waste transfer stations, • municipal waste fleet maintenance facilities, and • any other municipal waste treatment, waste storage, and waste disposal facilities. 	<p>Report the number of applicable facilities and the number of inspections conducted for each facility in each ANNUAL REPORT</p>

Within our communities, we have established numerous facilities where municipal wastes are collected, stored, treated, or disposed. Some of these facilities are major ones such as landfills or hazardous waste treatment, storage, or disposal facilities that are required to obtain coverage under the Stormwater Associated with Industrial Activities component of the NPDES stormwater program. In fact, two sectors of the Multi-Sector Generic Permit for Stormwater Associated with Industrial Activities address these facilities:

- **Sector L of MSGP - Landfills** - Landfills, land application sites, and open dumps that receive or have received any industrial waste (waste that is received from any of the facilities described under categories (i) - (xi) of the MSGP including those that are subject to regulations under Subtitle D of RCRA.
- **Sector K of MSGP Hazardous Waste** - Hazardous waste treatment, storage, or disposal facilities including those that are operating under interim status or a permit under Subtitle C of RCRA.

However, many of the facilities to collect, store, treat, or dispose of municipal wastes are much smaller and are not covered by NPDES stormwater permits. These may include municipal waste transfer stations where people can bring their wastes for temporary storage prior to transfer to the landfill, dumpsters located on municipally owned properties for use by the public, or dumpsters at recreational facilities. They can also include the facilities where trucks and others vehicles or equipment used in the municipal waste management program are kept and maintained. It is these operations that are the subject of Component 5 of the MS4 permit.

Questions to consider:

1. Do our standard procedures for inspecting municipal waste treatment, storage, or disposal facilities include proper assurance that they will minimize contributing stormwater pollutant loads to the MS4?
2. Do we have a standard set of BMPs that are applied at municipal waste treatment, storage, or disposal facilities to minimize stormwater pollution?
3. Do our training and education programs assure that our staff and citizens understand the importance of following the BMPs that we use to minimize stormwater pollution from these facilities?

Appropriate BMPs for such facilities include:

General BMPs:

- Do not place outdoor waste receptacles near storm drains, inlets, or conveyances.
- Place waste receptacles indoors or under a roof or roof overhang whenever possible
- Mark any storm drain inlets at fixed municipal facilities to notify employees and residents not to dispose of any materials or wastes into them. The stencil or sticker should clearly read “Dispose of No Wastes Here”, “Drains to Creek” or a similar warning.
- Maintain a map of the property identifying directions of stormwater flow and the location(s) of any storm drains and of spill kits in the facility.

Waste Management

- Place all wastes, debris, recyclables and scrap in sturdy • containers or dumpsters while being accumulated onsite.
- All waste receptacles must be leak-tight with tight-fitting lids or covers. This includes dumpsters and roll-offs. Plastic liners can be used to ensure leak tightness.
- Be sure drain plugs in dumpsters or roll-offs are properly installed and not leaking.
- Keep lids closed at all times unless adding or removing material.
- Repair or replace any leaking or damaged waste receptacles or lids promptly.
- Never place liquids or liquid-containing wastes in a dumpster or trash receptacle.
- Do not dump any liquids or other materials outside
- Sweep up around outdoor waste containers regularly and immediately before any expected storm event.
- Arrange for wastes to be picked up regularly and disposed at approved disposal facilities. If waste generation exceeds the capacity of waste containers, either obtain more containers or increase the frequency of pick-ups.
- Do not wash out waste containers or dumpsters outdoors. If dumpsters must be washed, do so in area that drains to the sanitary sewer.

Training and Education

- Train all employees and contractors whose work outdoors generates any waste, scrap, debris or trash on this BMP.
- Conduct refresher training on this BMP for all employees and contractors as needed.
- All contracts should stipulate that contracted employees are trained in stormwater pollution prevention BMPs.
- Train all employees and contractors who might be required to clean up a spill or leak on proper spill clean-up procedures.
- Train all employees and contractors who work outdoors on good housekeeping and proper storage.

Examples of BMPs or SOPs for these facilities are available at:

- <http://www.bouldercolorado.gov/www/pace/government/documents/WasteManagementStorageandDisposalSOP.pdf>
- <http://www.cabmphandbooks.com/Documents/Municipal/SC-34.pdf>
- <http://www.cabmphandbooks.com/Documents/Municipal/SC-75.pdf>

COMPONENT 6. PESTICIDES, HERBICIDES, AND FERTILIZER APPLICATION

Our urban environments, especially our landscapes, typically require the use of a variety of chemicals to control pests and assure healthy turf, trees, and plants. Unfortunately, chemicals such as pesticides, herbicides, and fertilizers can also become easily entrained in stormwater, especially if they are applied improperly or if it rains soon after they are applied. The ultimate solution is to require “Florida-friendly landscapes” that are based on principles that help to reduce the need for pesticides, herbicides, and fertilizers. However, even “Florida-friendly landscapes” will need nutrition from fertilizers and will likely require some use of pesticides or herbicides at some point during their existence. Training about proper selection, use, and application of these chemicals is the next step in reducing their impacts on a community’s receiving waters. As seen below, the requirements of a MS4 permit are aimed at these two approaches to reducing impacts of chemical applications.

6. *Pesticides, Herbicides, and Fertilizer Application.*

PERMIT ACTIVITY	PERMIT REPORTING
<p>Adopt a Florida-friendly Landscaping Ordinance similar to the one set forth in the document “Florida-friendly Guidance Models for Ordinances, Covenants and Restrictions.” If the broader Florida-friendly ordinance described above is not adopted, then all local governments within the watershed of a nutrient impaired water body shall adopt the Department’s Model Ordinance for Florida-Friendly Fertilizer Use on Urban Landscapes pursuant to SB 494 (2009).</p>	<p>Provide a copy of the adopted ordinance with the subsequent Year 1 or Year 2 ANNUAL REPORT.</p>
<p>Annually review (and revise, as needed) and implement the permittee’s written standardized procedures to minimize the municipal use of pesticides, herbicides, and fertilizers on public property and to properly apply, store, and mix these products.</p>	<p>As Needed</p>
<p>Continue to require proper certification and licensing by the Florida Department of Agriculture and Consumer Services (FDACS) for all applicators contracted to apply pesticides, herbicides on permittee-owned property, as well as any permittee personnel employed in the application of these products.</p>	<p>Report the number of permittee personnel applicators and contracted commercial applicators of pesticides and herbicides who are FDACS certified / licensed in each ANNUAL REPORT</p>
<p>By January 1, 2014, all permittee personnel applying fertilizer shall be trained through the Green Industry BMP Program. By that same date, a permittee who contracts the application of fertilizer shall use only commercial applicators of fertilizer who have been trained through the Green Industry BMP Program and have obtained a limited</p>	<p>Report the number of permittee personnel and contractors who have been trained through the Green Industry BMP Program and the number of contracted commercial applicators of fertilizer who are FDACS certified / licensed in each ANNUAL REPORT.</p>

<p>certification for urban landscape commercial fertilizer application under Section 482.1562, F.S. If the permittee operates one or more golf courses, the courses shall be operated in a manner that is consistent with the <i>Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses</i> manual (Florida DEP, 2007).</p>	
<p>If the permittee operates one or more golf courses, the courses shall be operated in a manner that is consistent with the <i>Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses</i> manual (Florida DEP, 2007).</p>	<p>None required</p>
<p>During Year 1 of the permit, develop and implement a written public education and outreach program plan.</p> <p>A single plan may address all three of the required public education and outreach topics as per Parts III.A.6, III.A.7.e and III.A.7.f of the permit</p>	<p>In each ANNUAL REPORT, report on the public education and outreach activities that are performed or sponsored by the permittee within the permittee's jurisdiction to encourage citizens to reduce their use of pesticides, herbicides, and fertilizers, including the type and number of activities conducted, the type and number of materials distributed, the percentage of the population reached by the activities in total, and the number of Web site visits (if applicable).</p> <p>Activities performed under the FYN program should only be reported if the permittee is contributing funding towards the FYN staff and program within its jurisdiction</p>

1. Adopt a Florida-friendly Landscaping Ordinance or Florida Friendly Fertilizer Use on Urban Landscapes Ordinance

<p>Questions to consider:</p> <ol style="list-style-type: none"> 1. Do our comprehensive plan and land development regulations require all urban landscaping to comply with the principles of the Florida-friendly landscaping program? 2. Do our land development regulations require the use of Florida-friendly fertilizers on turf pursuant to the Urban Turf Fertilizer Labeling rules adopted by DACS? 3. If there are water bodies impaired for nutrients within our community, have we adopted the DEP's Model Ordinance for Florida Friendly Fertilizer Use on Urban landscapes pursuant to SB494 adopted in 2009?

Many of Florida's water bodies are impaired by excessive nutrients. Urban landscapes and urban runoff are significant contributors of nutrient loads discharged to our water bodies. The first step in reducing stormwater pollutant loadings from urban landscapes is to assure that they are designed in accordance with the [nine principles of a Florida-friendly landscape](#). Since local government comprehensive plans and land development regulations dictate requirements for new developments, the first step for a MS4 permittee to take is to review your current landscaping code and be sure it is consistent with the [Model Florida Friendly Landscaping Code](#)

that has been prepared by DEP in cooperation with many stakeholders. The model ordinance is comprehensive – it addresses landscape design principles, irrigation requirements, fertilization requirements, and fertilizer applicator education and certification in a single ordinance.

To assist in addressing the issue of nutrients from urban landscapes, the Department of Agriculture and Consumer Services (DACS) adopted rule [5E-1.003, F.A.C.](#), entitled Label Requirements for All Fertilizer Products on December 31, 2007. Specifically, Section 5E-1.003(2) establishes the requirements for all fertilizers sold in Florida that will be used on urban turf, sports turf, or lawns. This rule provides key definitions, limits the types of fertilizers that may be sold for such use, and limits the amount of phosphorus and nitrogen that can be applied per application and annually.

In 2009, the Florida Legislature enacted [SB494](#) (403.9338, F.S.) which includes requirements for efficient landscape irrigation systems, requirements for local governments with nutrient impaired waters to adopt the [Model Ordinance for Florida-Friendly Fertilizer Use on Urban Landscapes](#), and requires commercial applicators of fertilizer to be trained through the Green Industries BMP Program, and then to obtain a limited certification for urban landscape commercial fertilizer from DACS pursuant to Section 482.1562, F.S. and [Rule 5E-14.117, F.A.C.](#) This license must be renewed every four years and requires four hours of continuing education credits to obtain the renewal.

The Department of Community Affairs, in cooperation with DEP, has developed several documents to assist local governments the modification of their comprehensive plans and land development regulations to better protect springs and other water bodies. This has included:

- [Protecting Florida's Springs: An Implementation Guidebook](#). The guidebook provides technical assistance to local governments in Florida that wish to improve local protection to the springs that occur within their jurisdictions.
- [Protecting Florida's Springs: Land Use Planning Strategies and Best Management Practices](#). The manual is designed to help local governments, developers, landowners and citizens learn about innovative and sensible planning strategies and tools they can use to protect Florida's springs. It focuses on how the local comprehensive plan can be used as an effective vehicle to help guide growth and development. The document identifies specific best management practices for managing development impacts to assist in springs protection.
- Finally, the DCA is still working with a consultant to consolidate three years of work products into a draft [Model Code to Protect Florida's Springs](#).

2. Annually review (and revise, as needed) and implement the permittee's written standardized procedures to minimize the municipal use of pesticides, herbicides, and fertilizers on public property and to properly apply, store, and mix these products.

Questions to consider:

1. Do our existing written SOPs minimize the municipal use of pesticides, herbicides, and fertilizers on public property? If not, why do they not and what revisions to the SOPs are needed?
2. Do our existing written SOPs assure that all pesticides, herbicides, and fertilizers used on public property are properly applied, stored, and mixed? If not, why not and what revisions to the SOPs are needed?

Source controls and education are the best BMPs to minimize the use of pesticides, herbicides, and fertilizers on public properties and to assure that all staff and contractors that apply these products do so in a manner that minimizes the potential for these materials to get into stormwater. As noted below, the application of these materials should be done by a trained and certified professional. Training materials include the following: BMP manuals:

- [Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries](#) - This 2008 revised edition was developed by the FDEP with input from the University of Florida IFAS, FDACS, and Water Management Districts, and many representatives of the Florida Green Industries, local governments, environmental groups, and citizens. Provides information and guidance on turf grass and landscape management practices for the purpose of conserving and protecting Florida's water resources. Practices cover establishment of new turf and landscapes and the care of existing turf and landscapes, including construction activities, irrigation, nutrient management, and pest management. A [Spanish language version](#) is being translated, but until it is ready the 2002 Spanish version should be used. A smaller [summary booklet](#) is also available (92kb .pdf) that contains only the main points, and is printed in an 8 -1/2 x 5" format to fit in the glove box. A Spanish language version of the [Summary Booklet \(Resumen\)](#) is also available.
- [Best Management Practices for Enhancement of Environmental Quality on Florida Golf Courses](#) - This 136 page book discusses possibilities for environmental stewardship and pollution prevention at golf courses. It supersedes and expands upon the 1995 BMP document. This new document was written by FDEP in coordination with the Florida Golf Course Superintendents Association, Audubon International, the University of Florida, and many others. It is designed for use by superintendents, managers, and employees; developers and designers; planners and regulators; and concerned citizens. For convenience, the [checklist, \(Appendix E\)](#), is available separately.
- [Best Management Practices for Golf Course Maintenance Departments](#) - This 1995 document discusses possibilities for pollution prevention by the maintenance departments. Some references on concrete sealing and chemical protection for pesticide mixing and loading facilities are obsolete. The newer 2007 Golf Course manual also is available but the 1995 manual is retained as it has more detail in some areas and is widely referenced in out-of-state publications.

3. Require proper certification and licensing by the DACS for all permittee personnel and applicators contracted to apply pesticides, herbicides on permittee-owned property, and for any permittee personnel employed in the application of these products. Assure that all commercial applicators of fertilizer are trained through the [Green Industry BMP Program](#) and obtain a limited certification for urban landscape commercial fertilizer application under Section 482.1562, F.S.

Questions to consider:

1. Do our written SOPs assure that all of the permittee's staff or contractors that apply pesticides or herbicides are certified and licensed by DACS?
2. Do our regulations or written SOPs assure that all of the permittee's staff that apply fertilizers have been trained and certified (Green Industry BMP Program)?
2. Do our regulations or written SOPs assure that all commercial applicators of fertilizers have been trained and obtained a limited certification for landscape commercial fertilizer application?

The Florida Department of Agriculture and Consumer Services (FDACS) Bureau of Entomology and Pest Control assists in assuring compliance with the Federal Insecticide, Fungicide, and Rodenticide Act under a cooperative agreement with the U.S. Environmental Protection Agency. The Pest Control Section regulates and licenses the pest control industry under the State's Structural Pest Control Act, Chapter 482, Florida Statutes, and Rule Chapter 5E-14, Florida Administrative Code. Any person or company that applies any herbicide (even a granular product of a pesticide coated onto fertilizer), fungicide, or insecticide, to residential lawns or plant beds must obtain a license for pesticide application from the Bureau. Failure to obtain a license can result in fines up to \$5,000. **This includes the application of "weed and feed" or "insect control" pesticide/fertilizer mixtures to lawns.**

There are several types of pesticide licenses that are issued by the Bureau:

- If the only pesticides applied by a person or business are herbicides and "caution"-labeled insecticides applied to plant beds or along the edges of pavement, then a **limited certification for commercial landscape maintenance license** is needed from the Bureau. For this category, each applicator must have a license. **This does NOT allow the application of pesticides to turf or the use of insecticides labeled "Warning" or "Danger," or the application of "weed and feed" or "insect control" pesticide/fertilizer mixtures to lawns.**
- If any application of any pesticide is made to a lawn as part of a service provided by a person or business, then a **pest control business license and a certified operators certificate** are needed from the Bureau of Entomology and Pest Control. This includes the application of "weed and feed" or "insect control" pesticide/fertilizer mixtures to lawns.
- Government employees and private business employees who are applicators also need a **pesticide license** to make any applications to lawns or ornamental plants. This includes the application of "weed and feed" or "insect control" pesticide/fertilizer mixtures to lawns.
- Information on how to obtain these licenses can be obtained from FDACS Bureau of Entomology and Pest Control at (850) 921-4177 or at <http://www.flaes.org/aes-ent/index.html>.
- Applications of restricted use pesticides made to parks, cemeteries, and golf courses require a **license** obtained through FDACS Bureau of Compliance Monitoring at (850) 488-3314 or at <http://www.flaes.org/complmonitoring/pesticidecertification.html>.
- For information about the Green Industry BMP Training program please visit: <https://eces.ifas.ufl.edu/gibmp/>

QUESTION FROM MS4 PERMITTEE: Beginning in late October, FDACS is requiring mosquito control operations to have coverage under the NPDES Pesticides Generic Permit. The question is when we submit the number of certified pesticide, herbicide, and fertilizer applicators in our NPDES MS4 permit, should we now not include those that are applying pesticides for mosquito control purposes? The answer is YES, these staff or contractors need to be included in your list of people that have DACS certification to apply pesticides.

4. During Year 1 of the permit, develop and implement a written public education and outreach program plan

Questions to consider:

1. Do we have an effective, well planned public education and outreach plan to assure that our citizens are aware of the stormwater quality issues associated with urban landscapes, the Florida-friendly landscaping program, and the requirements for using only Florida-friendly fertilizers on turf?
2. Does our public education program include methods to evaluate the effectiveness of the program and to modify it as needed to make it more effective?

Reducing “Pointless Personal Pollution” requires both regulatory and nonregulatory approaches if we are going to be successful in reducing the water quality impacts of stormwater discharges. This is especially true with respect to reducing the impacts from our landscapes where effective public education programs are essential. To assist local governments with this endeavor, the DEP has had a contract with the [University of Central Florida Stormwater Management Academy](#) for many years to develop, compile, and make available a variety of public education materials that MS4 permittees can customize and use to meet this permit requirement. This includes the Stormwater Education Toolkit which includes excellent educational materials for three primary audiences: the general public, government and businesses, and youth. Staff from MS4s are encouraged to actively participate in the Stormwater Education Task Force which meets quarterly to continuously refine and collect the materials available in the Toolkit. For more information about the Task Force, contact Leesa Souto, the SMA Public Education Manager, at 321/722-2123 or by email (lsouto@mail.ucf.edu).

Another excellent resource to meet this permit requirement is the Florida-friendly landscaping program, also known as the Florida Yards and Neighborhoods program. Information about this program is available at:

- <http://www.floridayards.org/>
- <http://fyn.ifas.ufl.edu/>

Finally, we’d like to highlight the [TAPPWATER](#) public education program that has been developed by the Ochlockonee Soil and Water Conservation District and the City of Tallahassee, in cooperation with DEP using Section 319 grant funds. The program has developed several award winning television Public Service Announcements that have proved highly effective in changing human behavior and reducing stormwater pollution. These materials are available from the Department to any MS4 that wishes to use them. They can be customized to include the permittee’s logo and contact information for a small cost.

Evaluating the effectiveness of public education is also extremely important to assure the best “bang for the buck” and to assure that the program is actually changing human behavior and reducing stormwater pollutant loadings. Typically, this requires the implementation of before and after surveys. This type of evaluation is termed “social marketing” and is being explored by the Stormwater Education Task Force. For example, the most recent TAPPWATER public service announcement was on the impacts of dog poop on stormwater and water quality and the need for pet owners to “pick it up and dispose of properly.” Before and after surveys showed that the ads increased the number of pet owners by 30% that picked it up and disposed of their pet wastes. The reduced fecal coliform and nutrient loads from this change in behavior was worth about \$2.5 million that the City of Tallahassee did not have to spend for traditional structural stormwater treatment systems.

However, we do not expect MS4s to undertake such quantitative assessments of their education programs. Instead, a qualitative assessment of the education program is fine. This may include an annual review of the educational materials, their intended audiences, distribution and delivery methods, and an evaluation of whether changes are needed to improve the program. It may also include informal discussions with intended audiences at educational events or by telephone to get feedback on whether the audiences are “getting the message.”

COMPONENT 7: ILLICIT DISCHARGES

For many years, citizens have used the stormwater system for the disposal of a variety of wastes and wastewaters other than stormwater. The NPDES MS4 permitting regulations prohibit non-stormwater discharges to the MS4, prohibit and require the elimination of illicit connections and discharges to the MS4 and prohibit spills or other releases into the MS4.

An illicit discharge is defined as any discharge to a MS4 that is not composed entirely of stormwater, except allowable discharges pursuant to an NPDES permit. The following non-stormwater discharges may be allowed if they are not determined to be a significant source of pollutants to the MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, 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. If, however, these discharges are determined to be a significant source of pollution then they are prohibited.

In addition to requiring permittee to have the legal authority to prohibit non-stormwater discharges from entering storm sewers, MS4 permits must also require the development of a comprehensive Illicit Discharge Detection Elimination (IDDE) program that includes both a proactive and a reactive component.

An effective IDDE program is more than just a program to respond to complaints about illicit discharges or spills. Permittees must proactively seek out illicit discharges, or activities that could result in discharges, such as illegal connections to the storm sewer system, improper disposal of wastes, or dumping of used motor oil or other chemicals.

In order to trace the origin of a suspected illicit discharge or connection, the permittee must have an updated map of the storm drain system and a formal plan of how to locate illicit discharges and how to respond to them once they are located or reported. The permittee must provide a mechanism for public reporting of illicit discharges and spills, as well as an effective way for staff to be alerted to such reports. Regular field screening of outfalls for non-stormwater discharges needs to occur in areas determined to have a higher likelihood for illicit discharges and illegal connections. Proper investigation and enforcement procedures must be in place to eliminate the sources of the discharges, as well. Finally, in order for the permittee to adequately detect and eliminate sources of illicit discharges, both field and office staff must be properly trained to recognize and report the discharges to the appropriate parties.

Examples of common sources of illicit discharges in urban areas include apartments and homes, car washes, restaurants, airports, landfills, and gas stations. These so called "generating sites" discharge sanitary wastewater, septic system effluent, vehicle wash water, washdown from grease traps, motor oil, antifreeze, gasoline and fuel spills, among other substances. Although these illicit discharges can enter the storm drain system in various ways, they generally result from either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the storm drain system, spills, or "midnight dumping"). Illicit discharges can be further divided into those discharging continuously and those discharging intermittently.

This component of the MS4 permit includes seven different elements to accomplish the goal of eliminating illicit discharges that will be discussed in this section of the Reference Manual.

7a. Illicit Discharges and Improper Disposal — Inspections, Ordinances, and Enforcement Measures

PERMIT ACTIVITY	PERMIT REPORTING
<p>Where applicable, strengthen the legal authority to conduct inspections, conduct monitoring, control illicit discharges, illicit connections, illegal dumping and spills into the MS4 and to require compliance with conditions in ordinances, permits, contracts, and orders. This includes the legal authority to take legal action to eliminate illicit discharges or connections.</p> <p>Continue, as necessary, an assessment of the non-stormwater discharges listed under Part II.A.7.a of this permit, as well as any other non-stormwater discharges, which will be allowed to be discharged to the MS4.</p>	<p>Report amendments, as needed, in each ANNUAL REPORT.</p>

<p>Questions to consider:</p> <ol style="list-style-type: none"> 1. Do our local laws, rules, or policies allow the MS4 staff to conduct inspections and monitoring of discharges into the MS4 from private property? 2. Do our local laws, rules, or policies properly define “illicit discharges” and “illicit connections” and prohibit their discharge into the MS4, along with prohibiting illegal dumping and spills from entering the MS4? 3. Do our local laws, rules, or policies give our staff the legal authority to take legal action to eliminate illicit discharges, connections, or spills into the MS4?

Element 1 of Component 7 is to assure that the MS4 permittee has the legal authority, set forth in local laws, regulations, or enforceable policies to prevent and eliminate illicit discharges. The legal authority needs to include the ability for the permittee’s staff to:

- Conduct inspections on private property
- Eliminate illicit discharges and connections
- Conduct monitoring of discharges into the MS4
- Prohibit illegal dumping and spills into the MS4
- Take legal action to eliminate illicit discharges or connections

The [Stormwater Managers Resource Center](#) has model ordinances for illicit discharge elimination. In addition, several of our MS4s have developed good ordinances. We are working with the Stormwater Education Task Force at the UCF Stormwater Management Academy to collect these and make them available to the MS4 community.

7. b. Illicit Discharges and Improper Disposal — Dry Weather Field Screening.

PERMIT ACTIVITY	PERMIT REPORTING
<p style="text-align: center;">***RESERVED***</p> <p>Florida’s hydrologic and water table conditions make dry weather field screening impossible in many areas. Instead, the Department has concluded that more environmental benefits can be achieved through the implementation of a proactive illicit discharge detection program, which is set forth in the remaining sections of Part III.A.7 of this permit.</p>	<p>As Needed</p>

During the MS4 Part 1 application process, permittees were required to conduct “dry weather field screening” to evaluate the possible occurrence of illicit connections and improper dumping. The theory is that dry weather flows should not be occurring in the stormwater system and are indicative of non-stormwater discharges. However, in Florida, where high water tables and tidally influenced stormwater conveyance systems are very common, dry weather screening did not prove useful. Accordingly, dry weather field screening is not required in Florida. Instead, permittees are required to implement both a “proactive” and a “reactive” program to identify and eliminate illicit discharges from the MS4 as described below.

7. c.1 Illicit Discharges and Improper Disposal —Proactive Inspection Program

PERMIT ACTIVITY	PERMIT REPORTING
<p>During Year 1 of the permit, develop and implement a written proactive inspection program plan for identifying and eliminating sources of illicit discharges, illicit connections, or dumping to the MS4. The permittee shall inspect portions of the MS4 that have a reasonable potential of containing illicit discharges, connections, or dumping, or other sources of non-stormwater. Facility inspections may be carried out in conjunction with other permittee programs (e.g., pretreatment inspections of industrial users, health inspections, fire inspections, etc.), but must include inspections for areas/facilities not normally visited by the permittee.</p> <p>The plan shall include the following: the procedures and criteria for identifying priority areas/facilities; a list of identified priority areas/facilities; an annual schedule for inspections; procedures for conducting the site inspections (including confirming whether a facility has coverage under the Department’s <i>NPDES Multi-Sector Generic Permit for Stormwater Discharge Associated with Industrial Activity</i> (62-621.300(5), F.A.C.), if applicable); procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; procedures for documenting the inspections and any enforcement activities (including use of a standard form/report); procedures for enforcement actions or referrals to the appropriate jurisdictional authority; identification of the staff/department(s)/outside entities responsible for performing the inspections and the enforcement activities; and a description of the resources allocated to implement the plan.</p> <p>Priority areas shall include the following as applicable to the permittee’s jurisdiction:</p> <ul style="list-style-type: none"> • Areas with older infrastructure, • Industrial, commercial, or mixed use areas, • Areas with a history of past illicit discharge and/or illegal dumping, • Areas with on-site sewage disposal systems, and • Areas upstream of sensitive or impaired waterbodies. <p>The plan shall be developed and implemented within 12 months of the date of permit issuance, and shall be updated annually.</p> <p>If these activities are conducted by a co-permittee under a contractual agreement, one plan may be developed for all the co-permittee jurisdictions</p>	<p>Provide the written proactive inspection program plan with the Year 1 ANNUAL REPORT.</p>

<p>for which that co-permittee is responsible. The plan must include annual inspections in each co-permittee’s jurisdiction.</p>	
<p>Continue to conduct proactive inspections to identify and eliminate the source(s) of illicit discharges, illicit connections or dumping to the MS4. The permittee shall annually update and implement its written proactive inspection program plan.</p> <p>If an illicit discharge or connection is found, the permittee shall take appropriate enforcement action(s) under its illicit discharge program (ordinance or other regulatory mechanism) to correct or eliminate the discovery. The permittee shall also consider placing the facility on its high risk inventory as per Part III.A.8.a of the permit.</p> <p>If the permittee determines or suspects that an industrial facility does not have coverage as required under the Department’s <i>NPDES Multi-Sector Generic Permit for Stormwater Discharge Associated with Industrial Activity</i> (62-621.300(5), F.A.C.), referred to as the MSGP, it shall notify the Department’s NPDES stormwater staff and provide the name and address of the facility.</p> <p>Maintain documentation of the proactive inspections scheduled and performed, including the date of the inspection, findings of the inspection, type of illicit discharge(s) found, type of enforcement action(s) taken, date of verification of elimination, and any non-permitted MSGP facility referrals completed. The program shall include the use of a standard form/report for documentation purposes.</p>	<p>Report on the proactive inspection program, including the number of inspections conducted, the number of illicit activities found, the number and type of enforcement actions taken in each ANNUAL REPORT.</p>

The Proactive Illicit Discharge component of the Illicit Discharge Detection Elimination (IDDE) Program is used in Florida instead of dry weather field screening as one of the major tools to identify and eliminate illicit discharges. In some locations where high ground water tables or tidal influences do not create base flow conditions within storm sewers, the Proactive Program may include dry weather screening. The first step in implementing an efficient and effective Proactive Program is to develop a written plan with Standard Operating Procedures. The plan must include each of the requirements listed above including a tracking system to report on the number of inspections done and the actions that resulted from the inspections. The plan shall include the written standard form used for reporting illicit discharge inspections and resulting actions. Resources that are available to assist you in this effort include the [EPA Stormwater Menu](#) which has a good bit of information on how to establish an effective illicit discharge program. The plan can incorporate routine actions undertaken by permittee personnel or contractors such as litter pickup on roadsides to combine efforts and save money.

One of the first steps in establishing your proactive plan is to identify staff from the MS4 city or county that are “out in the field” on a regular basis. This may include police or sheriff personnel, building inspectors, code enforcement inspectors, maintenance staff from a variety of local government operations, stormwater inspectors, etc. Training on how to identify, document, and take action against illicit discharges is then held for these staff. The cultural change that must occur is for the local government management and especially the supervisors of these staff members to embrace these additional responsibilities and to make “preventing pointless personal pollution” a community priority.

Questions to consider:

1. Do our written plan and SOPs clearly provide staff with the procedures that need to be followed when conducting proactive or reactive inspections of illicit discharges. Do they know what to do when illicit discharges are found including how to properly document and track the problem and its resolution?
2. Do we know where in our community there is a higher potential for illicit discharges, connections, or dumping, and have we prioritized them for inspections?
3. Do we have an effective training plan to assure our staff has proper training to identify and eliminate illicit discharges into the MS4 system?
4. Do we have effective spill prevention and response plan to assure that such materials do not enter the stormwater system and they are cleaned up and disposed of properly? Do we have effective communication between the stormwater program and other programs or departments, such as the fire and police departments, that are responsible for spill prevention and response?
5. Do we have an effective public education program to inform our citizens how to identify and report suspected illicit discharges to the stormwater system?
6. Do we have an effective public education program to inform our citizens how to properly recycle or dispose of used oil, toxics, and other household hazardous wastes?
7. Do we have effective communication between the stormwater program and the wastewater program to minimize sanitary sewer overflows into the stormwater system?

The [IDDE Guidance Manual](#) prepared by the Center for Watershed Protection identifies four steps for the development of an effective IDDE program:

1. *Audit Existing Resources and Programs:* It is important to identify the most appropriate and capable agencies and staff to administer and implement an IDDE program early in the process. Gaps in financial or staffing resources should be noted and addressed as the program is developed. A comprehensive self-audit is recommended to determine the effectiveness and efficiency of existing programs. A self-audit should address and research existing sewer infrastructure (storm and sanitary), legal authority, mapping and geographic information system (GIS) resources, as well as field and laboratory staff and equipment. Available educational and emergency response resources should be assessed as well. And, of course, financial resources and fiscal planning requirements must be reviewed. The audit should not focus solely on "in-house" resources. It should also explore the possibility of integrating resources from neighboring jurisdictions, co-permittees, non-profit organizations and volunteers, and other agencies.
2. *Establish Responsibility, Authority, and Tracking:* To implement an effective IDDE program, three primary questions must be answered early in the process:
 - Who will be responsible for administration?
 - On what legal authority?
 - How will detected discharges and follow up elimination activities be tracked?

Based on the self-audit, determine the most capable agency or department to administer the program. Is the public works department, for example, equipped and authorized to run the

program? Local ordinances may need to be amended or developed to implement and enforce an IDDE program. In general, an IDDE ordinance should prohibit illicit discharges, provide the authority to investigate suspected discharges, and define the enforcement tools necessary to require responsible parties to eliminate the discharges. This authority may be available in an existing stormwater ordinance, in building or health codes, or in a combination of all three.

A tracking system is important because it allows the program administrator to track illicit discharges and follow up activities, and to measure progress toward program goals. The tracking system could be incorporated into an existing system (i.e., GIS system, spill response, citizen complaints) or developed expressly for the IDDE program. Ideally, the tracking system would be part of a broader stormwater GIS system that would allow for geospatial analysis of trends in illicit discharge activity. The tracking system should be developed early in the process to allow managers to more effectively evaluate and report progress.

3. *Complete a Desktop Assessment of Illicit Discharge Potential:* Many municipalities have finite resources for detecting and eliminating illicit discharges. To develop the most cost-effective and efficient IDDE program, it is important to prioritize areas within a community for investigation. The Center for Watershed Protection (CWP) has developed a "desktop assessment method" to rapidly determine the potential severity of illicit discharges in various areas throughout a community or watershed. The method has five elements:
 - a. Watershed delineation
 - b. Data and mapping compilation
 - c. Derivation of discharge screening factors
 - d. Screening and ranking of areas based on these factors
 - e. Mapping priority locations for field investigations

Refer to the IDDE Guidance Manual for a more detailed explanation of the process. The effectiveness of an assessment will vary based on what data are available.

4. *Develop Program Goals and Implementation Strategies:* After completing the audit and desktop assessment, it is critical that a program manager develop achievable, measurable IDDE goals. The stormwater manager should now have a basic understanding of community water quality issues, how and in what areas IDDE may be impacting receiving waters, and the resources available to eliminate the discharges. This information should be used to set measurable goals and strategies to achieve those goals. Detailed implementation strategies should be documented in standard operating procedures (SOPs) to ensure management and field staff is aware of procedures, reporting requirements, contact staff, and schedules. Over time, goals should be reassessed based on progress and changing water quality or community conditions.

To better understand the sources of pollutants in illicit discharges or to quantify the pollutant loadings from such sources requires stormwater monitoring to be done. The IDDE Guidance Manual above includes excellent information on establishing such monitoring programs. Other resources available to assist in developing monitoring programs include [Methods for Detection of Inappropriate Discharges to Storm Drainage Systems: Background Literature and Summary of Findings](#) and [Source Verification Of Inappropriate Discharges To Storm Drainage Systems](#).

7.c.2 Illicit Discharges and Improper Disposal —Reactive Inspection Program

PERMIT ACTIVITY	PERMIT REPORTING
<p>Annually review (and revise, as needed) and implement the permittee’s written procedures to conduct reactive investigations to identify and eliminate the source(s) of illicit discharges, illicit connections or improper disposal to the MS4, based on reports received from permittee personnel, contractors, citizens, or other entities regarding suspected illicit activity.*</p> <p>Based upon the reports received, investigate the suspected illicit activity. Through additional sampling or investigation and systematically tracing the source upstream from the point of initial detection, identify the source and begin enforcement action to correct or eliminate the problem.</p> <p>If an illicit discharge or connection is found, the permittee shall take appropriate enforcement action(s) under its illicit discharge program (ordinance or other regulatory mechanism) to correct or eliminate the discovery. The permittee shall also consider placing the facility on its high risk inventory as per Part III.A.8.a of the permit.</p> <p>If the permittee determines or suspects that an industrial facility does not have coverage as required under the Department’s <i>NPDES Multi-Sector Generic Permit for Stormwater Discharge Associated with Industrial Activity</i> (62-621.300(5), F.A.C.), referred to as the MSGP, it shall notify the Department’s NPDES stormwater staff and provide the name and address of the facility.</p> <p>Maintain documentation of the reactive investigations performed, including the date of the initial complaint or observation (from permittee personnel, contractors, citizens, or other entities), source and type of illicit discharge, date of the investigation, findings of the investigation, type of enforcement action(s) taken, date of verification of elimination, and any non-permitted MSGP facility referrals completed. The program shall include the use of a standard form/report for documentation purposes.</p>	<p>Report on the reactive investigation program as it relates to responding to reports of suspected illicit discharges, including the number of reports received, the number of investigations conducted, the number of illicit activities found, and the number and type of enforcement actions taken in each ANNUAL REPORT.</p>

The Illicit Discharge Detection Elimination (IDDE) Program also must include a **Reactive Program Component**. This section of the IDDE Program can be almost identical to the Proactive Program component except it specifies how the permittee will respond to complaints or observations of suspected illicit activity. A major need for this component is a mechanism, such as a phone line or web site, which the public can use to report suspected illicit discharges. For example, several of our county MS4s have toll free [hotlines](#) that can be used to report illicit discharges. These can be implemented jointly among co-permittees or individually by each permittee depending upon the system that is used.

7.c.3 Illicit Discharges and Improper Disposal —Training Program

PERMIT ACTIVITY	PERMIT REPORTING
<p>During Year 1 of the permit, develop and implement a written plan for the training of all appropriate permittee personnel (including field crews, fleet maintenance staff, and inspectors) and contractors to identify and report conditions in the stormwater facilities that may indicate the presence of illicit</p>	<p>Report type of training activities, and the</p>

<p>discharges/ connections/dumping to the MS4. Instruct personnel and appropriate contractors to be alert for illicit connections and suspicious flows during routine maintenance activities (particularly in areas with high risk facilities). Include in the training an overview of the NPDES stormwater permitting requirements under the Department's <i>NPDES Multi-Sector Generic Permit for Stormwater Discharge Associated with Industrial Activity</i> (62-621.300(5), F.A.C.), referred to as the MSGP, and the types of facilities covered under the MSGP.</p> <p>Maintain documentation of the training activities, including the date of the training, the type of training, the topic(s) covered, and the names and affiliations of the participants.</p>	<p>number of permittee personnel and contractors trained (both in-house and outside training), in each ANNUAL REPORT</p>
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Permittees are required to train field staff and appropriate contractors, who may come into contact or observe illicit discharges, on the identification and proper procedures for reporting illicit discharges. Field staff or contractors to be trained may include, but are not limited to, maintenance staff, inspectors, and other staff whose job responsibilities regularly take them out of the office and into areas within the MS4 area. For example, staff or contractors that are involved in litter pickup, mowing, or road repairs. They need to be educated about what constitutes an illicit discharge, how to identify one, safety precautions to take if one is found, and what follow up actions to take if one is discovered. Permittee field employees and contractors are out in the community every day and are in the best position to locate and report spills, illicit discharges, and potentially polluting activities. With proper training and information on reporting illicit discharges easily accessible, these field staff can greatly expand the reach of the IDDE program. For contractors, it is suggested that all contract documents include language requiring all contractors to be trained and knowledgeable about identifying and eliminating illicit discharges.

To provide the required training, several of our MS4s have developed excellent materials. We are working with the Stormwater Education Task Force at the UCF Stormwater Management Academy to collect these and make them available to the MS4 community.

This training program can be combined with and integrated with the Spill Prevention and Response training that is required by Component 7d of the MS4 permit. For example, the Florida Stormwater Association has revised its Stormwater Operator Training Program so that it effectively covers the illicit discharge training requirements for MS4 permittees.

Information about the NPDES MultiSector Generic Permit for stormwater discharges associated with industrial activity is available at: <http://www.dep.state.fl.us/water/stormwater/npdes/industrial1.htm>. Furthermore, a list of all facilities that have an active NPDES stormwater permit (CGP, MSGP, or NEX) is available as the "NPDES Stormwater Facilities" Excel spreadsheet, which is updated weekly, and can be downloaded from <http://www.dep.state.fl.us/water/wastewater/facinfo.htm>.

The permit also requires "refresher training" annually. This does not mean that the people that have been trained must go through the entire initial training program. The concept is to assure that all staff remains up to date with changes in procedures, BMP technologies, or other relevant factors as appropriate. Generally, this can be accomplished through a short meeting or seminar or even a "Lunch and Learn" event.

7. d. Illicit Discharges and Improper Disposal — Spill Prevention and Response

PERMIT ACTIVITY	PERMIT REPORTING
<p>Annually review (and revise, as needed) and implement the permittee's written spill-prevention/spill-response plan and procedures to prevent, contain, and respond to spills that discharge into the MS4.* Ensure that spills, regardless of whether they are hazardous, are properly addressed.</p> <p>Maintain documentation of the spill prevention and response activities.</p> <p>*(If the permittee does not already have a written plan and procedures in place, they shall be developed and implemented within 12 months of the date of permit issuance.)</p>	<p>Report on the spill prevention and response activities, including the number of spills addressed, in each ANNUAL REPORT.</p>
<p>During Year 1 of the permit, develop and implement a written plan for the training of all appropriate permittee personnel (including field crews, firefighters, fleet maintenance staff and inspectors) and contractors on proper spill prevention, containment, and response techniques and procedures. The training shall include how to prevent a spill, recognize and quickly assess the nature of a spill, contain a spill, and promptly report hazardous material and chemical spills to the appropriate authority.</p> <p>The plan shall include the following: a description of the topics to be covered; a description of the personnel and contractors targeted for training; the methods and materials to be used for the training; identification of the staff/ department(s)/ outside entities who will perform the training; the method for documenting the training activities; and the annual schedule for the training. The plan shall address comprehensive training for new personnel and refresher training for current personnel.</p> <p>The plan shall be developed and implemented within 12 months of the date of permit issuance, and be reviewed annually and updated as needed to reflect changes in procedures, techniques, or staffing. Follow-up training shall be provided annually.</p> <p>Maintain documentation of the training activities, including the date of the training, the type of training, the topic(s) covered, and the names and affiliations of the participants.</p>	<p>Report the type of training activities, and the number of permittee personnel and contractors trained (both in-house and outside training), in each ANNUAL REPORT.</p>

Spills, leaks, sanitary sewer overflows, and illicit dumping or discharges can introduce a wide variety of pollutants into stormwater and into the storm system. Prompt response to these occurrences is the best way to prevent or reduce negative impacts to receiving waters. The permittee must develop a Spill Response Plan that includes an investigation procedure similar to or in conjunction with the IDDE Plan developed above for illicit discharges. However, a different entity is often responsible for spill response in a community (i.e. fire department), therefore, it is imperative that effective communication exists between stormwater and spill response staff to ensure that spills are documented and investigated in a timely manner. If necessary, an Interlocal Agreement may be executed to assure that all parties understand their roles and responsibilities, especially with regard to documentation and annual reporting. The Spill Response Plan should include SOP's for addressing the different types of spills that may occur. These include

wastewater spills, chemical spills, biohazard spills including blood borne pathogens, and releases from underground or above ground storage tanks.

In developing the Spill Response Plan, the permittee needs to remember the requirements associated with wastewater permits within their jurisdiction. Wastewater incidents, which include wastewater spills, can pose a threat to the environment and the public health. Immediate notification and appropriate response are essential factors at minimizing the impact from wastewater incidents. Spills which are of 1,000 gallons or greater, or which may threaten the environment or public health are required to be immediately reported by a utility to the Florida Department of Environmental Protection (FDEP) through a **toll-free, 24-hour hotline** known as the [State Warning Point](#). The toll free number is 1-800-320-0519. Citizens also are encouraged to report any suspected wastewater incidents to the toll-free number. Please note that a utility which experiences a spill less than 1,000 gallons is only required to report such incident to the Department by notifying their appropriate [District Office or delegated local program](#).

Examples of Spill Response Plans from Florida MS4s are being collected by the Florida Stormwater Education Task Force for incorporation into the Stormwater Education Tool Kit maintained by the UCF Stormwater Management Academy.

7. e. Illicit Discharges and Improper Disposal — Public Reporting.

PERMIT ACTIVITY	PERMIT REPORTING
<p>During Year 1 of the permit, develop and implement a written public education and outreach program plan to promote, publicize, and facilitate public reporting of the presence of illicit discharges and improper disposal of materials into the MS4. As part of this program, the permittee shall continue to maintain a phone line for public reporting of suspected illicit discharges and improper disposal, and publicize the existence of this number on a routine basis. The permittee shall also disseminate information on the problems associated with illicit discharges, illicit connections and improper disposal, how to identify them, and how to report incidents discovered.</p> <p>Maintain documentation of the type and number of public education and outreach activities conducted, the type and number of materials distributed, the percentage of the population reached by the education and outreach activities in total, and the number of Web site visits (if applicable).</p>	<p>In each ANNUAL REPORT, report on the public education and outreach activities that are performed or sponsored by the permittee within the permittee’s jurisdiction to encourage the public reporting of suspected illicit discharges and improper disposal of materials, including the type and number of activities conducted, the type and number of materials distributed, the percentage of the population reached by the activities in total, and the number of Web site visits (if applicable).</p>

Educating the public about illicit discharges and the improper disposal of common household items is an essential and ongoing task for any stormwater management agency. The Public Education Plan can be combined with the plan required by Component 7f which is designed to educate the public about proper use and disposal of used motor vehicle fluids, leftover hazardous household products, and lead acid batteries. Fortunately, a variety of educational materials have been created to assist permittees with this effort. Many of these materials are part of the [Stormwater Education Tool Kit](#) at the UCF Stormwater Management Academy. Additional, DEP’s [Nonpoint Source Management Program](#) has developed materials for public education including the [TAPPWATER](#) public service announcements.

An excellent tool for encouraging the public to report spills or other illicit discharges is a “**stormwater hotline**”. Spills can include everything from an overturned gasoline tanker to sediment leaving a construction site to a sanitary sewer overflow entering into a storm drain. Permittees must set up a “hotline” for the public to report such incidences. The hotline may consist of any of the following (or combination thereof): a dedicated or non-dedicated phone line, a toll free telephone number, an E-mail address, an electronic form linked directly to a utility or government agency, or website. There are four primary steps in establishing the hotline:

The first step is to **decide which agency will be responsible for the hotline**. To establish a stormwater pollution hotline, a party or agency responsible for maintaining the hotline and responding to incoming complaints must first be identified. The responsible party could be a stormwater permitting section, another division of local government, a water quality board, a public utility, or an environmental agency. If the permittee chooses to use its own staff, it should keep in mind that the staff will require training. Alternatively, the permittee could also contract with a professional hotline provider. Once the party has agreed to maintain the hotline, it will need to establish a telephone number (preferably toll-free and to be used solely to report pollution complaints) and/or Internet site to receive notification.

The next step is to **Determine the type of hotline** – *toll free number, other phone line, email address, electronic form or web site*. Thirdly, one must **determine costs**. Hotline costs can be minimized by staying a step ahead of questions and by developing a close relationship with staff to anticipate information needs. Cost estimates can be obtained by comparing the costs of training permittee staff to the costs of hiring a professional hotline service. A cost comparison should also be made between a person and an e-mail presence for the hotline. Permittees can obtain specific information about establishing and running a hotline by interviewing contractors who specialize in hotline operation.

Finally, **publicize the hotline**. All distributed materials should include stormwater pollution hotline numbers and information. Typically, hotlines are advertised on public education materials concerned with water quality, such as flyers, door hangers, and brochures. The hotline could also be publicized on "permanent" materials such as bumper stickers and refrigerator magnets, where the number can be retained and easily located.

7. f. Illicit Discharges and Improper Disposal — Oils, Toxics, and Household Hazardous Waste Control

PERMIT ACTIVITY	PERMIT REPORTING
<p>During Year 1 of the permit, develop and implement a written public education and outreach program plan to encourage the proper use and disposal of used motor vehicle fluids, leftover hazardous household products, and lead acid batteries. On a routine basis, inform the public of the locations of collection facilities for these materials, including a description of the types of materials accepted and the hours of operation. The outreach program could include an activity such as the stenciling/marketing of municipally-owned storm sewer inlets, and providing information through the Internet, utility bill inserts, brochures, flyers, PSAs, presentations, etc.</p> <p>The plan shall also include the following: the goals and objectives of</p>	<p>In each ANNUAL REPORT, report on the public education and outreach activities that are performed or sponsored by the permittee within the permittee’s jurisdiction to encourage the proper use and disposal of oils, toxics, and household</p>

<p>the program; the topics to be addressed; a description of the target audience(s); a description of the activities and materials (including clarification of which topics are to be addressed by each) to be employed to reach each target audience and an explanation of why those particular activities/materials were chosen; the percentage of each target audience expected to be reached by each activity/material; the methods for distribution of the outreach materials; the annual schedule for the activities; the method for documenting the outreach activities; identification of the staff/department(s)/outside entities responsible for performing the outreach activities; a description of the resources allocated to implement the plan; and the method for assessing changes in public awareness and behavior resulting from the implementation of the program.</p> <p>If these activities are conducted by a co-permittee under a contractual agreement, one plan may be developed for all the co-permittee jurisdictions for which that co-permittee is responsible.</p> <p>The plan shall be developed and implemented within 12 months of the date of permit issuance, and shall be updated annually. Maintain documentation of the type and number of public education and outreach activities conducted, the type and number of materials distributed, the amount of waste collected/ recycled/ properly disposed, the percentage of the population reached by the education and outreach activities in total, and the number of Web site visits (if applicable).</p>	<p>hazardous waste, including the type and number of activities conducted, the type and number of materials distributed, the amount of waste collected/ recycled/ properly disposed, the percentage of the population reached by the activities in total, and the number of Web site visits (if applicable).</p>
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As discussed above, the Public Education Plan required by Components 7e and 7f can be combined since they are both designed to educate the public about how to properly dispose of common household materials and thereby prevent them from getting into the stormwater system. DEP's [Waste Management Program](#) has developed programs and educational materials on proper use and disposal of used motor vehicle fluids, leftover hazardous household products, and lead acid batteries.

Statewide, only 35 percent of the more than seven million gallons of motor oil used annually is recycled. DEP strives to prevent environmental damage by encouraging Floridians to recycle used oil at one of the 1,100 Public Used Oil Collection Centers located throughout the State. In 2008, Florida's nationally recognized Public Used Oil Collection Centers successfully recycled 2,302,169 gallons of used oil. All Public Used Oil Collection Centers serve as free used motor oil recycling centers. To find a Public Used Oil Collection Center near you call 1-800-741-4DEP. DEP has implemented the "Bring Every Quart Back" campaign that includes [Public Service Announcements](#) that can be used to educate the public about proper disposal and recycling of these materials. [Additional information](#) is available on recycling other types of automotive fluids.

Under Florida law, it is illegal to discard nickel-cadmium or small sealed lead acid rechargeable batteries or products containing such rechargeable batteries in the trash. [The batteries must be recycled or sent to a facility permitted to dispose of those batteries.](#) This prohibition applies to

every resident as well as every business, institutional, government, industrial, commercial, communications or medical facility in the state.

Florida lawmakers passed the prohibition because of growing concern over the effects of the toxic heavy metals cadmium and lead on public health and the environment. Cadmium and lead can enter the environment from several sources including solid waste landfills and municipal waste combustors. Once in the environment both can accumulate in food crops and edible fish as well as appear in drinking water and the air we breathe. In humans and animals, long term exposure to these metals can result in brain, lung and kidney damage and is suspected to cause cancer. Lead exposure is especially harmful to unborn and very young children and can result in premature birth, slow growth and decreased intelligence.

DEP has created a brochure entitled the [Florida Homeowner's Guide to Battery Recycling and Disposal](#). Another excellent resource is the web page entitled [Where Do I Recycle Rechargeable Batteries](#). Furthermore, a wealth of information is available on [recycling in general](#).

Hazardous waste materials exhibit one or more characteristics of ignitability, corrosivity, reactivity or toxicity which make them dangerous. Paint products, pool chemicals, household cleaners and pesticides are typical examples. When disposed of in the municipal solid waste stream or the municipal stormwater system, these materials have the potential of contaminating our surface or ground waters. The Florida Legislature initiated the Hazardous Waste Collection Center Grant Program to encourage the establishment of a statewide network of local hazardous waste collection centers. These facilities are intended to provide free collections of non-regulated hazardous waste from households and to provide short-term storage of potentially hazardous waste generated by small businesses. Also, the public awareness component of a collection not only helps citizens to better understand and manage their household hazardous waste, but may help them to learn to reduce the volume they generate. You can put your zip code into the [box](#) to find the nearest Hazardous Waste Collection Center.

To help educate the public about Household Hazardous Wastes a variety of educational tools and materials have been developed. These include an interactive web site to learn about [hazardous wastes around the home](#) and a web site on [household hazardous wastes](#). One of the emerging issues associated with household hazardous wastes is the [proper disposal of unused medicines](#).

7. g. Illicit Discharges and Improper Disposal — Limitation of Sanitary Sewer Seepage

PERMIT ACTIVITY	PERMIT REPORTING
<p>Annually review (and revise, as needed) and implement the permittee's written procedures to reduce or eliminate sanitary wastewater contamination into the MS4, including discharges to the MS4 from sanitary sewer overflows (SSOs) and from inflow/infiltration from collection / transmission systems and/or septic tank systems.</p> <p>Maintain documentation of the SSOs and inflow/ infiltration incidents addressed.</p>	<p>Report on the type and number of activities undertaken to reduce or eliminate SSOs and inflow/infiltration, the number of SSOs or inflow/infiltration incidents found and the number resolved, and the name of the owner of the sanitary sewer system within the permittee's</p>

	jurisdiction, in each ANNUAL REPORT.
FDOT - Advise the appropriate utility owner of a violation if constituents common to wastewater contamination are discovered in FDOT's MS4.	Report the number of violations referred to the appropriate utility owner and the name of the utility owner in each ANNUAL REPORT.

Properly designed, operated, and maintained sanitary sewer systems are meant to collect and transport all of the sewage that flows into them to a publicly owned treatment works (POTW). However, occasional unintentional discharges of raw sewage from municipal sanitary sewers occur in almost every system. These types of discharges are called sanitary sewer overflows (SSOs). SSOs have a variety of causes, including but not limited to severe weather, improper system operation and maintenance, and vandalism. EPA estimates that there are at least 40,000 SSOs each year. The untreated sewage from these overflows can contaminate our stormwater and our receiving waters, causing serious water quality problems. It can also back-up into basements, causing property damage and threatening public health. Coordination with the permittee's wastewater utility will be essential in completing this component.

EPA has created [numerous materials](#) on the importance of stopping SSOs and on the process steps that a wastewater utility can follow to minimize them. In addition, SOPs, inspection checklists and other materials are available from [Partners for a Cleaner Environment](#).

COMPONENT 8. A. INDUSTRIAL AND HIGH RISK RUNOFF — IDENTIFICATION OF PRIORITIES AND PROCEDURES FOR INSPECTIONS

Questions to consider:

1. Do our stormwater program staff clearly understand what industries qualify as a high risk facility?
2. Do we have an accurate and up-to-date inventory of all of the high risk facilities discharging into our MS4?
3. Do we know the outfall locations, and contributing watersheds, for the high risk facilities and receiving waters into which they discharge?
4. Do we know how to obtain EPA's annual Toxics Release Inventory?
5. Do we know which industrial facilities are required to obtain coverage under the MultiSector Generic Permit?
6. Do we have a written plan that specifies the SOPs to be followed for prioritizing and conducting inspections of high risk facilities?

One of the goals of the MS4 program is to reduce the discharge of pollutants into the MS4 system. Land uses associated with waste management activities and with certain industrial activities represent a high risk potential for the discharge of pollutants into the MS4 system. To address the stormwater impacts from such facilities, a two-fold approach is being used. First these facilities must obtain coverage under the Multi-Sector Generic Permit and implement a stormwater pollution prevention plan to reduce pollutants in their stormwater discharges. Unfortunately, it appears that a majority of such facilities in Florida have not sought coverage under the MSGP and therefore they are not implementing BMPs to reduce stormwater pollution. To obtain a list of all facilities that have an active NPDES stormwater permit (CGP, MSGP, or NEX), please download the "NPDES Stormwater Facilities" Excel spreadsheet, which is updated weekly, from <http://www.dep.state.fl.us/water/wastewater/facinfo.htm>.

The second approach is through the program that must be established under Component 8 of the MS4 permit. This requires the development and implementation of an inspection program for facilities that handle waste and for certain high risk industrial facilities. The first step in developing this program is development and maintenance of a inventory or data base containing information about the existing high risk and industrial facilities within the MS4's jurisdiction. In their first permit term, MS4 permittees developed inventories by searching various databases. An annual update of the inventory may be performed by reviewing current database information. DEP's Waste Management Program maintains [several data bases](#) on these types of facilities. Several of the databases are available on the [U.S. EPA's Envirofacts Data Warehouse website](#). This site will allow a multi-system query that will generate a list of facilities from the CERCLIS, RCRA Info, and TRI databases, matching the input search criteria. Please note that the query will match the search criteria exactly; therefore, if database information is misspelled or not accurate, the resulting list may not contain all the facilities of interest. For example, many facilities in Palm Beach County are listed with a city of "West Palm Beach," while they are physically located in other nearby municipalities.

The major types of High Risk Industrial Facilities include:

1. *Municipal Landfills*: A list of operating and closed landfills may be available from your county solid waste agency. In addition, DEP maintains a [data base](#) of these facilities, a data base on their permitting compliance, and additional information is available from the appropriate DEP District Office Waste Management Program staff.

2. *Hazardous Waste Generation, Transportation, Treatment, Storage, Disposal and Recovery Facilities:* These facilities are required to report to the appropriate State agency under the Resource Conservation and Recovery Act. DEP's Hazardous Waste Program maintains a [Hazardous Waste Handler data base](#) that can be queried about these facilities. Additionally, reported information is collected, validated and maintained by EPA regional offices in an information system (RCRIS) that can be accessed through the Environmental Protection Agency website.
3. *Facilities reporting under EPCRA (Emergency Planning and Community Right-to-Know Act), Title III, Section 313:* Section 313 of EPCRA requires that certain businesses submit annual Toxic Chemical Release Forms for each toxic chemical retained onsite above the threshold amount. Reporting must be made to both the EPA and the respective State Emergency Response Commission. A list of the Section 313 facilities is found in the [Toxic Release Inventory](#) (TRI).
4. The EPA site also maintains a list of abandoned and/or inactive or uncontrolled Superfund sites. called [CERCLIS](#) that may be searched for these sites.
5. *Private and Municipal Waste Handling Facilities:* A list of these facilities can be obtained from the DEP's [waste management data bases](#) or from DEP's [data base of NPDES permits](#).
6. *Any Industrial Commercial Facility that the Co-Permittee Determines is Contributing a Substantial Pollutant Loading into Its MS4:* Each co-permittee may add facilities to its inventory based on experience and locally available information. For example, Palm Beach County maintains a wellfield operating permit database with an inventory of facilities that MS4 co-permittees may want to review.

The program must establish criteria to prioritize industrial and high risk facilities that exist within the MS4 jurisdiction for inspection. The priorities must include the four categories of high risk facilities listed in the box below. Other factors to consider in establishing priorities include:

- the type of industrial activity (SIC codes may be helpful)
- the use and management of chemicals and raw materials at a facility and the likelihood that these can contribute pollutants into stormwater from the site
- the size and location of the facility with respect to its discharge point

The prioritization process and the list of facilities to be inspected needs to be reviewed periodically and revised as necessary to properly target facilities that are contributing pollutants to the MS4.

The written plan for conducting inspections of these facilities should include:

- an annual inspection schedule that includes the order, frequency and timing of inspections
- procedures for conducting the site inspections which should include written SOPs and inspection checklist (including confirming whether a facility has coverage under the MSGP, if applicable)
- procedures for addressing discharges to the MS4 that are not in compliance and the necessary legal authority
- procedures for documenting the inspections and any enforcement activities (including use of a standard form/report)

- identification of the staff/ department(s)/ outside entities responsible for performing the inspections and the enforcement activities
- a schedule for the training of the inspectors
- a tracking system to be able to provide easy annual reporting

An example inspection checklist for these types of facilities can be found in Appendix D-1.

8. A. Industrial and high risk runoff — identification of priorities and procedures for inspections

PERMIT ACTIVITY	PERMIT REPORTING
<p>Continue to maintain an up-to-date inventory of all existing high risk facilities discharging into the permittee’s MS4. The inventory shall identify the outfall and surface waterbody into which each high risk facility discharges. For the purposes of this permit, high risk facilities include:</p> <ul style="list-style-type: none"> • operating municipal landfills; • hazardous waste treatment, storage, disposal and recovery facilities; • facilities that are subject to EPCRA Title III, Section 313 (also known as the Toxics Release Inventory (TRI) maintained by the U.S. EPA); and • any other industrial or commercial discharge that the permittee determines is contributing a substantial pollutant loading to the permittee’s MS4. This could include facilities identified through the proactive inspection program as per Part III.A.7.c of the permit. 	<p>Report on the high risk facilities inventory, including the type and total number of high risk facilities and the number of facilities newly added each year, in each ANNUAL REPORT</p>
<p>During Year 1 of the permit, develop and implement a written plan for conducting inspections of high risk facilities to determine compliance with all appropriate aspects of the stormwater program (e.g., no illicit discharges/ connections/ dumping, compliance with local stormwater regulation requirements, coverage under the Department’s <i>NPDES Multi-Sector Generic Permit for Stormwater Discharge Associated with Industrial Activity</i> (62-621.300(5), F.A.C.), referred to as the MSGP.</p> <p>The plan shall include the following: procedures for prioritizing the inventoried facilities for inspection; an annual inspection schedule (that includes the order, frequency and timing of inspections); procedures for conducting the site inspections (including confirming whether a facility has coverage under the MSGP, if applicable); procedures for addressing discharges to the MS4 that are not in compliance; procedures for documenting the inspections and any enforcement activities (including use of a standard form/report); identification of the staff/ department(s)/ outside entities responsible for performing the inspections and the enforcement activities; a schedule for the training of the inspectors as per Part III.A.7.c of the permit; and a description of the resources allocated to implement the plan.</p> <p>The plan shall be developed and implemented within 12 months of</p>	<p>Report on the high risk facilities inspection program, including the number of inspections conducted, the number and type of enforcement actions taken in each ANNUAL REPORT</p>

<p>the date of permit issuance, and shall be updated annually.</p> <p>If the permittee determines or suspects that an industrial facility does not have coverage as required under the Department's <i>NPDES Multi-Sector Generic Permit for Stormwater Discharge Associated with Industrial Activity</i> (62-621.300(5), F.A.C.), referred to as the MSGP, it shall notify the Department's NPDES stormwater staff and provide the name and address of the facility.</p> <p>Maintain documentation of the high risk inspections scheduled and performed, including the date of the inspection, findings of the inspection, type of illicit discharge(s) found, type of enforcement action(s) taken, date of verification of elimination, and any non-permitted MSGP facility referrals completed.</p>	
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Component 8. b. Industrial and High Risk Runoff — Monitoring for High Risk Industries

<p>Questions to consider:</p> <ol style="list-style-type: none"> 1. Are we aware of new high risk industrial facilities that are discharging into the MS4 and do we have evaluation criteria established to assess pollutant loading to the MS4? 2. Do we know what pollutants and how much pollutant loading the new high risk industrial facilities are discharging into the MS4? 3. Do we have a plan for sampling, on an as needed basis, high risk facilities that are suspected of illicit discharges into the MS4?

To assure that the inventory of high risk industrial facilities is up-to-date, it is important to have intra-governmental communication procedures so that the MS4 program is notified when new high risk facilities come to town. In addition to adding such facilities to the inventory required by Component 8a, the MS4 program needs to be able to assess the types and amounts of pollutant loads that will be discharged into the MS4 from such facilities. Section 40CFR Part 122.26 (v)(2)(iv)(C)(2) identifies the requirements for monitoring high risk facilities. Specifically, the following categories of industrial dischargers should be monitored to evaluate their impact on the MS4 and its discharges:

- any pollutants limited in effluent guidelines subcategories, where applicable;
- any pollutant listed in an existing NPDES permit for a facility;
- any pollutant for which a water body is verified as impaired
- oil and grease,
- COD,
- pH
- BOD₅
- TSS
- Total phosphorus
- Total Kjeldahl nitrogen
- Nitrate plus nitrite nitrogen
- and any information on industrial discharges required under §122.21(g)(7) (vi) and (vii).

With respect to the first bullet, the following categories of stormwater associated with industrial activities have effluent guidelines set in the MultiSector Generic Permit.

Table 1. Applicable Effluent Limitations Guidelines (EPA 2008 MSGP Part 2.1.3)

Regulated Activity	40 CFR Part/Subpart
Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	Part 429, Subpart I
Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products, or waste products (SIC 2874)	Part 418, Subpart A
Runoff from asphalt emulsion facilities	Part 443, Subpart A
Runoff from material storage piles at cement manufacturing facilities	Part 411, Subpart C
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	Part 436, Subparts B,C, or D
Runoff from hazardous waste landfills	Part 445, Subpart A
Runoff from non-hazardous waste landfills	Part 445, Subpart B
Runoff from coal storage piles at steam electric generating facilities	Part 423

With respect to the last bullet above, please remember that this section of the Federal Register lists requirements for entities applying for an industrial wastewater permit not a stormwater permit.

122.21 (g)(7) vi and vii - Referenced in High Risk Monitoring section of MS4 regulations

(g) *Application requirements for existing manufacturing, commercial, mining, and silvicultural dischargers.* Existing manufacturing, commercial mining, and silvicultural dischargers applying for NPDES permits, except for those facilities subject to the requirements of §122.21(h), shall provide the following information to the Director, using application forms provided by the Director.

(vi)(A) Each applicant must indicate whether it knows or has reason to believe that any of the pollutants in table IV of appendix D of this part (certain conventional and nonconventional pollutants) is discharged from each outfall. If an applicable effluent limitations guideline either directly limits the pollutant or, by its express terms, indirectly limits the pollutant through limitations on an indicator, the applicant must report quantitative data. For every pollutant discharged which is not so limited in an effluent limitations guideline, the applicant must either report quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

Appendix D Table IV—Conventional and Nonconventional Pollutants Required To Be Tested by Existing Dischargers if Expected to be Present

Parameters in **bold** are typically found in stormwater and should be assessed

Bromide	Phosphorus, Total	Cobalt, Total
Chlorine, Total Residual	Radioactivity	Iron, Total
Color	Sulfate	Magnesium, Total
Fecal Coliform	Sulfide	Molybdenum, Total
Fluoride	Sulfite	Manganese, Total
Nitrate-Nitrite	Surfactants	Tin, Total
Nitrogen, Total Organic	Barium, Total	Titanium, Total
Oil and Grease	Boron, Total	

(B) Each applicant must indicate whether it knows or has reason to believe that any of the pollutants listed in table II or table III of appendix D of this part (the toxic pollutants and total phenols) for which quantitative data are not otherwise required under paragraph (g)(7)(v) of this section are discharged from each outfall. For every pollutant expected to be discharged in concentrations of 10 ppb or greater the applicant must report quantitative data. For acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4, 6 dinitrophenol, where any of these four pollutants are expected to be discharged in concentrations of 100 ppb or greater the applicant must report quantitative data. For every pollutant expected to be discharged in concentrations less than 10 ppb, or in the case of acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4, 6 dinitrophenol, in concentrations less than 100 ppb, the applicant must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged. An applicant qualifying as a small business under paragraph (g)(8) of this section is not required to analyze for pollutants listed in table II of appendix D of this part (the organic toxic pollutants).

Appendix D Table 2 Table II—Organic Toxic Pollutants in Each of Four Fractions in Analysis by Gas Chromatography/Mass Spectroscopy (GS/MS)

To assist the MS4 community in better understanding which parameters listed below may be in the industrial facility’s stormwater, we have summarized information from the National Urban Runoff Program on the percent of samples collected that contained the parameter. This information is available in NURP Priority Pollutant Monitoring Project: Summary of Findings, December 1983 (EPA PB84-175686).

Color coding for following tables:

- **Compound** found in 0-10% of samples in National Urban Runoff Program
- **Compound** found in 11-50% of samples in NURP
- **Compound** found in over 50% of samples in NURP

a. Volatiles

acrolein	dichlorobromomethane	1,1,2,2-tetrachloroethane
acrylonitrile	1,1-dichloroethane	tetrachloroethylene
benzene	1,2-dichloroethane	toluene
bromoform	1,1-dichloroethylene	1,2-trans-dichloroethylene
carbon tetrachloride	1,2-dichloropropane	1,1,1-trichloroethane
chlorobenzene	1,3-dichloropropylene	1,1,2-trichloroethane
chlorodibromomethane	ethylbenzene	trichloroethylene
chloroethane	methyl bromide	vinyl chloride
2-chloroethylvinyl ether	methyl chloride	
Chloroform	methylene chloride	

b. Acid Compounds

2-chlorophenol	2,4-dinitrophenol	pentachlorophenol
2,4-dichlorophenol	2-nitrophenol	Phenol
2,4-dimethylphenol	4-nitrophenol	2,4,6-trichlorophenol
4,6-dinitro-o-cresol	p-chloro-m-cresol	

c. Base/Neutral Compounds

acenaphthene	4-chlorophenyl phenyl ether	hexachlorobenzene
acenaphthylene	chrysene	hexachlorobutadiene
anthracene	dibenzo(a,h)anthracene	hexachlorocyclopentadiene
benzidine	1,2-dichlorobenzene	hexachloroethane
benzo(a)anthracene	1,3-dichlorobenzene	indeno(1,2,3-cd)pyrene
benzo(a)pyrene	1,4-dichlorobenzene	isophorone
3,4-benzofluoranthene	3,3'-dichlorobenzidine	naphthalene
benzo(ghi)perylene	diethyl phthalate	nitrobenzene
benzo(k)fluoranthene	dimethyl phthalate	N-nitrosodimethylamine
bis(2-chloroethoxy)methane	di-n-butyl phthalate	N-nitrosodi-n-propylamine
bis(2-chloroethyl)ether	2,4-dinitrotoluene	N-nitrosodiphenylamine
bis(2-chloroisopropyl)ether	2,6-dinitrotoluene	phenanthrene
bis (2-ethylhexyl)phthalate	di-n-octyl phthalate	pyrene
4-bromophenyl phenyl ether	1,2-diphenylhydrazine (as azobenzene)	1,2,4-trichlorobenzene
butylbenzyl phthalate	fluoranthene	
2-chloronaphthalene	fluorene	

d. Pesticides

aldrin	dieldrin	PCB-1254
alpha-BHC	alpha-endosulfan	PCB-1221
beta-BHC	beta-endosulfan	PCB-1232
gamma-BHC (lindane)	endosulfan sulfate	PCB-1248
delta-BHC	endrin	PCB-1260
chlordane	endrin aldehyde	PCB-1016
4,4'-DDT	heptachlor	toxaphene
4,4'-DDE	heptachlor epoxide	
4,4'-DDD	PCB-1242	

Table III—Other Toxic Pollutants (Metals and Cyanide) and Total Phenols

Antimony	Copper	Silver
Arsenic	Lead	Thallium
Beryllium	Mercury	Zinc
Cadmium	Nickel	Cyanide
Chromium	Selenium	Phenols

(vii) Each applicant must indicate whether it knows or has reason to believe that any of the pollutants in table V of appendix D of this part (certain hazardous substances and asbestos) are discharged from each outfall. For every pollutant expected to be discharged, the applicant must briefly describe the reasons the pollutant is expected to be discharged, and report any quantitative data it has for any pollutant. NOTE: None of the compounds listed in Table V were included in the NURP monitoring program.

Table V. Toxic and Hazardous Pollutants

Asbestos	Diazinon	Isopropanolamine Dodecylbenzenesulfonate	Propylene oxide
Acetaldehyde	Dicamba	Kelthane	Pyrethrins
Allyl alcohol	Dichlobenil	Kepon	Quinoline
Allyl chloride	Dichlone	Malathion	Resorcinol
Amyl acetate	2,2- Dichloropropionic acid	Mercaptodimethur	Strontium
Aniline	Dichlorvos	Methoxychlor	Strychnine
Benzonitrile	Diethyl amine	Methyl mercaptan	Styrene
Benzyl chloride	Dimethyl amine	Methyl methacrylate	2,4,5-T (2,4,5- Trichlorophenoxy acetic acid)
Butyl acetate	Dintrobenzene	Methyl parathion	TDE (Tetrachlorodiphenylethane)
Butylamine	Diquat	Mevinphos	2,4,5-TP [2-(2,4,5- Trichlorophenoxy) propanoic acid]
Captan	Disulfoton	Mexacarbate	Trichlorofan
Carbaryl	Diuron	Monoethyl amine	Triethanolamine dodecylbenzenesulfonate
Carbofuran	Epichlorohydrin	Monomethyl amine	Triethylamine
Carbon disulfide	Ethion	Naled	Trimethylamine
Chlorpyrifos	Ethylene diamine	Napthenic acid	Uranium
Coumaphos	Ethylene dibromide	Nitrotoluene	Vanadium
Cresol	Formaldehyde	Parathion	Vinyl acetate
Crotonaldehyde	Furfural	Phenolsulfanate	Xylene

Cyclohexane	Guthion	Phosgene	Xylenol
2,4-D (2,4-Dichlorophenoxy acetic acid)	Isoprene	Propargite	Zirconium

As set forth below, the Cycle 3 MS4 permits required monitoring on an as needed basis. To assist the industrial sector, EPA has prepared an [Industrial Stormwater Monitoring and Sampling Guide](#) which may provide insights to the MS4 on this monitoring. The big question is what parameters to monitor for? Based on the above, we provide the following guidance with respect to which parameters should be monitored:

- The six standard stormwater pollutants for which loadings must be estimated: TN, TP, BOD₅, TSS, Copper, Zinc
- Any parameter for which a downstream water body is verified as impaired.
- Any parameter for which the MS4 staff believes data is needed to evaluate the effect of the discharge on the MS4 or downstream waters. This should be based on the type of industry, the pollutants typically found at such industries, and the likelihood that a pollutant will be in the facility's stormwater discharge. For example, using the NURP data, any parameter highlighted in yellow in the above tables was found in at least 50% of the stormwater samples.

8. b. Industrial and High Risk Runoff — Monitoring for High Risk Industries

PERMIT ACTIVITY	PERMIT REPORTING
<p>Sampling of the discharge to the stormwater system may be required on an as-needed basis in the event that inspections of high-risk facilities disclose suspected illicit discharges to the MS4. New high-risk industrial facilities as defined in 40 CFR 122.26(d)(2)(iv)(C) must be evaluated to determine if the new discharge is contributing a substantial pollutant load to the MS4. The evaluation may include site-specific sampling.</p> <p>Maintain documentation of the sampling activities.</p>	<p>Report the number of high risk facilities sampled in each ANNUAL REPORT</p>

COMPONENT 9. CONSTRUCTION SITE RUNOFF MANAGEMENT

Questions to consider:

1. Do our site planning and land development permitting regulations and processes assure that appropriate BMPs are used during and after construction to reduce erosion and sediment and stormwater pollutant loadings?
2. Do we have written procedures to notify local applicants of the requirements and subsequently assure that Environmental Resource Permits and coverage under the NPDES Stormwater Construction Generic Permit are obtained before any local land clearing authorizations are issued?
3. Do we have a written plan that includes all applicable procedures and SOPs to assure that private and permittee operated construction sites are inspected and required BMPs are implemented and maintained as needed to reduce stormwater impacts to the MS4 or receiving waters?
4. Do we have a written training plan to assure that all construction site plan reviewers, site inspectors and site operators are properly trained on stormwater permitting requirements and BMPs, and, where required, certified?

The site development process results in many changes to the urban hydrologic cycle and associated stormwater pollutant loads. The EPA MS4 regulations require local governments to establish a comprehensive program, including site planning requirements and stormwater treatment requirements, during and after construction for all new development and redevelopment activities. Fortunately for Florida's MS4s, the stormwater regulatory component of many of these requirements already has been established at the state and regional level.

Florida was the first state in the country to adopt [regulations](#) (February 1982) requiring the treatment of stormwater to a specified level of pollutant load reduction for all new urban stormwater discharges. Additional legal authorities and programs to minimize these impacts that have been authorized by the Florida Legislature and local governments include:

- Chapter 163, F.S., includes the Local Government Comprehensive Planning and Land Development Regulation Act of 1985, which requires all local governments to prepare local comprehensive plans and implement land development regulations.
- Part IV, Chapter 373, F.S., establishes the environmental resource permitting program jointly implemented by DEP and the WMDs. This permit is required for almost all new development and redevelopment projects and includes requirements for wetland protection, stormwater flood protection, and stormwater treatment.
- Section 403.0885, F.S., establishes DEP's authority to administer and implement the Federal NPDES stormwater permitting program established in Section 402(p) of the Federal Clean Water Act
- Section 403.0891, F.S., "State, regional, and local stormwater management plans and programs," establishes the institutional roles of the FDEP, WMDs, and local governments in implementing the stormwater program. This section also requires the Florida Department of Transportation to inventory and map primary stormwater management systems that it builds, operates, or maintains. The FDEP, in coordination and cooperation with the WMDs and local governments, is to conduct a continuing review of the costs of stormwater management systems and the effects on water quality and quantity, and fish and wildlife values. Finally, the department and the Department of Community Affairs, in cooperation with local governments in the coastal zone, were required to develop a [Model Local Government Stormwater Management Program](#) that could be adopted by local governments

Accordingly, unlike in most states, Florida's MS4 permittees do not have to establish a separate stormwater regulatory program. Instead, Florida's local governments are directed to ensure that state environmental resource permits and NPDES construction generic permit coverage is obtained before issuing local land clearing, grading, or building authorizations. Additionally, local governments need to use their land development regulations and site planning review process to assure that new developments use low impact design BMPs to promote sustainable development and minimize associated stormwater problems.

9. a. Construction Site Runoff — Site Planning and Non-Structural & Structural Best Management Practices

PERMIT ACTIVITY	PERMIT REPORTING
<p>Continue to implement the local codes or land development regulations and the written pre-construction site plan review procedures that require the use and maintenance of appropriate structural and non-structural erosion and sedimentation controls during construction to reduce the discharge of pollutants to the MS4. Consider innovative structural and non-structural BMPs and new technologies as they evolve for use on permittee projects.</p> <p>Maintain documentation of the pre-construction site plan review activity.</p> <p>If the permittee does not already have written procedures in place, they shall be developed and implemented within 12 months of the date of permit issuance.</p>	<p>Report the number of permittee and private pre-construction site plans reviewed for stormwater, erosion, and sedimentation controls, and the number approved, in each ANNUAL REPORT.</p>
<p>Annually review (and revise, as needed) and implement the permittee's written procedures to notify all new development/redevelopment permit applicants of the need to obtain all required stormwater permits including but not limited to, the Environmental Resource Permit (ERP) from the local Water Management District or DEP District Office, and the Department's <i>NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities</i> (Rule 62-621.300(4), F.A.C.), referred to as the CGP, as applicable.</p> <p>During Year 1 of the permit, as part of the local site plan review and approval process, develop and implement written procedures, such as checklist requirements, to assure that the ERP and the CGP have been obtained, as applicable, prior to issuing any local grading, clearing, or building permits or approvals. The procedures shall be developed and implemented within 12 months of the date of permit issuance.</p> <p>Maintain documentation of the notifications of the ERP and CGP, and of the confirmations of ERP and CGP coverage.</p>	<p>Report the number of new development/redevelopment permit applicants notified of the ERP and CGP, and the number of applicants who confirmed ERP and CGP coverage, in each ANNUAL REPORT.</p>
<p>FDOT - Employ FDOT Drainage Connection Permit (DCP) conditions that include the use of stormwater, erosion, and sedimentation control BMPs during construction to reduce pollutants to the MS4 and receiving waters.</p>	<p>Report on the program to issue DCPs, including the number of permits issued, in</p>

	each ANNUAL REPORT.
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This permit element has two requirements associated with assuring post-development storm water treatment. They are:

1. Notify applicants of the need to obtain ERP and CGP coverage
2. Assure that they have obtained ERP and CGP coverage

The first requirement can be met by providing builders and developers a copy of [DEP's brochure](#) on NPDES stormwater permitting for construction sites. DEP also has a fact sheet that provides a general [description of the Environmental Resource Permitting requirements](#). EPA's [National BMP Menu](#) also has various materials that may be useful to MS4 permittees in developing and implementing good programs to address issues associated with construction sites.

Assuring that a project has received its ERP or coverage under the Construction Generic Permit can be accomplished in many ways. The simplest is to include these two requirements as part of a checklist that is used in the site plan review process. **However, the 2012 Florida Legislature passed HB503 which revised Section 125.022, F.S., and Section 166.033, F.S., to prohibit counties and cities from requiring other federal or state permits as a condition to obtain a local development approval. Therefore, rather than checking on whether an applicant for a local permit has obtained ERP or CGP coverage at the site plan review process, MS4s should now incorporate this verification of coverage into the first inspection done at the construction site.** Consequently, inspection forms may need to be modified to add check boxes that ERP and CGP coverage have been obtained and copies are onsite. This actually works well since CGP coverage typically isn't obtained until 48 hours before construction begins meaning the coverage had not been obtained at the time of site plan review.

9. b. Construction Site Runoff — Inspection and Enforcement

PERMIT ACTIVITY	PERMIT REPORTING
<p>As an attachment to the Year 1 ANNUAL REPORT, the permittee shall submit a written plan that details the standard operating procedures for implementation of the stormwater, erosion and sedimentation inspection program for construction sites discharging stormwater to the MS4. The plan shall apply to both permittee-operated and privately-operated construction projects discharging into the permittee's MS4, unless the permittee does not have the ability to obtain the legal authority to inspect privately-operated sites. For FDOT District Four and FDOT Florida's Turnpike Enterprise, privately-operated sites are those sites within FDOT's right-of-way that were issued a Drainage Connection Permit (DCP), in accordance with Rule 14-86, F.A.C., and the inspections are outfall inspections, not site inspections.</p> <p>The plan shall cover all aspects of the construction site inspection program performed by the permittee including the following:</p> <ol style="list-style-type: none"> 1. The timing of the construction site inspections. The inspections 	<p>Provide the written construction site inspection program plan with the Year 1 ANNUAL REPORT.</p> <p>Report on the inspection program for privately-operated and permittee-operated construction sites, including the number of active construction sites during the reporting year, the number of inspections of active construction sites, the percentage</p>

<p>shall occur at multiple phases of construction, and at all phases determined as necessary and appropriate as per the approved site plan. At a minimum, inspections shall occur at least once prior to land disturbance to ensure that BMPs have been properly installed, at least once during active construction, and at the conclusion of active construction, unless otherwise justified by the permittee within the written plan and approved by the Department.</p> <p>2. A prioritization and frequency schedule for the construction site inspections. The prioritization schedule must clearly identify the priorities for selecting sites to be inspected and the site inspection frequencies deemed by the permittee to be appropriate to provide protection from pollutant discharges to the MS4 and surface waters to the maximum extent practicable. The priority order and inspection frequencies shall be based on the following criteria:</p> <ul style="list-style-type: none"> a. Construction site size. Larger sites (as determined by the permittee) shall be inspected more frequently. b. Waterbody status. Sites that discharge to impaired waters or sensitive waters shall be inspected more frequently. c. Significance of adverse water quality impacts. Sites that have been determined by the permittee to be a significant threat to water quality shall be inspected more frequently. An evaluation of the site's threat to water quality shall include consideration of factors such as the site's proximity to receiving waters and adjacent wetlands, its slopes, its soil characteristics, its need to be dewatered, history of non-compliance by site operators, and public complaints. This evaluation shall be performed during the pre-construction site plan review as per Part III.A.9.a of this permit. d. Seasonality and rainfall. Sites with construction occurring during the wet season or sites where rains greater than one inch occur shall be inspected more frequently. e. Historical inspection considerations. The permittee may use knowledge gained from past implementation of the construction site inspection program to further establish priorities and inspection frequencies. f. Other criteria as determined by the permittee. <p>3. A list of the SOPs that detail the procedures that will be followed when conducting an inspection. This shall include Examples of the following methods to be used for tracking the construction site inspections: (1) a construction site inspection checklist, which includes appropriate stormwater management and water quality inspection items that will be used to standardize the inspection process; and (2) a summary log of all the inspections (including the site name and location, site operator, date of inspection,</p>	<p>of active construction sites inspected, and the number and type of enforcement actions/referrals taken, in each ANNUAL REPORT.</p>
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<p>summary of the inspection findings, any enforcement actions or referrals, and name of inspector) to demonstrate the history of the activities for each site for each reporting year and to verify that the sites are inspected at no less than the minimum frequency as described in the permittee's plan.</p> <p>4. A description of the procedures, and all available enforcement measures (e.g., Stop Work Orders, Notices of Violation, citations, fines), used to ensure compliance with the permittee's regulatory requirements for construction sites. This shall include procedures the permittee will follow to assure that corrective actions are taken where approved erosion and sedimentation control BMPs and permit conditions are not being met. It also shall include an example of the method used for tracking the date and type of all follow-up enforcement actions taken based upon the construction site inspection findings. Finally, the procedures shall include how the permittee will notify other appropriate jurisdictional authorities if possible permit violations are found during an inspection.</p> <p>The permittee shall implement the plan for inspecting construction sites immediately upon written approval by the Department. Prior to Department approval, the permittee shall continue to perform inspections in accordance with its previously developed construction site inspection procedures.</p>	
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This component of the MS4 permit requires the preparation of a written plan that sets forth the procedures, tools, checklists, and legal enforcement procedures to be used to inspect construction sites and assure that they are properly implementing and maintaining erosion, sediment, and stormwater controls to meet all applicable permit requirements. To assist MS4s with this requirement and the requirements in Component 9c, DEP has implemented the [Stormwater, Erosion, and Sediment Control Inspector Training and Certification Program](#). The [Inspector's Manual](#) for this program includes example inspection forms in Chapter 3 and covers how to conduct an inspection in Chapter 9. This Manual will be undergoing revision over the next year to provide better guidance and training on how to actually conduct an inspection at a construction site. Additionally, the DEP, DOT, and the WMDs cooperatively authored the [Erosion and Sediment Control Designer and Reviewer Manual \(2007\)](#) which completely revised the standards and specifications for erosion and sediment control BMPs. Appendix IV of the Designer and Reviewer Manual includes inspection forms. In addition, an example inspection checklist for these types of facilities can be found in Appendix D-2. Other information on how to conduct inspections of stormwater systems at construction sites, including inspection forms for various BMPs, is included in Chapter 6 of [Operation, Maintenance, and Management of Stormwater Management Systems](#). Other publications that provide excellent guidance and SOPs on how to conduct an inspection of a construction sites include:

- [Delaware Stormwater Construction Inspection Guidebook \(2008\)](#)
- [Minnesota Guide for Inspection Construction Sites \(2008\)](#)

9. c. Construction Site Runoff — Site Operator Training.

PERMIT ACTIVITY	PERMIT REPORTING
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<p>During Year 1 of the permit, develop and implement a written plan for stormwater training/outreach for construction site plan reviewers, site inspectors and site operators. Provide training for permittee personnel (employed by or under contract with the permittee) involved in the site plan review, inspection or construction of stormwater management, erosion, and sedimentation controls. Also provide training for private construction site operators that perform work for the permittee. All inspectors of construction sites shall be certified through the Florida Stormwater, Erosion, and Sedimentation Control Inspector Training program, or an equivalent program approved by the Department.</p> <p>The plan shall include the following: a description of the topics to be covered; a description of the personnel, contractors and private persons targeted for training; the methods and materials to be used for the training; identification of the staff/ department(s)/ outside entities who will perform the training; the method for documenting the training activities; and the annual schedule for the training. The plan shall address comprehensive training for new personnel, and follow-up or refresher training for current personnel.</p> <p>A single plan may address all the training required per Parts III.A.7.c, III.A.7.d and III.A.9.c of the permit.</p> <p>The plan shall be developed and implemented within 12 months of the date of permit issuance, and be reviewed annually and updated as needed to reflect changes in procedures, techniques, or staffing. Follow-up training shall be provided annually.</p> <p>Maintain documentation of the training activities, including the date of the training, the type of training, the topic(s) covered, and the names and affiliations of the participants.</p>	<p>Report the type of training activities, the number of inspectors, site plan reviewers and site operators trained (both in-house and outside training), and the number of private construction site operators trained by the permittee, in each ANNUAL REPORT.</p>
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To assist MS4s in implementing this permit requirement, DEP's Nonpoint Source Management Section established the [Florida Stormwater, Erosion, and Sedimentation Control Inspector Training program](#). The goal of the program is to increase the proper design, construction, and maintenance of erosion and sediment controls during construction and to assure the proper long-term operation and maintenance of stormwater systems after construction is completed. The primary program objective is to provide training to private and public employees in various construction-related fields. The training program is primarily directed towards inspectors and contractors, however, permit reviewers, site operators, public works personnel and engineers will also benefit from this program. Conducting one class per year within a permittee's jurisdiction that is available to permittee staff, contractors, inspectors, and local site operators is the easiest way to meet the requirement.

The program curriculum was developed to educate the inspector on proper installation, inspection and maintenance of Best Management Practices (BMPs) for use during and after construction to minimize erosion and sedimentation and to properly manage runoff for both stormwater quantity and quality. Florida's stormwater program is technology based, using performance standards and BMP design criteria. The use of innovative techniques and

specifically designed erosion control systems is encouraged in order to prevent erosion and sedimentation during construction activity.

Implementation of the training program began in late 1997. To date, there are over 6500 certified inspectors throughout the state of Florida. FDEP approved instructors voluntarily teach the inspector training class throughout the year. This allows the instructors flexibility to arrange classes around their schedules. The program consists of two primary components:

1. **The Inspector's Training Program** - This program is a two-day class. The class follows the curriculum provided in the [Florida Stormwater, Erosion, and Sedimentation Control Inspector's Manual](#). Upon the completion of the class, a proctored examination is administered and approximately 2-3 hours is given to complete the exam. In order to obtain the FDEP certification, a minimum passing grade of 70% must be made on the exam.
2. **"Train The Trainer" Workshops** - These workshops are offered by the FDEP twice a year in order to prepare new instructors for implementation of the inspector's training program. The workshop covers the guidelines that instructors are required to follow in order to teach the class, plus also it allows instructors the time to work on both their teaching skills and speaking abilities. In order to attend, all participants must be FDEP Certified Inspectors prior to the scheduled workshop date. Each MS4 should have a "trainer or training team" to conduct classes for local personnel. Please contact [Hal Lunsford](#) if you are interested in becoming an instructor.

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10. PART V. MONITORING REQUIREMENTS

Questions to consider:

1. Do we have a monitoring plan that is effective in providing data to evaluate the overall effectiveness of our SWMP in reducing stormwater pollutant loadings?
2. Do we have reliable data on the Event Mean Concentrations of stormwater from various land uses or drainage basins within our community?
3. Do we know how effective different types of BMPs used within our community are in reducing stormwater pollutant loads?
4. Do we use our monitoring data to annually evaluate the effectiveness of our SWMP in reducing stormwater pollution and revise our SWMP to make it more effective?
5. Have stormwater pollutant loadings discharged from the MS4 decreased? Why or why not?
6. Is the monitoring program providing data that can be used to assess the effectiveness of the SWMP in reducing stormwater pollutant loadings, assess the effectiveness of specific BMPs, and determine where stormwater retrofitting projects should be prioritized for implementation?

Part V of the MS4 permit specifies requirements related to either monitoring or estimating stormwater pollutant loadings discharged from the MS4 system. The primary purpose of the monitoring requirements are to determine the overall effectiveness of the Stormwater Management Program in reducing stormwater pollutant loadings discharged from the MS4, to assist the MS4 in evolving its SWMP to make it more effective, to assist them in identifying and prioritizing portions of the MS4 requiring additional controls, to evaluate the effectiveness of BMPs, and to quantify progress by the MS4 in meeting load reductions established in adopted Total Maximum Daily Loads (TMDLs).

To assist MS4s in developing monitoring plans for our MS4 permits, the Department published in August 2009 [revised guidance](#) which incorporated comments from the MS4 community. This guidance discusses the types of monitoring programs (e.g., ambient, BMP effectiveness, source identification), the use of sediment or biological monitoring, and provides information on how the monitoring plan should be formatted. One of the most difficult aspects of stormwater sampling is storm event monitoring. Generally, it is recommended that automatic samplers linked to flow meters be used to enable flow weighted composite sampling. This provides data that can estimate both Event Mean Concentrations and total loadings. Based on the National Urban Runoff Program results, a minimum of 7 to 10 storm events need to be captured to have statistically valid data.

Several excellent manuals and papers are available to assist in developing and implementing stormwater monitoring programs. These include:

- The [Caltrans Stormwater Monitoring Guidance Manual](#) was developed to provide comprehensive, step-by-step guidelines for stormwater monitoring and related activities.
- [Monitoring to Demonstrate Environmental Results: Guidance to Develop Local Stormwater Monitoring Studies Using Six Example Study Designs](#) (N. Law, L. Fraley-McNeal, K. Cappiella, and R. Pitt, University of Alabama, 2008, is available for free download from the Center for Watershed Protection.
- The Washington Department of Ecology has included extensive monitoring requirements in their MS4 permits. They have established a [stormwater monitoring web site](#) to assist their MS4s in developing monitoring plans to meet their permit needs.

A. Seasonal Loadings and Event Mean Concentrations.

PERMIT ACTIVITY	PERMIT REPORTING
<p>1. The permittee shall provide estimates of the annual pollutant load and of the event mean concentration of a representative storm for the constituents listed in Table V.A.1 — Parameters for each "major outfall" or "major watershed" within the MS4. The annual pollutant load and event mean concentration (EMC) for each major outfall or watershed shall be estimated using local EMCs derived from storm event monitoring or the State's EMCs listed in the Statewide Stormwater Rule Applicant's Handbook, and shall take into consideration land uses within the drainage areas associated with the outfall or watershed. NOTE: EMCs FOR TSS, BOD, COPPER, AND ZINC ARE NOT INCLUDED IN THIS DOCUMENT! PLEASE SEE TABLE IN THIS SECTION OF MANUAL FOR CURRENT EMCs.</p> <p>2. The estimates of seasonal pollutant loadings and EMCs shall be included in the ANNUAL REPORT for Year 3 of the permit. The permittee shall include in the Year 3 ANNUAL REPORT a table comparing the current calculated pollutant loadings with those from the previous two Year 3 ANNUAL REPORTS, and shall specify the source of the EMCs and data used for each of the three calculations. Based on this comparison the permittees shall indicate whether pollutant loadings are increasing or decreasing for each major outfall or major watershed. This information shall be used in evaluating the effectiveness of each permittee's SWMP as required by Parts V.B.1 and VI.B.2 of this permit. If the total pollutant loadings have not decreased over the past two permit cycles, the permittee shall re-evaluate its SWMP and identify and submit revisions to their SWMP, as appropriate, to reduce pollutant loadings, especially to impaired waters, in the Year 4 Annual Report.</p>	<p>Each ANNUAL REPORT shall include a monitoring summary. Specifically, the monitoring summary shall:</p> <p>a. Provide a summary of the monitoring data from the reporting year; and</p> <p>b. Provide a long-term assessment of water quality and / or pollutant loading improvements or degradation based on data gathered and analyzed as a result of the monitoring program. For the purposes of the annual report monitoring summary, "long-term" can be defined by the permittees (e.g., 5-years, 10-years, 15-years, etc.).</p>

Two of the primary objectives of the monitoring program are to provide data to calculate stormwater pollutant loadings from major outfalls or basins and to evaluate the overall effectiveness of the stormwater management program. This means that the Permittee must actually analyze and assess the data being collected from the monitoring program on an annual basis and also on a longer term basis. If the data shows that stormwater loadings are not going down over time, then the stormwater management program needs to be critically reviewed and revised to make it more effective in reducing loadings.

**FLORIDA-BASED EVENT MEAN CONCENTRATIONS FOR USE IN ESTIMATING
STORMWATER LOADINGS JULY 2011**

Land Use Category	Total N mg/L	Total P mg/L	BOD mg/L	TSS mg/L	Total Copper mg/L	Total Zinc mg/L
Low Density Residential ¹	1.50	0.200				
Single Family	1.87	0.301	6.6	29.3	0.014	0.052
Multi-Family	2.10	0.497	10.8	69.5	0.009	0.079
Low Intensity Commercial	1.07	0.179	7.0	47.5	0.015	0.067
High Intensity Commercial	2.20	0.248	9.6	65.1	0.015	0.158
Light Industrial	1.19	0.213	7.4	42.8	0.003	0.057
Highway	1.37	0.167	4.6	38.1	0.017	0.087
General Agricultural						
Pasture	3.30	0.621	5.1	12.7	NA	NA
Citrus	2.07	0.152	2.6	20.1	0.003	0.012
Row Crops	2.46	0.489	NA	14.9	0.073	0.096
Undeveloped Natural Community	1.125	0.100				
Mining/Extractive	1.18	0.150				
1. Average of single-family and undeveloped values						
NOTE: THE VALUES FOR LOW DENSITY RESIDENTIAL AND NATURAL AREAS WILL BE ADDED SOON						

11. PART VI. ANNUAL REPORTING

Questions to be answered:

1. Have stormwater pollutant loadings discharged from the MS4 decreased? Why or why not?
2. Which components of the SWMP are working well and are effective in reducing stormwater pollutant loadings? Why are they effective?
3. Which components of the SWMP are not working well and need to be revised to make them more effective in reducing stormwater pollutant loadings?
4. Which components of the SWMP do not contribute to reducing stormwater pollutant loads and could be revised or eliminated, and why?
5. Is the monitoring program providing data that can be used to assess the effectiveness of the SWMP in reducing stormwater pollutant loadings, assess the effectiveness of specific BMPs, and determine where stormwater retrofitting projects should be prioritized for implementation?

Part VI of the MS4 permit sets forth the Annual Reporting requirements for the permits. Unfortunately, very few MS4s seemed to be taking this part of the Annual Report very seriously and were not critically assessing the effectiveness of their stormwater management program. Accordingly, this section of the permit has been revised to provide a series of questions, set forth in the box above, which must be addressed as part of the annual assessment of the program. The annual report also must include the reporting and assessment of the monitoring results as discussed above in Section 10.

Annual reports may be submitted either in hard copy or electronically which is preferred. Hard copies shall be submitted to:

Phase I MS4 Team
NPDES Stormwater Section
Florida Department of Environmental Protection
2600 Blair Stone Rd (MS2500)
Tallahassee, Florida 32399-2400

Electronic copies can be sent by email directly to one of the Phase I MS4 team members if the file size is not over 10 megabytes or can be placed on the following ftp site: ftp://ftp.dep.state.fl.us/pub/NPDES_Stormwater/. Once the Annual Report is loaded on the ftp site, an email shall be sent to one of the Phase I MS4 team members informing them that the Annual Report is on the ftp site and ready for downloading.

EPA's MS4 website contains several documents that may be useful to MS4s as they evaluate the effectiveness of their stormwater management program. These include a document entitled [MS4 Program Evaluation Guidance](#) and one entitled [Evaluating the Effectiveness of Municipal Stormwater Programs](#).

12. PART VIII. TMDL IMPLEMENTATION

When EPA issued its [April 2010 letter](#) setting forth its expectations for improvements in MS4 permits, one of the major issues that MS4 permits needed to address was implementation of Total Maximum Daily Loads (TMDLs). Specifically, the letter stated:

- Pursuant to 40 CFR §122.44(d)(1)(vii)(B), NPDES permits must contain conditions that are consistent with the assumptions and requirements of wasteload allocations (WLAs) in applicable TMDLs. Accordingly, for MS4s subject to a TMDL approved or established by EPA, we expect permit requirements regarding TMDL implementation to be clear, specific and measurable in terms of required actions or achievement of specific performance standards.
- Second, permits should include clear and specific requirements related to the identification, evaluation, and implementation of appropriate water quality controls, with attached timeframes and/or milestones, which are necessary to address any applicable WLA. Given that WLAs for MS4s are typically implemented through non-numeric requirements in the permits, effective TMDL implementation for an MS4 often depends on selecting the appropriate combination of control measures to achieve progress towards addressing the WLA, coupled with monitoring to support the determination of when additional or enhanced control measures are necessary.
- Permits should also address the monitoring and assessment of MS4 pollutant load contributions - either at the outfalls and in the receiving waters.

In addition, the 2005 amendments to the Florida Watershed Restoration Act, Section 403.067, F.S., were enacted by the legislature to provide the legal authority and framework for implementing TMDLs in Florida. Key provisions include:

- Rely on existing control programs, such as current regulatory programs, SWIM, water quality credit trading, BMP cost sharing grants, land acquisition, comprehensive plans and LDRs, etc.
- For holders of NPDES municipal separate storm sewer system permits and other stormwater sources, implementation of a total maximum daily load or basin management action plan shall be achieved, to the maximum extent practicable, through the use of best management practices or other management measures.
- Management strategies set forth in a basin management action plan to be implemented by a discharger subject to permitting by the department shall be completed pursuant to the schedule set forth in the basin management action plan. This implementation schedule may extend beyond the 5-year term of an NPDES permit.
- Management strategies and pollution reduction requirements set forth in a basin management action plan for a specific pollutant of concern shall not be subject to challenge under chapter 120 at the time they are incorporated, in an identical form, into a subsequent NPDES permit or permit modification.
- A landowner, discharger, or other responsible person who is implementing applicable management strategies specified in an adopted basin management action plan shall not be required by permit, enforcement action, or otherwise to implement additional management strategies to reduce pollutant loads to attain the pollutant reductions established pursuant to subsection (6) and shall be deemed to be in compliance with this section.

In those situations where a BMAP has been adopted, then the MS4 only has to do the activities that were listed according to the implementation schedule set forth in the BMAP. Unfortunately,

BMAPs are not being done for every TMDL that is adopted by the Department. It is for these TMDLs without BMAPS that we had to develop new permit requirements to satisfy EPA's expectations. In negotiating these requirements with EPA, the NPDES Stormwater Section staff was very aware of the resource demands of implementing TMDLs and of the current economic situation. Accordingly, we worked diligently to create a logical, sequential, and cost-effective approach to implementing TMDLs in MS4 permits. This approach involves a four step process:

1. TMDL Prioritization Report
2. TMDL Monitoring and Assessment Plan
3. TMDL Monitoring
4. TMDL Implementation Plan

Each of these steps will be discussed separately

Step 1. TMDL Prioritization Report

This step requires the MS4 to develop a final list of water bodies for which either DEP has adopted or EPA has established a TMDL. DEP adopts TMDLs for water bodies that have been verified as impaired with data as set forth in the Impaired Surface Waters Rule, Chapter 62-303, F.A.C. EPA establishes TMDLs for water bodies that do not have sufficient data to be verified, or for verified impaired water bodies for which DEP has developed a TMDL but not adopted it. MS4s are reminded to closely monitor EPA's actions on TMDLs for waters that have not been verified as impaired and to file comments and objections on the draft TMDLs, as appropriate. Since so little data is available for these water bodies, EPA is challenged in producing scientifically valid TMDLs. MS4s also have up to seven years after EPA establishes a TMDL to challenge it. Once the list is complete, the next step is for the MS4 to prioritize the order of water bodies it will work on with respect to TMDL implementation. A final report is submitted to DEP that discusses the factors used in the prioritization process, the list of prioritized water bodies, and the schedule for completing the four step process (listed above) for each water body. It is important to **remember that EACH MS4 permittee that discharges, either directly or indirectly, to a water body with a DEP adopted or EPA established TMDL must undertake this process.** In some cases, MS4 co-permittees may be able to "share the pain" of doing this work while in other cases the MS4 must proceed on its own.

To find out which TMDLs have been adopted by DEP or established by EPA, you can begin with the Fact Sheet from the draft permit which listed the TMDLs that had been adopted at that time. However, to determine any additional TMDLs that have been adopted between the time of the draft and final permits were issued, several resources are available. These include:

- The [TMDL Tracker](#) website developed and implemented by DEP.
- EPA's [WATERS Expert Query Tool](#) which includes all TMDLs from around the country. You can specify what data you wish to obtain and it will create a spreadsheet that lists the relevant TMDL information.

The MS4 permittee determines the **factors to use in prioritizing TMDLs** for implementation. Factors that you may wish to consider include:

- Is the TMDL adopted by DEP for a verified impaired water body?
- Is a BMAP currently under development or scheduled for development?
- Is the TMDL established by EPA for an unverified impaired water body? If so, this may be a lower priority for TMDL implementation with the initial focus on ambient monitoring to collect enough data to allow the water body to be assessed using the Impaired Waters Rule methodology which may result in delisting of the impairment. MS4 should

coordinate such monitoring with DEP's [Watershed Assessment](#) and [Watershed Monitoring](#) Sections.

- Is the TMDL for a water body of local or regional significance/importance?
- Is the TMDL for a water body with public access?
- Is the TMDL for a water body used for swimming or fishing?
- Is the TMDL to address nutrient or dissolved oxygen impairments?
- Is the TMDL to address fecal coliform impairments? Unless there is actually a known health risk, this might be a lower priority since EPA has been [directed by the courts](#) to develop new indicators for bacteriological/pathogenic water quality problems.
- Is the TMDL for a water body for which we already have a stormwater master plan and retrofit projects planned or underway?

QUESTIONS FROM THE MS4 COMMUNITY AND OUR RESPONSES

To help assure that all MS4 permittees are aware of specific questions that we have received from the MS4 community, we will use this section of the Resource Manual to list the question and our response.

1. We have 38 TMDLs in that need to be addressed (some draft, some final, some EPA, some FDEP etc.). We can prioritize those 38 no problem (i.e. categorize them from high to medium to low priority). That's Step 1 done. Now the issue is scheduling. We can only tackle a certain amount of TMDLs at a time obviously. How many permit cycles are we allotted to address all 38 TMDLs (in other words go through steps 2-4 for each TMDL waterbody)? As an example, if we had 4 permit cycles (20 years) to do all 38 TMDLs, we would need to go through steps 2-4 on 2 TMDL waterbodies per cycle year.
RESPONSE: First, forget about draft TMDLs! You only prioritize TMDLs that have been adopted by DEP or established by EPA as of the date of permit issuance. We do not specify how many must be done during this permit cycle – that will depend on your resources (see response below to similar question also). The Federal Clean Water Act and TMDL regulations do not specify how long entities have to meet adopted TMDLs. However, keep in mind that EPA expects TMDLs to be met within 15 years of TMDL adoption and that third parties will be watching in many cases.
2. It is our impression that for each TMDL waterbody one outfall will need to be sampled (flow and concentration) as stated in step 3 of the process. Is this correct? **YES**
3. That doesn't mean we need to retrofit that chosen outfall right? **RIGHT** It's just baseline data to better estimate loadings in that WBID. **DATA WILL HELP TO VERIFY HOW MUCH IS ACTUALLY BEING DISCHARGED FROM THE MS4 WHICH CAN BE USED TO HELP REFINE THE TMDL OR ITS ALLOCATIONS**
4. What is meant by the term "indirect discharge"?
RESPONSE: For the purposes of this part of the permit, an "indirect discharge" to a water body with an adopted TMDL means that one MS4 discharges into another MS4 that then discharges to the water body.
5. It is our impression that each co-permittee needs to develop their own priority list and their own scheduling for sampling, retrofits, etc? **YES**. I realize we can work together in certain WBIDs, but regardless of that each permittee needs to develop their own list?
YES
EXPANDED RESPONSE: Each permittee that discharges to a water body with a DEP adopted or EPA established TMDL must conduct a prioritization. In those cases where more than one permittee discharges to such a water body, the opportunity for collaboration exists. In such cases, the permittees may want to get together to compare their prioritization lists and see if they can agree on a single high priority water body for

which they will collectively conduct the remaining steps in the TMDL process. If they can agree on a single priority water body, then each permittee needs to revise (if needed) their priority list to make the #1 water body the one that was mutually agreed upon. In such a case we recommend adding an additional column to the priority list that indicates that the water body will be done collaboratively and list the other permittees that will be working together on it.

6. **NEW QUESTION ARISING FROM RESPONSE ABOVE.** If more than one permittee is going to collaborate on the water body, the next question that will arise is how many and which outfalls to the priority water body will be sampled?

RESPONSE: In earlier versions of this Manual, the DEP attempted to provide some flexibility for the MS4s and allow collaborative monitoring of only one outfall. Unfortunately, after discussing this issue with EPA staff that was involved in the approval of the revised Cycle 3 permit, we can't offer this flexibility. EPA is insistent that the language, and our discussions about this section of the permit, meant that each MS4 that discharges either directly, or indirectly via another MS4, to a water body with an adopted TMDL must conduct stormwater sampling at one outfall. Therefore, in those situations where one or more MS4s discharge into another MS4's system which then discharges to a water body with an adopted TMDL, each MS4 must conduct monitoring. The MS4 that discharges to the water body will monitor at the outfall to the water body. Any MS4 that discharges into the MS4 discharging to the water body will monitor where their MS4 discharges into the next MS4. By doing this type of monitoring, baseline loadings from each MS4 and into the water body will be obtained thereby helping to ensure equitable reduction of loads among all MS4s.

6. Are we supposed to create a prioritized list that ranks fecal TMDLs against nonfecals, or create two lists such that we have a top priority fecal and top priority nonfecal?

RESPONSE: You create ONE prioritized list of TMDLs using the ranking factors that you select. Examples were given in our powerpoint at the FSA meeting on September 9 and in the Permit Resource Manual.

7. How many TMDLs are we supposed to address through this permit process over the permit cycle?

RESPONSE: Your permit does not specify this. However, keep in mind that EPA expects TMDLs to be met within 15 years of TMDL adoption and that third parties will be watching in many cases.

8. What does the "associated schedule" mentioned in Part VIII.B.3.a. mean given that the permit provides a schedule for the process through the beginning of implementation in month 48?

RESPONSE: What was intended in this section, and we can see a need to clarify in the Permit Resource Manual, was the schedule for conducting the TMDL requirements for all of the TMDLs on your prioritized list. This gets back to your second question. For example, if the permit was issued January 1, 2011 and you have 5 TMDLs, then your prioritization table may look like

TMDL	Pollutant of Concern	Monitoring and Assessment Plan	Monitoring	Supplemental SWMP	Bacteria Control Plan
1	Nutrients	June 1 – Dec 31, 2011	1/1/12 – 1/1/14	1/1/13 – 1/1/15	NA
2	Nutrients	1/1/13 – 6/1/13	6/1/13 – 6/1/15	6/1/15 – 6/1/17	NA
3	Nutrients	1/1/14 – 6/1/14	6/1/14 –	6/1/16 – 6/1/18	NA

			6/1/16		
4	Fecal Coliform	NA	NA	NA	1/1/15 – 1/1/18
5	Fecal Coliform	NA	NA	NA	1/1/16 – 1/1/19

Given that one of the more difficult parts of this is the storm event monitoring, and given that the equipment is expensive and needs to be used to be kept in good condition, I base a lot of the schedule on your equipment inventory. Say you have two auto sampler stations (auto sampler, flow meter, etc), then you really can only do one outfall at a time as you may have an equipment failure and need a back up. But if you have three samplers, perhaps you can start a second outfall monitoring program about halfway through your first one.

9. Is there a time limit specified in the permit for meeting the required load reductions associated with a TMDL?

RESPONSE: No, the permit does not specify a schedule for meeting the required load reductions and restoring an impaired water body. The time frame needed to restore a water body is very site specific. For example, depending on lots of factors, it may be possible to restore a small lake with limited discharges into it within a relatively short time frame. On the other hand, restoring an impaired estuary could take much longer.

10. Are we required to include a detailed implementation schedule in the Supplemental Stormwater Management Program to be implemented within the watershed that drains to an impaired water body with an adopted TMDL.

RESPONSE: Similar to a BMAP, the Supplemental SWMP needs to include a schedule for implementing activities and projects with greater certainty of implementation associated with those that are planned during years one through five. Since implementing the Supplemental SWMP likely will be done over multiple permits, the schedule in it should be set forth in five year time frames. Given that the Supplemental SWMP will be part of the reapplication package for the Cycle 4 permit, the activities to be implemented during the first five years need to be more detailed, funded, and feasible than activities contemplated for implementation in years 6-10 of the Supplemental SWMP.

11. Our MS4 does not directly discharge to an impaired water body with an adopted TMDL but instead discharges into another MS4 which discharges into the water body. How should we do our outfall monitoring?

RESPONSE: The situation described is termed an “indirect discharge” as discussed in Question 4 above. In earlier versions of this Manual, the DEP attempted to provide some flexibility for the MS4s and allow collaborative monitoring of only one outfall. Unfortunately, after discussing this issue with EPA staff that was involved in the approval of the revised Cycle 3 permit, we can’t offer this flexibility. EPA is insistent that the language, and our discussions about this section of the permit, meant that each MS4 that discharges either directly or indirectly via another MS4, to a water body with an adopted TMDL must conduct stormwater sampling at one outfall. Therefore, in those situations where one or more MS4s discharge into another MS4’s system which then discharges to a water body with an adopted TMDL, each MS4 must conduct monitoring. The MS4 that discharges to the water body will monitor at the outfall to the water body. Any MS4 that discharges into the MS4 discharging to the water body will monitor where their MS4 discharges into the next MS4. By doing this type of monitoring, current loading information from each MS4 and into the water body will be obtained thereby helping to ensure equitable reduction of loads among all MS4s.

Step 2. TMDL Monitoring and Assessment Plan

This step requires the MS4 to undertake an assessment of the pollutant loadings discharged from outfalls and the impacts of such discharges into waters with an adopted TMDL. This includes using the MS4 inventory and land use maps, along with Event Mean Concentrations (EMCs) and estimates of stormwater volume, to calculate estimated loadings from each outfall discharging into the impaired water. This information, along with any other data such as sediment monitoring or biological monitoring, is then used to prioritize the outfalls and find the one with the greatest loading or impact on the impaired water. This process is completed for each of the TMDLs in the prioritization report from Step 1 according to the schedule in that report.

Step 3. TMDL Monitoring

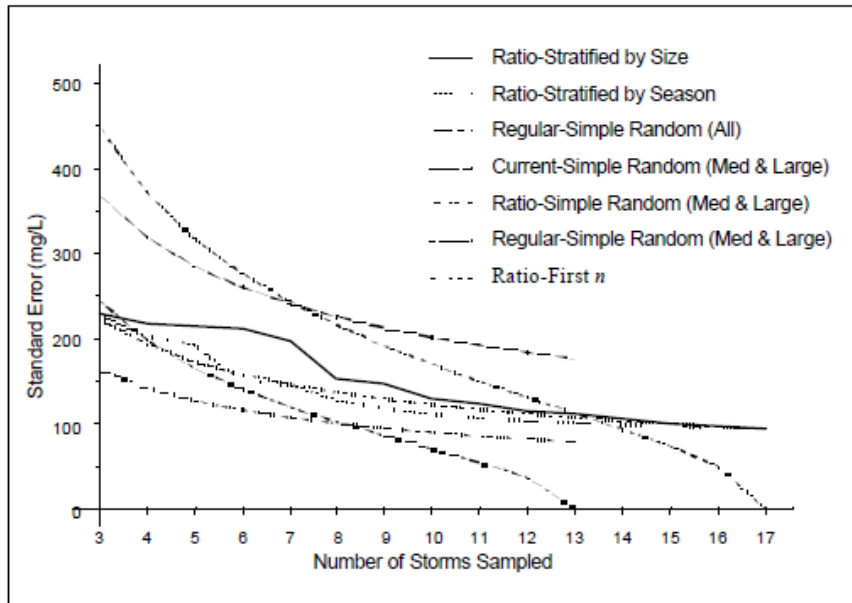
Based on the DEP approved Monitoring and Assessment Plan, the next step for MS4 permittees is to conduct storm event monitoring at the top ranked outfall. This data will be beneficial for several reasons:

- It will provide a baseline of the loadings discharged to the impaired water and allow both the MS4 and DEP to determine how much load reduction occurs over time as BMPs are implemented in the drainage basins.
- It will provide validation of estimates of BMP effectiveness.
- It will provide baseline loading information when one MS4 discharges into another MS4 that then discharges to a water body with an adopted TMDL. This will help to ensure equitable allocation and abatement for each MS4.
- It will help quantify and validate the estimated loadings calculated in Step 2.
- It will provide DEP with much better data on stormwater loadings discharged to the impaired water. This may allow recalculation of the TMDL and of the required load reductions that a MS4 must achieve.

As stormwater managers know, conducting storm event monitoring is neither easy nor inexpensive. The automatic sampler, flow meter, equipment housing, and accessories cost from \$5,000 to \$10,000 per station. In addition, MS4 personnel need to be trained in using and maintaining the equipment so that it continues to work properly. The alternative is to hire a consultant but not very many are experienced in doing storm event sampling.

The minimum sampling frequency requirement, consisting of at least seven storm events, is primarily based on two publications. First, the recommendation was an outcome of the [Nationwide Urban Runoff Program](#) (NURP) which was the first comprehensive study of urban stormwater pollution in the United States that was conducted by the EPA between 1979 and 1983. The recommendation was further endorsed in 2002, by a paper entitled *Assessment of Efficient Sampling Designs for Urban Runoff Monitoring* was published by Molly K. Leecaster, Kenneth C. Schiff, and Liesl L. Tiefenthaler. This paper included the following graph of the number of storms to sample to assure that you generate statistically valid data. As can be seen from the graph, there is much less error and greater reliability of the data as the number of storms sampled increases. Given that the cost of lab analyses is very small, it may behoove the MS4 to sample as many storms as possible to increase the accuracy of the monitoring.

FIGURE 1. Standard error for estimates of annual TSS concentration for various estimator-sample design combinations.



Step 4. TMDL Implementation Plan

The final step is to use the information gained through Steps 1 through 3 to develop and implement a supplemental stormwater management program within the watershed that is drained by the MS4 and discharges to an impaired water body with an adopted TMDL. The supplemental stormwater management program serves as the “TMDL Implementation Plan” for the stormwater discharges. In most cases, implementation of the supplemental SWMP will occur more than one permit cycle as provided for in Section 403.067(7), F.S.

The supplemental SWMP must include at least the following three components:

1. Focusing of structural and nonstructural BMPs and enhanced program activities into priority drainage basins served by stormwater outfalls that discharge to waters with an adopted TMDL so that load reductions are increased.
2. Identification of regional stormwater retrofitting projects that can be implemented within priority drainage basins to reduce stormwater pollutant loads.
3. A specific strategy for implementing BMP effectiveness monitoring; or ambient water chemistry, biological, or sediment monitoring, as appropriate, together with other evaluation techniques designed to enable the permittee to evaluate the effectiveness of the SWMP in reducing TMDL pollutant loads to the MEP

Since the most cost effective way of reducing stormwater pollution is through nonstructural source controls that help to prevent the generation of runoff or the introduction of pollutants into stormwater, the first line of defense in the supplemental SWMP should be nonstructural controls. This can include a variety of BMPs including:

- Revisions of local land development codes to encourage “[Low Impact Design and Development](#)”. As part of the Springs Protection Program, DEP and DCA have developed several resources that will assist MS4s in this effort that are available online

at <http://www.dca.state.fl.us/fdcp/dcp/springs/index.cfm>. This includes a Model Land Development Code.

- If nutrients are causing impairments in your community, a major focus should be revising your landscaping requirements in your land development regulation to assure that landscaping design requirements are based on the principles of [Florida-friendly landscaping](#). DEP worked with numerous stakeholders to develop a comprehensive [Model Florida-friendly Landscaping Ordinance](#) that addresses landscape design, irrigation system design, and requires the use of Florida-friendly fertilizers.
- Pursuant to Section 403.9337, F.S., all MS4s that are located within the watershed of a water body or water segment that is listed as impaired by nutrients shall, at a minimum, adopt the department's [Model Ordinance for Florida-Friendly Fertilizer Use on Urban Landscapes](#). However, remember that this ordinance does not address the basic problem which is landscape design so we encourage MS4s to adopt the broader Florida-friendly landscape ordinance above.
- Street sweeping in urban areas is an effective tool to prevent pollutants from getting into the MS4. As discussed earlier in Component 3, data is now available to allow MS4s to quantify the nutrient load reduction associated with street sweeping.
- Educating staff and the public about how to recognize and prevent "Pointless Personal Pollution" and how to be part of the solution.

In addition to nonstructural controls, it is very likely that structural controls will be needed to reduce stormwater pollutant loads to meet required TMDL load reductions. However, urban stormwater retrofitting does not happen overnight – it requires extensive planning, design, engineering, and funding. One of the most important considerations in urban retrofitting is to make sure that the BMP(s) chosen for a project will effectively reduce the pollutant causing the water body impairment. Please refer to the information in Component 4 (Minimizing water quality impacts from flood control projects) for additional information about stormwater retrofitting.

Fecal Coliform TMDLs

If a water body is impaired for fecal coliform bacteria and it is identified as high priority by a permittee, the four step process above does not have to be completed. Instead, once the prioritization report is completed, permittee's can skip to the requirements in Part VIII.B.4 of the permit. Based on the experience of DEP and watershed stakeholders involved in the BMAP process for fecal coliform TMDLs, we have developed a tool box for implementing these TMDLs. The [Implementation Guidance for the Fecal Coliform Total Daily Maximum Loads Adopted by the Florida Department of Environmental Protection](#) provides local stakeholders useful information for identifying sources of fecal coliform bacteria in their watersheds and examples of management actions to address these sources. The document appendices are available in Compact Disk format and may be requested by contacting John.Abendroth@dep.state.fl.us.

APPENDIX A

PHASE 1 AND PHASE 2 MS4 PERMITTEES IN FLORIDA

DRAFT

Table 1. List of Phase 1 MS4 Permittees and Co-Permittees

MS4 Name Web Site URL	NPDES Permit No.	# of Permittees	Co-Permittees
Bradenton	FLS000037	1	
Broward County http://www.broward.org/Stormwater/Pages/Default.aspx	FLS000016	29	Coconut Creek, Cooper City, Coral Springs, Dania Beach, Davie, Deerfield Beach, Hallandale Beach, Lauderdale-By-The-Sea, Lauderdale Lakes, Lauderdale Hill, Lighthouse Point, Margate, Miramar, North Lauderdale, Oakland Park, Pembroke Park, Pembroke Pines, Plantation, Pompano Beach, Sea Ranch Lakes, Southwest Ranches, Sunrise, Tamarac, Weston, Wilton Manors, FDOT Turnpike, FDOT District 4
Escambia County http://www.co.escambia.fl.us/Bureaus/CommunityServices/WaterQuality.html	FLS000019	4	Century, Pensacola, FDOT District 3
Ft. Lauderdale http://ci.ftlaud.fl.us/public_services/environmental_services/index.htm	FLS000017	2	FDOT District 4
Hialeah http://www.hialeahfl.gov/dep/streets/stormwater.aspx	FLS000023	1	
Hillsborough County http://www.hillsboroughcounty.org/publicworks/engineering/stormwater/	FLS000006	3	Plant City, FDOT District 7
Hollywood http://www.hollywoodfl.org/pub-util/services-storm.htm	FLS000020	2	FDOT District 4
Jacksonville	FLS000012	3	Atlantic Beach, Neptune Beach, FDOT District 2
Jacksonville Beach	FLS000013	1	
Lee County http://www.lee-county.com/gov/dept/NaturalResources/Pages/NaturalResources.aspx	FLS000035	15	Bay Creek CDD, Bayside Improvement CDD, Bonita Springs, Brooks CDD, Cape Coral, East County WCD, East Mulloch WCD,

			Fort Myers, Fort Myers Beach, Gateway Service District, River Ridge CDD, San Carlos Estates Drainage District, Sanibel, FDOT District 1
Leon County http://www.leoncountyfl.gov/lcswm/	FLS000033	2	FDOT District 3
Manatee County http://www.mymanatee.org/home/government/departments/natural-resources/environmental-protection/air-and-watershed-management.html	FLS000036	6	Anna Maria, Bradenton Beach, Holmes Beach, Lakewood Ranch CDD, Palmetto, FDOT District 1
Miami http://www.miamigov.com/Public_Works/Pages/Enviromental_NPDES/Summary_of_duties.asp	FLS000002	1	
Miami-Dade County http://www.miamidade.gov/derm/pollution_stormwater.asp	FLS000003	25	Aventura, Bal Harbour Village, Bay Harbor Islands, Coral Gables, El Portal, Golden Beach, Hialeah Gardens, Homestead, Indian Creek Village, Key Biscayne, Medley, Miami Beach, Miami Lakes, Miami Shores, Miami Springs, North Bay Village, North Miami, North Miami Beach, Pinecrest, Opa-Locka, South Miami, Sunny Isles Beach, Surfside, West Miami, FDOT District 6, FDOT Turnpike District
Orange County http://www.orangecountyfl.net/YourLocalGovernment/CountyDepartments/PublicWorks/StormwaterManagement.aspx	FLS000011	11	Apopka, Belle Isle, Eatonville, Edgewood, Maitland, Ocoee, Valencia WCD, Winter Garden, Winter Park, FDOT District 5
Orlando http://www.cityoforlando.net/public_works/stormwater/index.htm	FLS000014	1	
Palm Beach County http://www.pbco-mpdes.org/index.html	FLS000018	40	Atlantis, Belle Glade, Boca Raton, Boynton Beach, Cloud Lake, Delray Beach, Glen Ridge, Greenacres, Gulf Stream, Haverhill,

			Highland Beach, Hypoluxo, Indian Trail Improvement District, Juno Beach, Jupiter, Jupiter Inlet Colony, Lake Clarke Shores, Lake Park, Lake Worth, Lantana, Manalapan, Mangonia Park, North Palm Beach, Northern Palm Beach County Improvement District, Ocean Ridge, Pahokee, Palm Beach, Palm Beach Gardens, Palm Beach Shores, Palm Springs, Riviera Beach, Royal Palm Beach, South Bay, South Indian River WCD, South Palm Beach, Tequesta, Wellington, West Palm Beach, FDOT District 4, FDOT Turnpike District
Pasco County http://portal.pascocountyfl.net/portal/server.pt/community/stormwater_management/274/home	FLS000032	8	Dade City, New Port Richey, Port Richey, San Antonio, St. Leo, Zephyrhills, FDOT District 7
Pinellas County http://www.pinellascounty.org/environment/watershed/stormwater.htm	FLS000005	23	Belleair, Belleair Beach, Belleair Bluffs, Clearwater, Dunedin, Gulfport, Indian Rocks Beach, Kenneth City, Largo, Madeira Beach, North Redington, Beach Oldsmar, Pinellas Park, Safety Harbor, Redington Beach, Redington Beach Shores, Seminole, South Pasadena, St. Pete Beach, Tarpon Springs, Treasure Island, FDOT District 7
Polk County	FLS000015	20	Auburndale, Bartow, Davenport, Dundee, Eagle Lake, Fort Meade, Frostproof, Haines City, Highland Park, Hillcrest Heights, Lake Alfred, Lake Hamilton, Lake Wales, Lakeland, Mulberry, Polk City, Winter Haven, FDOT

			District 1
Reedy Creek Improvement District http://www.rcid.org/Dept_Environmental.cfm	FLS000010	1	
Sarasota County http://www.scgov.net/EnvironmentalServices/Water/SurfaceWater/Stormwater.asp	FLS000004	6	Longboat Key, North Port, Sarasota, Venice, FDOT District 1
St. Petersburg http://www.stpete.org/stormwaterops/stormwater.asp	FLS000007	2	FDOT District 7
Seminole County http://www.seminolecountyfl.gov/pw/roadstorm/wq_3.aspx	FLS000038	8	Altamonte Springs, Casselberry, Lake Mary, Longwood, Oviedo, Sanford, Winter Springs, FDOT District 5
Tallahassee http://www.talgov.com/you/stormwater/	FLS000034	1	
Tampa http://www.tampagov.net/dept_stormwater/	FLS000008	2	FDOT District 7
Temple Terrace	FLS000009	2	FDOT District 7

Table 2. List of Phase 2 MS4 Permittees

PERMITTEE	Permit ID Number
Alachua County	FLR04E005
FDOT District 2 (Gainesville UA)	FLR04E018
University of Florida	FLR04E067
City of Gainesville	FLR04E006
Bay County	FLR04E054
City of Callaway	FLR04E055
City of Lynn Haven	FLR04E008
City of Panama City	FLR04E053
City of Panama City Beach	FLR04E123
City of Parker	FLR04E087
City of Springfield	FLR04E097
Tyndall Air Force Base	FLR04E004
FDOT District 3	FLR04E023
Brevard County	FLR04E052
City of Cape Canaveral	FLR04E003
City of Cocoa	FLR04E032
City of Cocoa Beach	FLR04E062
Town of Indialantic	FLR04E030
City of Indian Harbour Beach	FLR04E026
Town of Malabar	FLR04E050
City of Melbourne	FLR04E027
Town of Melbourne Beach	FLR04E041
City of Palm Bay	FLR04E077
Patrick Air Force Base	FLR04E074
Town of Rockledge	FLR04E047
City of Satellite Beach	FLR04E072
City of Titusville	FLR04E079
City of West Melbourne	FLR04E028
Charlotte County	FLR04E043
City of Punta Gorda	FLR04E039
FDOT District 1	FLR04E048
Clay County	FLR04E045
FDOT District 2 (Jacksonville UA)	FLR04E020
City of Green Cove Springs	FLR04E103
Town of Orange Park	FLR04E075
Collier County	FLR04E037
City of Naples	FLR04E080

Town of Baldwin	FLR04E086
Naval Air Station Jacksonville	FLR04E091
Naval Station Mayport	FLR04E056
Naval Air Station Pensacola	FLR04E058
University of West Florida	FLR04E057
City of Flagler Beach	FLR04E102
City of Brooksville	FLR04E119
FDOT District 7	FLR04E017
Hernando County	FLR04E040
Arbor Greene Community Development District	FLR04E082
Cheval West Community Development District	FLR04E066
MacDill AFB	FLR04E059
Tampa Palms Community Development District	FLR04E070
University of South Florida	FLR04E131
Town of Indian River Shores	FLR04E009
Indian River County	FLR04E068
City of Sebastian	FLR04E124
City of Vero Beach	FLR04E010
FDOT District 4	FLR04E083
City of Fruitland Park	FLR04E114
Lake County	FLR04E106
City of Eustis	FLR04E100
Town of Lady Lake	FLR04E105
City of Leesburg	FLR04E110
City of Minneola	FLR04E111
City of Mount Dora	FLR04E121
City of Tavares	FLR04E113
City of Umatilla	FLR04E108
Federal Correctional Institute	FLR04E096
Florida Agricultural and Mechanical University	FLR04E095
Florida State University	FLR04E051
Lakewood Ranch Community Development District	FLR04E107
Marion County	FLR04E021
City of Ocala	FLR04E046
Martin County	FLR04E013
Town of Sewall's Point	FLR04E044
City of Stuart	FLR04E031
Village of Biscayne Park	FLR04E098
Everglades Correctional Institution	FLR04E122
City of Florida City	FLR04E088
Florida International University	FLR04E092

City of Sweetwater	FLR04E090
Village of Virginia Gardens	FLR04E093
FDOT District 6	FLR04E132
City of Key West	FLR04E128
City of Marathon	FLR04E129
City of Destin	FLR04E034
Eglin Air Force Base	FLR04E007
City of Fort Walton Beach	FLR04E061
Hurlburt Field	FLR04E002
City of Mary Esther	FLR04E081
City of Niceville	FLR04E015
Okaloosa County	FLR04E073
City of Valparaiso	FLR04E038
FDOT Florida's Turnpike Enterprise	FLR04E049
University of Central Florida	FLR04E076
Town of Windermere	FLR04E063
Osceola County	FLR04E012
City of Kissimmee	FLR04E064
City of St. Cloud	FLR04E112
Florida Atlantic University	FLR04E094
Town of Indian Shores	FLR04E133
City of Gulf Breeze	FLR04E085
City of Milton	FLR04E104
Santa Rosa County	FLR04E069
City of St Augustine Beach	FLR04E109
City of St. Augustine	FLR04E101
FDOT District 2 (St. Augustine UA)	FLR04E019
St. Johns County	FLR04E025
City of Port St. Lucie	FLR04E001
St. Lucie County	FLR04E029
City of Ft. Pierce	FLR04E065
The Villages Community Development District No 1	FLR04E116
City of Daytona Beach	FLR04E011
City of Daytona Beach Shores	FLR04E022
City of DeBary	FLR04E120
City of DeLand	FLR04E078
City of Deltona	FLR04E099
City of Edgewater	FLR04E016
FDOT District 5	FLR04E024
City of Holly Hill	FLR04E060
City of Lake Helen	FLR04E125
City of New Smyrna Beach	FLR04E035
City of Oak Hill	FLR04E130

City of Orange City	FLR04E126
City of Ormond Beach	FLR04E036
Town of Ponce Inlet	FLR04E071
City of Port Orange	FLR04E014
City of South Daytona	FLR04E042
Volusia County	FLR04E033
Walton County	FLR04E084

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APPENDIX B

Component 1: Structural Controls and Stormwater System Operation

Leon County Stormwater Operating Permit Ordinance

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Leon County Stormwater Operating Permit Ordinance

Sec. 10-4.209 [10-316]. Stormwater management facility operating permit.

(a) *Scope.* No stormwater management facility shall be utilized until a stormwater management operating permit application meeting the requirements of Subsections (b), (f), (g) and (h), as applicable, has been submitted, the required application fee has been paid, and such application has been approved by the county administrator or designee, except that the following facilities shall not be required to obtain an operating permit:

- (1) Facilities which have as their primary function the conveyance of stormwater and which specifically are not required by their permit or otherwise to provide for water quality treatment, flood attenuation, or volume retention.
- (2) Facilities in existence on February 1, 1982, which have not been modified since that time.
- (3) Prior to the time of a final inspection as provided for in Subsection 10-4.212 (b)(3), facilities under construction which are part of a development plan authorized by an environmental management permit issued pursuant to this article and temporary facilities which are part of an erosion and sediment control plan for such a development site.

(b) *Permittees.* When a stormwater management facility operating permit is necessary pursuant to this section, the following individuals and entities shall be responsible for obtaining such permit and for insuring compliance with the requirements and conditions stipulated as a part thereof and with this article:

- (1) Facilities constructed or modified subsequent to January 15, 1990. All persons having current title to any property which drains to the facility, and which was or is proposed to be developed in conjunction with the activities for which the stormwater management facility was constructed or improved, shall be named as permittees in the permit application. Once issued, the operating permit and the concurrent obligations shall automatically transfer to the successors in interest of such permittees. If a facility for which an operating permit is required receives commingled stormwater from multiple parcels which either are not under a single ownership or were developed specifically for resale, the owners of all such parcels shall enter into a written agreement, in a form approved by the county administrator or designee and bearing notarized signatures of all of the owners, naming one owner as their joint agent for purposes of the permit, or shall create as their joint agent a stormwater management facility property owners' association, which shall be duly registered as a corporation with the state's secretary of state. In such instance the operating permit shall be issued to the named joint agent or property owners' association, and such named joint agent or association shall be the primary contact permittee for purposes of notice, although the individual owners shall remain liable on a pro rata basis for all costs relating to the facility. A neighborhood home owners' association, which exists for purposes supplemental to the permitting of a stormwater facility, may function as the stormwater management facility property owners' association provided the home owners' association is organized in such a manner as to meet the requirements established in this article for stormwater management facility property owners' associations. If a single owner is appointed as the joint agent as described above, and that owner sells or legally transfers his interest in property which contributes water to the facility or otherwise elects to terminate his appointment as the joint agent, then that person shall promptly notify all permittees and the county administrator or designee of his termination as joint agent, and the permittees shall, within 60 days of the date of the joint agent's termination, either establish a stormwater management facility property owners' association and give notice to the county administrator or designee as specified hereunder or modify their joint agent agreement in a writing, bearing the signature of all owners of property contributing stormwater to the facility, to appoint another owner as the joint agent, and file such agreement with the county administrator or designee. Additionally, in the event that the joint agent agreement option is used, the agreement must be modified to include the signatures of

new owners, and refiled with the county administrator or designee within 30 days after transfer, when any parcel contributing stormwater to the facility is transferred or sold. It shall be the responsibility of the transferring/selling owner to notify the joint agent of the transfer within ten days of such transfer.

- (2) Facilities constructed prior to January 15, 1990. When a facility existed on January 15, 1990, and is not significantly modified subsequent thereto, the permittee shall be those persons or their legal successors in title, in whose interest and for whose benefit the county or the state Department of Environmental Protection (under the provisions of F.A.C. ch. 62) originally issued a permit. Once issued, the operating permit and the concurrent obligations shall automatically transfer to subsequent legal successors in interest. If such an existing facility receives commingled stormwater from multiple parcels which either are not under a single ownership or were developed specifically for resale, the owners of all such parcels shall enter into a written agreement, in a form approved by the county administrator or designee and bearing notarized signatures of all of the owners, naming one owner as their joint agent for purposes of the permit, or shall create a stormwater management facility property owners' association to act as their joint agent. The operating permit shall then be issued to the named joint agent or stormwater management facility property owners' association, and such named joint agent or association shall be under the conditions and requirements provided for in Subsection (b)(1). If any legal agreements exist which absolve an owner from responsibility for a facility receiving stormwater from their property, and these are presented to the county administrator or designee in written form, such an owner may be allowed to opt out of participation in the stormwater management primary contact permittee, although the individual owners shall remain liable on a pro rata basis for all costs relating to the facility. If a joint agent agreement is used, all conditions and requirements specified in Subsection (b)(1) shall be complied with. A neighborhood home owners' association may function as the stormwater management facility property owners' association or named joint agent agreement. In such an instance the individual or entity which accepted the responsibility for the facility in place of such owner shall instead be required to be a participant.
- (3) Government operated facilities. Notwithstanding Subsections (b)(1) and (b)(2), if a facility is constructed by or has been properly dedicated to a governmental entity, the permittee shall be that governmental entity.

(c) *Permit conditions.* In addition to any explicit special conditions outlined in the operating permit, an implicit condition of all permits is as follows:

1. The permittee shall operate and maintain the facility in a manner consistent with the representations made in the application for the permit which authorized construction of the facility, and with the requirements of this article and other applicable local, state and federal regulations.
2. The permittee shall maintain the site in accordance with all applicable management plans, and shall maintain landscaping and natural areas as designed.

(d) *Expiration and renewal of operating permits.* Operating permits shall expire three years subsequent to issuance or renewal. The permittee shall apply to the county administrator or designee for a permit renewal three months prior to expiration of the permit, as provided in subsection (g).

(e) *Stormwater management facility capacity accounting records.* A record of total facility capacity, the capacities dedicated to individual sites, if any, and remaining available total facility capacity, must be maintained by the permittee if:

- (1) The facility is not exempt from operating permit requirements under Subsection (a); or
- (2) Some portion of the stormwater management facility capacity is to be utilized for stormwater from future development on multiple sites which are not residential use lots in a master planned subdivision.

(f) *Applications for stormwater facility operating permits.*

- (1) For facilities constructed or modified subsequent to January 15, 1990, operating permits are required prior to final inspection and post-construction certification as provided for in sections 10-

4.212 (b)(3) and 10-4.208. The applicant shall be the permittee specified in Subsection (b). The following information shall be required in the operating permit application:

- a. A property parcel map showing the location and tax parcel numbers of each parcel for which an owner is required under Subsection (b) to either obtain an operating permit or maintain membership in a stormwater management facility property owners' association and a listing of the names and addresses of all owners with cross-references to the property parcel map identifying every parcel owned by each applicant.
- b. If the permit is to be issued to a stormwater management facility property owners' association, a copy of the articles of incorporation and pertinent bylaws, which have been approved by the county administrator or designee as meeting the requirements of F.A.C. 62-25.027, and other local government requirements if any, and which have been recorded in the official record books of the county; a list of the names, addresses, and telephone numbers of all association members and officers; and a certificate of good standing for the association, issued by the state's secretary of state evidencing the formal establishment of the association.
- c. If the permit is to be issued to a joint agent, a copy of the agreement as specified in subsection (b).
- d. A narrative description of the facilities to be permitted. Multiple facilities which were constructed under a single environmental management permit may be permitted by the county under one operating permit, as practical.
- e. A general location map which indicates the relative location in the county and in the watershed of the facilities to be permitted, the property tax parcel numbers, and the names and addresses of the current owners of all parcels on which facilities are located, the limits of the drainage basin contributing to the facilities and the number of acres contributing runoff to each of the facilities.
- f. Information regarding operating capacities of the facilities, demonstrating that such capacities are not greater than those specified in the application for an environmental management permit unless approved design modifications were made, in which event new calculations shall be provided.
- g. An operation and maintenance plan, including identification by name, address, and phone number of an individual who shall be designated facility operator, and who shall be responsible for the day-to-day operation, maintenance and management of the facilities. The plan shall clearly define how funding and supervision is to be provided and shall include an acceptable operation and maintenance outline specifying operating procedures and possible required facility adjustment, routine intermittent and annual maintenance including exercising of valves, cleaning of weirs and trash racks, mowing, dredging, replacing filter media and underdrains as applicable, and all other activities required to ensure that the facility performs as designed. Such an outline must include estimates of equipment required, man hours and crew size, schedules and an estimate of long term annual cost.
- h. Detailed vegetative and landscaping maintenance plans and narrative description are prepared and designed to guide future horticultural and arboricultural activities necessary to maintain landscaping and vegetation consistent with the design goals of the approved plan.

(g) *Renewal of operating permits.* Operating permits shall be renewed every three years. The permittee shall apply to the county administrator or designee for a permit renewal at least three months, but not more than six months, prior to expiration of the permit. Renewal shall be granted by the county administrator or designee when each of the following conditions is met:

- (1) Inspection by the county administrator or designee, or sampling at the facility, confirms that all components are in good working order, that the facility is free of debris or excessive sediment deposits and is well stabilized, and that the facility is meeting or exceeding the design performance criteria specified in the environmental management permit and this article. Facilities for which no environmental management permit was issued to authorize construction shall meet the facility performance criteria specified in F.A.C. ch. 62-25.

- (2) If the operating permit being renewed was issued to an individual or entity other than a stormwater management facility property owners' association, the applicant submits updated records providing the names and addresses of current property owners who are required to maintain an operating permit under this division. This list, through cross-referencing to the property parcel map filed with the original operating permit application, shall identify every parcel owned by each individual applicant.
- (3) If the operating permit being renewed was issued to a stormwater management facility property owners' association, the applicant provides a current list of the names, addresses and telephone numbers of all association members, the names of all association officers, any changes made in the association bylaws subsequent to issuance of the previous operating permits, and a current certificate of good standing for the association issued by the state's secretary of state.
- (4) The applicant provides the name, address and telephone number of the individual responsible for day-to-day operation, maintenance and management of the facility and who shall be designated as facility operator.
- (5) The applicant presents up-to-date stormwater facility capacity accounting records if the development is not built out or the facility is not at full capacity.
- (6) The applicant agrees to make such modifications, improvements, or operation or maintenance changes necessary to meet the requirements of this article.
- (7) The landscape and management plans have been followed and the green areas are in acceptable condition. The applicant will restore, replant or do any other item necessary to bring the site into compliance with all management plans and the original design.

(h) *Applications by governmental entities for operating permits.* When a facility is to be operated and maintained by a governmental entity, an operating permit shall be issued upon submission by the governmental entity of evidence that the facility is to be maintained as a part of an overall plan of maintenance for the master stormwater management system. The plan must conform with the standards of this article, and evidence of compliance with state water quality standards must be provided. Such a permit shall be renewed provided the governmental entity submits evidence of continued performance of required maintenance under the overall system maintenance plan.

APPENDIX C: STORMWATER SYSTEM INSPECTION

CONTACT STAFF

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Table 1. WMD and DEP Stormwater Compliance Staff

WMD	OFFICE	CONTACT PERSON	CONTACT INFO
NFWWMD	Entire district	Bill Torres	Bill.torres@nfwfwd.state.fl.us 850/921-5861
SRWMD	Entire District	Jerry Bowden	jpb@srwmd.org 800/226-1066
SRWMD	Hamilton, Jefferson, Taylor, Madison, Dixie Counties	John Hastings	jch@srwmd.org 800/226-1066
SRWMD	Columbia, Suwannee, Lafayette Counties	Leroy Marshall	lrm@srwmd.org 800/226-1066
SRWMD	Levy, Gilchrist, Bradford Counties	Pat Webster	pjw@srwmd.org 800/226-1066
SRWMD	Alachua, Baker, Union Counties	James Link	jial@srwmd.org 800/226-1066
SJRWMD	Palatka (serves Alachua, Putnam, Flagler, Marion counties)	Allen Baggett	abaggett@sjrwmd.com 386/329-4565
SJRWMD	Jacksonville (serves Bradford, Clay, Duval, Nassau, Flagler, Marion counties)	Dale Lovell	dlovell@sjrwmd.com 904/448-7919
SJRWMD	Altamonte Springs (serves Orange, Seminole, Volusia, Lake counties)	William Carlie	wcarlie@sjrwmd.com 407/659-4833
SJRWMD	Palm Bay (serves Indian River, Brevard, Osceola, Okeechobee counties)	Janice Unger	junger@sjrwmd.com 321/676-6600
SWFWMD	Polk, Hardee, Highlands counties	Mark Alford	Mark.alford@watermatters.org 863-534-1448 ext. 6110
SWFWMD	Manatee, Sarasota, Charlotte, Desoto counties	Cheryl Johnson	Cheryl.johnson@watermatters.org (941) 377-3722 ext. 6518
SWFWMD	Hillsborough and Pinellas counties	Bill Permenter	Bill.permenter@watermatters.org (813) 985-7481 ext. 2064
SWFWMD	Pasco, Hernando, Citrus, Sumter, Levy, Marion, Lake counties	Frank Gargano	Frank.gargano@watermatters.org (352) 796-7211 ext. 4289
SFWMD	Broward County	Joe Marquez	jmarquez@sfwmd.gov 954-452-4814 x4841
SFWMD	Charlotte County	Beccagayle Reide Louis Hunter	breide@sfwmd.gov 239/338-2929 x7760 lwhunter@sfwmd.gov 239/338-2929 x 7792

WMD	OFFICE	CONTACT PERSON	CONTACT INFO
SFWMD	Collier County	Angelica Sotomayor Steve Nagle	asotoma@sfwmd.gov 239/338-2929 x7731 snagle@sfwmd.gov 239/338-2929 x7721
SFWMD	Glades County	Gary Priest Allison Murphy	gpriest@sfwmd.gov 863/462-5260 x 3016 amurphy@sfwmd.gov 863/462-5260 x 3033
SFWMD	Hendry County	Beccagayle Reide Bobby Pearce	breide@sfwmd.gov 239/338-2929 x7760 rpearce@sfwmd.gov 863/983-1431 x 3209
SFWMD	Highlands County	Gary Priest Allison Murphy	
SFWMD	Lee County East	Beccagayle Reide Bobby Pearce	
SFWMD	Lee County West	Beccagayle Reide Louis Hunter	
SFWMD	Martin County	Guy Boisclair	772/223-2600 x3613 gboiscl@sfwmd.gov
SFWMD	Miami-Dade County	Hamid Azizi Bob Karafel	hazizi@sfwmd.gov 561/682-6596 rkarafel@sfwmd.gov 305.377-7274 x7209
SFWMD	Monroe County	Hamid Azizi Bob Karafel	
SFWMD	Okeechobee County	Gary Priest Allison Murphy	
SFWMD	Orange County East	Andreea Reyes	areyes@sfwmd.gov 407/858-6100 x3834
SFWMD	Orange County West	Ed Maciejko	emaciejk@sfwmd.gov 407/858-6100 x3830
SFWMD	Palm Beach County North, Wellington	Jim Fyfe Bob Ratcliffe	jfyfe@sfwmd.gov 561/682-2788 rratclif@sfwmd.gov 561/682-6592
SFWMD	Palm Beach County Central	Carmen Baez-Smith Ken Mudd	cbaezsm@sfwmd.gov 561/682-2204 kmudd@sfwmd.gov 561/682-6595
SFWMD	Palm Beach County South	Hamid Azizi Ken Mudd	
SFWMD	Polk County	Jared Justesen	jjustese@sfwmd.gov 407/858-6100 x3811
SFWMD	St Lucie County	Guy Boisclair	

WMD	OFFICE	CONTACT PERSON	CONTACT INFO
DEP ERP	Northwest District	Carl Weber	Carl.Weber@dep.state.fl.us 850/595-0663
DEP NPDES	Northwest District	Brooke Royster	Brooke.royster@dep.state.fl.us 850/595-0678
DEP ERP	Northeast District	Matthew Kershner	Matthew.Kershner@dep.state.fl.us 904/256-1649
DEP NPDES	Northeast District	Max Schwartz	Max.G.Schwartz@dep.state.fl.us 904/807-3253
DEP ERP	Central District	Jennifer Green	Jennifer.green@dep.state.fl.us 407/893-7871
DEP NPDES	Central District	Thomas Reed	Thomas.reed@dep.state.fl.us 407/894-7555 ext. 2213
DEP ERP	Southwest District	Maryellen Edwards	Maryellen.edwards@dep.state.fl.us 813/632-7600 ext. 338
DEP NPDES	Southwest District	Steven Kelly	Steven.kelly@dep.state.fl.us 813/632-7600 ext. 457
DEP ERP	Southeast District	Jason Andreotta	Jason.Andreotta@dep.state.fl.us (561) 681-6639
DEP NPDES	Southeast District	Bill Gordon	William.gordon@dep.state.fl.us (772) 398-2806 ext.127
DEP ERP	South District	Greg O'Connell	Gregory.OConnell@dep.state.fl.us 239/332-6975, ext 162

APPENDIX D EXAMPLE INSPECTION CHECKLISTS

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APPENDIX D-1 MUNICIPAL YARD OR INDUSTRIAL INSPECTION CHECKLIST

City of XXXXXX
Department of XXXXXX
NPDES MS4 Permit Stormwater Site Inspection
Municipal & Industrial Facilities

Facility Name:

Facility Address:

Drainage Basin:

Standard Industrial Code (SIC):

- | YES | NO | NA | |
|--------------------------|--------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. Discharge point to the Municipal Separate Storm Sewer System (MS4) .
If yes, indicate: (1) Latitude/Longitude of discharge point: _____
(2) Receiving water: _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. Industrial ONLY: MSGP Notice of Intent (NOI) (FDEP Form 62-621.300(5)(b)) was submitted to DEP. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. Industrial ONLY: The Stormwater Pollution Prevention Plan (SWPPP) is on site and is being adhered to, as per the MSGP. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. Industrial ONLY: The required SWPPP inspection and maintenance report forms are always completed, as per the MSGP. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5. Materials/chemicals are stored, handled, or discarded in a manner to reduce the potential risk of spills entering the MS4. Is a spill kit on site? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. Outfalls, inlets and outlets of stormwater treatment systems are free of debris/pollutants. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. Chemical storage tanks (new and used fluids) are clearly marked, properly contained (i.e., tightly closed, no potential to leak pollutants), and protected from potential accidental damage. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8. Loading, unloading, and transfer areas are neat and free of spills/debris/pollutants. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9. Vehicle maintenance areas are properly maintained and draining to the treatment system or sanitary sewer line. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10. Outdoor manufacturing areas are properly maintained and free of spills/debris/pollutants. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 11. Outdoor stockpile/material handling areas are properly maintained and the materials are properly contained (i.e., no potential to leak or leach pollutants). |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 12. Trash and debris areas are conspicuous and properly protected from stormwater runoff. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 13. Fueling stations are free of petroleum product spills/leaks. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 14. Vehicle wash and rinse areas are draining to the treatment system or sanitary sewer line. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 15. Visual observation of potential illicit connection/illicit discharge to the MS4. (Note where observed.) |
| | | | Odor <input type="checkbox"/> Color <input type="checkbox"/> Foam <input type="checkbox"/> Sheen <input type="checkbox"/> Surface Scum <input type="checkbox"/> Solids <input type="checkbox"/> Turbidity <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| | | | 0 1 2 3 4 5 |

Comments:

Verbal/written Notification Given To:

Name/title:

Phone/e-mail:

Inspector Name

Date:

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APPENDIX D-2 CONSTRUCTION SITE INSPECTION CHECKLIST

City of XXXXXX Department of XXXXXX Construction Site Stormwater Inspection

Project Name: _____ Property Owner: _____

Location: _____ Contractor: _____

Project Start Date: _____ Site Representative: _____

Permit or CIP #: _____ Phone: _____

Receiving waterbodies: _____

ACTIVITY		Yes	No	NA
1	Site subject to NPDES Construction Generic Permit (CGP) with ≥ 1 acre disturbed?			
2	Notice of Intent (NOI) for coverage under the CGP on site?			
3	Stormwater Pollution Prevention Plan (SWPPP) on site, as per the CGP?			
4	Erosion and Sediment Control Plan on site? (if not subject to the CGP)			
5	All necessary erosion and sediment control measures are shown on the plan?			
6	All necessary erosion and sediment control measures properly installed and maintained?			
7	Silt fences are properly installed (staked in and trenched in) and in good condition?			
8	All disturbed areas properly stabilized? Temporary or permanent stabilization is required.			
9	Offsite areas adjacent to disturbed areas protected?			
10	Receiving waters protected with turbidity barrier and other means as needed?			
11	Construction entrance controls to prevent offsite soil tracking and the roadway is clean?			
12	Stormwater inlets adequately protected from sediment?			
13	Soil stockpiles adequately contained / stabilized?			
14	Stormwater ponds and conveyances are stabilized and free of sediments?			
15	Preservation wetland and conservation areas are clearly marked and adequately protected from silt, erosion and turbidity?			
16	Sediment traps are installed as needed and are in good working order?			
17	All non-sediment pollutants (e.g., trash, hazardous/toxic materials, detergents, truck wash-out, sanitary waste and other waste materials) contained and protected from stormwater?			
18	Pollutant spills/spill residuals properly cleaned-up?			
19	Violation found? If yes, check enforcement action taken below: <input type="checkbox"/> Verbal warning to contractor <input type="checkbox"/> Notice of Violation (NOV) <input type="checkbox"/> Stop Work Order			

Comments:

Inspector: _____

Date: _____ **Time:** _____

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