

Chatham County SWMP

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APPENDICES

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ACRONYMS/DEFINITIONS

BMPs	Best Management Practices
CEMA	Chatham Emergency Management Agency
CIP	Capital Improvement Project
E&S	Erosion & Sedimentation
EOC	Emergency Operations Center
EPD	Georgia Environmental Protection Division
ESCPs	Erosion & Sedimentation Control Plans
ESFs	Emergency Support Functions
GaDNR	Georgia Department of Natural Resources
GEMA	Georgia Emergency Management Agency
GESA	Georgia Erosion & Sedimentation Act
GSWCC	Georgia Soil & Water Conservation Commission
I&I	Inflow & Infiltration
IDDE	Illicit Discharge Detection & Elimination
L.E.P.C.	Local Emergency Planning Committee
LDA	Land Disturbing Activities
MOUs	Memorandums of Understanding
MPC	Chatham County – Savannah Metropolitan Planning Commission
MS4	Municipal Separate Storm Sewer System
MSDS	Materials Safety Data Sheet
NPDES	National Pollutant Discharge & Elimination System
NRCS	Natural Resources Conservation Service
QA/QC	Quality Assurance/Quality Control
SIC	Standard Industrial Classification
SOP	Standard Operating Procedure
SPLOST	Special Purpose Local Option Sales Tax
SPRPs	Spill Prevention & Response Plans
SWMPs	Stormwater Management Plans
SWP3	Stormwater Pollution Prevention Plan
UGA	University of Georgia
WQPP	Water Quality Protection Plan

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EXECUTIVE SUMMARY

Chatham County received coverage under the National Pollutant Discharge and Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) Permit issued on April 12, 2017 as required by provisions of the Georgia Water Quality Control Act and the Federal Clean Water Act. This permit, included in Appendix E, requires the development of a Stormwater Management Plan (SWMP), to address the following program elements, as stipulated in CFR 122.26(d)(2)(iv)(A) through 122.26(d)(2)(iv)(D):

- Structural and Source Control Measures
- Illicit Discharge Detection and Elimination
- Industrial Facility Stormwater Runoff Control
- Construction Site Runoff Management

The Georgia Environmental Protection Division (EPD) previously required Chatham County to expand its SWMP to include Best Management Practices (BMPs) to address the following required modifications:

- Impaired Waterways, i.e. 303(d) listed stream segments
- Highly Visible Pollutant Sources
- Public Education
- Pollution Prevention/Good Housekeeping

More recently, Chatham County received a letter from the Georgia EPD, dated July 6, 2012, requiring the County to revise its SWMP to follow the format of the NPDES Permit. For that reason, this plan begins with Section 3, which is the section of the Permit that includes the Storm Water Management Program requirements.

Chatham County works with the other NPDES Phase I MS4 Permittees within the County to implement various elements of the SWMP including canal maintenance, public education, and TMDL Monitoring. The County no longer tasks the Chatham County – Savannah Metropolitan Planning Commission (MPC) to perform educational outreach and involvement aspects of their MS4 report nor the drafting of their Annual Report. As stated in the submitted draft of the SWMP, the County is submitting a revised SWMP to indicate the changes in this arrangement.

3. STORM WATER MANAGEMENT PROGRAM

3.3. SWMP Components

3.3.1. Structural and Source Control Measures

The structural and source control measures are intended to reduce pollutants from runoff from commercial and residential areas that are discharged from the County's MS4.

3.3.1.1. MS4 Control Structure Inventory Map

The County performed a GIS field inventory of the open and closed stormwater infrastructure components. This project included the digitizing of old as-built engineering plans, incorporation of new as-built plans, and field mapping of drainage structures. Components are included in a GIS database which is maintained by the Department of Engineering and made available to Public Works Department, complete with available attribute information regarding each structure. While specific information for each structure may vary, the inventory generally includes: construction material, size, and general condition of the structure. The County implemented a digital as-built submission requirement into its construction close-out process. The intent is to update the MS4 inventory as development occurs. The County will continue to review the MS4 inventory on an annual basis and make updates as needed. The inventory is available as a GIS layer and database maintained by Department of Engineering.

Chatham County will visually inspect the facilities that comprise the MS4 within the established extent of service on a routine basis. County Public Works staff currently inspect the MS4 facilities as part of a preventive maintenance program, routine system inspections, and in response to citizen complaints. MS4 Inspection procedures are as follows:

- Inspections shall include a visual condition assessment of the various system facilities.
- Storm drain lines will be visually inspected where they outfall into a catch basin or open drainage way unless access is obstructed.
- Upon completion of an inspection, County staff shall make a determination of the need for maintenance based on the results of the inspection and the maintenance criteria listed herein.
- If maintenance is required, the County staff shall determine if the maintenance need is structural, i.e., the structure needs to be repaired or replaced; or if the maintenance need is routine, i.e. sediment needs to be cleared, debris removed, or vegetation trimmed back.

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- If maintenance is needed, the staff person shall complete a work order for Public Works crew to address that maintenance need.
- If there is a structural issue, the County Department of Engineering will be notified so that they can perform their review and analysis.
- The County will maintain records of the inspections and a summary of these records shall be included in the Annual Report.

MS4 Inspection Schedule

The County's goal is to annually inspect 20% of MS4 system facilities, with a minimum of 5% annually. In any event the entire MS4 system will be inspected in the 5-year permit cycle. Newly installed control structures will be inspected by Department of Engineering Staff prior to construction close-out and acceptance. Those structures will be added to the inspection schedule to be inspected in the following permit cycle. The GIS database is used to determine the inspection schedule. The number and percentage of total structures inspected during each reporting period will be provided with each annual report.

MS4 Maintenance Procedures

The County will perform maintenance of the unincorporated, public MS4 as specified in the Stormwater Standard Operating Procedure (SSOP), included in Appendix E, and based upon inspection findings. During inspection, the County will determine if maintenance of the various elements is needed. The County will prioritize maintenance needs based on the potential impact to the functionality of the public MS4. Maintenance shall be prioritized and performed in general accordance with following standards:

- Sediment will be removed before 50% of the capacity of the structure is lost.
- Trash and debris will be removed from structures.
- Manmade and natural objects that are causing or could potentially cause a blockage to the system will be removed.
- Excess emergent vegetation will be removed.
- Bank side vegetation and vegetation in the maintenance right-of-way will be mowed or trimmed, but not removed to protect against erosion.
- Ditches not draining properly will be re-graded to the extent possible to match existing pipe invert grades.

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- All structural stormwater management practices will be maintained such that they function in accordance with their design and the standards, criteria, and information presented in the latest edition of the Coastal Stormwater Supplement (CSS) and the County's Engineering Policy.
- Polluted water and debris from line flushing will be captured and properly disposed of through the use of a jet-vac truck.
- Litter, sediment, and other pollutants removed from the MS4 will also be collected and disposed at a local landfill.

Stormwater Canals (Unincorporated Areas)

Stormwater canals in unincorporated County will be inspected and maintained by the Public Works Department. Canals in Unincorporated Chatham County are cleaned once per year, mowed and sprayed with herbicide. The County follows the herbicide application Standard Operating Procedure (SOP) when spraying canals, supervisors receive Commercial Pesticide Applicator License and staff is properly trained on application procedures. In the unincorporated County, there are approximately 58 miles of canals. Excess sediment, debris, and emergent and bank side vegetation will be removed from the canal at the time of inspection and disposed of properly. Any structural maintenance, such as bank stabilization, will be performed on an as needed basis. For more detailed description of canal maintenance procedures, see the SOP in Appendix E.

Stormwater Canals (Incorporated Areas)

Stormwater canals in the co-permittees' municipal boundaries will be inspected and maintained by Chatham County's Public Works Department as detailed in their maintenance agreements with the County. A map of the canals maintained in the MS4 Inventory. Canals in the municipalities are cleaned once per year, mowed and sprayed with herbicide. The County follows the herbicide application SOP when spraying canals, supervisors receive Commercial Applicator License, and staff is properly trained on application procedures. In the co-permittee municipalities, the County maintains approximately 85 miles of canals within the municipal limits. Excess sediment, debris, and emergent and bank side vegetation will be removed from the canal at the time of inspection and disposed of properly. Any structural maintenance, such as bank stabilization, will be performed on an as needed basis. It is the responsibility of the co-permittees to provide adequate access for the County to perform maintenance described above.

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Complaint Response Maintenance

Complaint response is performed based on evidence of system impairment or failure identified through citizen complaints. This maintenance is performed on an as-needed basis and is logged as it is performed through the County's Cartegraph Work Order System.

- Citizens may report complaints by calling either the County Department of Engineering or the Public Works Department at the numbers provided on the County website and in promotional material or by use of the Chatham County Connect mobile app.
- Upon receipt of a complaint, the Public Works Department generates a work order for the individual project and follows up with the customer.
- A County representative will follow up with the customer within 3 business days to determine the nature of the drainage problem.
- Maintenance may be recommended based on the inspection findings, and performed based on the maintenance standards established above.
- Inspection results and maintenance performed is recorded in the work order database.
- If the nature of the drainage problem requires more specialized expertise, then the work order may be handled by Department of Department of Engineering or an outside entity specializing in that activity.
- The County will provide a summary of complaints received and the resulting inspections and maintenance in the Annual Report.

3.3.1.2. Planning Procedures

Stormwater Management Ordinance

Chatham County amended the Stormwater Management Ordinance in 2007 to include the post construction runoff control requirements recommended in the Georgia Stormwater Management Manual (GSMM), and any of its adopted addenda including the Coastal Stormwater Supplement (CSS). The ordinance is included in Appendix E. The Stormwater Management Ordinance requires a Stormwater Management Plan (SWMP) to be submitted and approved for all development activity that is required to have a permit for land disturbing under the provisions of the Land Disturbing Activities Ordinance, Flood Damage Prevention Ordinance, or Soil Erosion and Sedimentation Control Ordinance. The plans must include provisions that limit the post-development peak runoff rate to the peak pre-development runoff rate, unless discharges are direct to open tidal waters. The ordinance also dictates that SWMP must address the following minimum criteria:

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- Better Site Design (As defined in the GSMM)
- Stormwater Runoff Quality
- Stream Channel Protection
- Overbank Flood Protection
- Extreme Flood Protection
- Upstream and Downstream Hydrologic Analysis
- Groundwater Recharge
- Post Construction Maintenance & Operation

If a development is to be completed in phases, a conceptual plan must be created for the overall development and a specific stormwater management plan must be created for each phase.

Design Criteria/Guidelines

The County adopted, by reference in the Stormwater Management Ordinance, the GSMM, and any of its current or future addendums including the CSS. These manuals include design criteria/guidelines to assist developers in designing a site plan that will manage post-construction runoff quality and quantity as required by the NPDES Phase I MS4 Permit. The GSMM and CSS offer BMP recommendations specific to coastal drainage conditions including high water tables, large tidal ranges and unique terrestrial habitats of coastal Georgia. These manuals expand post-construction stormwater management efforts to include prevention, as opposed to just mitigation, of the negative impacts of the land development process. The County provides guidance, through adoption of this manual on an integrated green infrastructure based approach to natural resource protection, stormwater management and site design.

Comprehensive Plan

The Chatham County Comprehensive Plan outlines goals and specific policies that are designed to protect the local quality of life. The Comprehensive Plan guides future land use and provides the framework for the Zoning Ordinance. Chatham County is required to submit a Short Term Work Program every five years, throughout the duration of the plan, which details the actions to be taken to achieve the goals listed in the Comprehensive Plan. The most recent Comprehensive Plan Update was completed in 2008. The Community Agenda of the Comprehensive Plan contains the following Goal and Objectives related to stormwater:

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GOAL G: Reduce the quantity and improve the quality of stormwater runoff.

- Objective 1: Implement and expand stormwater management plans as required by local Municipal Separate Stormwater System National Pollution Discharge Elimination (NPDES) permits.
- Objective 2: Prevent seepage from septic systems.
- Objective 3: Develop riparian buffer regulations that are effective for stormwater control and pollutant removal and that are based on best management practices.
- Objective 4: Adopt stormwater system improvement and maintenance policies that protect water quality.
- Objective 5: Minimize future impervious surfaces.

The plan includes implementation strategies and a short-term work program to work towards accomplishing these goals during the 20 year planning horizon.

Zoning Ordinance and Environmental Planning Criteria

Chatham County administers a Zoning Ordinance to regulate land use. The Zoning Ordinance allows Chatham County to guide development, manage urban sprawl, and protect valuable natural resources. The Zoning Ordinance is currently being updated and the County will ensure that this updated ordinance addresses water quality protection through the Green Infrastructure Review described in Section 3.3.10.

Riparian Buffer Protection

Protection of naturally vegetated riparian buffers provides a multitude of water quality benefits including, but not limited to:

- A reduction in stormwater runoff through the infiltration of stormwater prior to reaching the stream
- Reduction of the velocity of stormwater runoff to stream
- Treatment of stormwater quality through the filtering effects and uptake of the riparian fauna
- Stream bank stabilization
- Shading of the stream

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Chatham County mandates preservation of riparian buffers through the Erosion and Sedimentation Control Ordinance, which mandates a 25-foot buffer along all perennial and intermittent streams. The County also adopted the *Islands and Southeast Chatham County Environmental Overlay District*, the purpose of which is “to establish supplemental standards to bolster those currently in the Chatham County Zoning Ordinance in order to: a) protect and enhance community character; and b) protect environmental quality, especially the estuarine system that surrounds the community.” Chatham County adopted this overlay district for the Islands area and the Southeast area of the unincorporated County. Additional measures that will serve to protect water quality and prevent polluted runoff from reaching the marsh and coastal waterways include a 35-foot naturally vegetated riparian buffer for all newly subdivided property and a 50-foot impervious surface setback for all newly subdivided property.

Land Disturbing Activities Ordinance

The Department of Engineering administers the Land Disturbing Activities Ordinance. The following requirements must be satisfied by a proposed development before Chatham County will issue a LDA Permit (see Section 3.3.4.1 for more discussion on LDA Permits):

- *Greenspace Preservation* – The LDA Ordinance requires that all new multi-family, commercial and industrial developments preserve minimum of twenty percent (20%) of the total land area of the development as greenspace.
- *Landscaping and Tree Protection* – The LDA Ordinance requires developers to submit a landscape plan that details the preservation and/or replacement of trees and installation of landscaping. The plans are awarded points based on the practices employed and species used to preserve trees and install landscaping. Plans must receive a certain number of landscaping and tree quality points to receive a LDA permit. In order to encourage the preservation (rather than removal and replanting) of trees, the County has deemed that preserved trees are worth more tree quality points than replaced trees.
- *Wetlands Protection* – The County requires a current US Army Corps of Engineer jurisdictional wetland determination if land disturbing activities are located inside or within 100 feet of a Wetland Inventory Area. The delineation must be completed before a LDA Permit is issued.
- *Groundwater Recharge Area Protection* – This requirement is intended to protect groundwater quality by restricting land uses that generate, use, or store pollutants within groundwater recharge areas. It establishes standards that must be addressed in the site plans in order for a project to receive a LDA Permit.

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3.3.1.3. Street Maintenance

Roadway Maintenance

To reduce polluted runoff originating from streets, roads, and highways from vehicle traffic, leaks and spills, and atmospheric deposition, the Public Works Department will continue to sweep curb and gutter roads in unincorporated Chatham County three times per year. Debris collected by the street sweeper is separated at the Public Works yard, organic material is mulched, and all other debris is disposed of at a licensed landfill.

Roadside Ditch Maintenance

The County maintains roadside ditches, in the unincorporated County right-of-way (ROW), to ensure effective operation of the drainage system.

- Right-of-ways are mowed twice per month during the growing season, and as needed during winter months.
- Litter is pickup up by Public Works staff before the right-of-ways are mowed. All debris removed during roadside ditch maintenance will be disposed at a local landfill.
- Herbicide is applied at the time of inspection in accordance with procedures outlined in the SOP described in Section 3.3.1.7. Only those ditches with permanent water and evident emergent vegetation are sprayed.
- Roadside ditches are cleaned if accumulated sediment or other deposits exceed the functional depth.
- Roadside ditches are also re-graded and otherwise maintained by machinery on an as-needed basis.
- For a more detailed description of inspection and maintenance/procedures please see the Stormwater SOP in Appendix E.

De-icing Procedures

Public Works maintains a stockpile of sand to deice bridges in the event of a freeze. The sand is stored under cover or tarps to protect it from stormwater runoff. The County also keeps a small amount of road salt, which is contained in bags and stored in a building to protect it from moisture. In order to prevent the material from reaching local waterways after it is applied to the roads; Public Works will remove deicing material from the road using a street sweeper. Material removed will be stored and reused if possible, or disposed at a landfill.

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Roadway Construction Erosion and Sedimentation Control

Roadway repairs are conducted in adherence to minimum best management practices (BMPs), as required by the Georgia Erosion and Sedimentation Act (GESA). County staff will design, install, and maintain the minimum E&S control measures (or contract privately for these services) throughout the duration of these projects.

Litter Pickup

Chatham County Public Works crews pick up roadside litter in right-of-ways along all County-owned roads before mowing. Roadside right-of ways are picked up twice per month during the growing season (April – November) and as needed during the winter months.

The County has a Court-appointed community service worker program. As part of this program, community service workers are assigned to the Public Works Department to pick up litter on a weekly basis. All litter removed is disposed at a local landfill.

3.3.1.4. Flood Management Projects

Flood Management Capital Improvement Project (CIP) Water Quality Impact Assessment

The County operates a Capital Improvement Program to address structural flood management and drainage issues. As part of this program, the County identifies the various drainage and flooding problems within the County and develops a proposed engineered solution to the problem in the form of a CIP. CIPs include the installation of new structures and the retrofit, upgrade, or replacement of existing, inadequate structures. The County, or a contracted consultant, will conduct a water quality impact assessment during the design phase of drainage and flooding related CIPs for both new and existing structures, as funding becomes available for their implementation. This assessment will be integrated with the County's current Capital Improvement Program such that as identified CIPs are funded for implementation, an assessment will be performed during the design phase. The assessment must be completed before the design of any drainage CIP has been completed and will be submitted with the annual report. The assessment will include the following:

- A description of how the proposed CIP will improve water quality.
- A description of potential water quality impacts from the proposed CIP and recommendation for mitigation of any impacts.
- The feasibility and/or cost of incorporating water quality enhancements in the CIP.
- Identification of the regulatory permits needed to construct the project including, but not limited to: NPDES construction permit, Land Disturbing Activities Permit and a Section 404 permit.

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Flood Management Retrofitting

Department of Engineering staff or a contracted design consultant will evaluate the feasibility of implementing a CIP project for the purpose of reducing pollutants in a storm drainage basin each reporting period. Projects may include retrofitting existing structural flood control devices or construction of new water quality post-construction BMPs. The evaluation will be documented in an assessment to include the following:

- Map of basin evaluated and description of general area characteristics including, but not limited to urban or rural, % developed, presence of sanitary sewer or septic;
- A description of the pollutant(s) of concern and BMPs considered;
- The feasibility and cost of construction and maintenance of the each considered BMP; and
- Identification of regulatory permits to construct the project.

Projects will be implemented as funding is made available.

3.3.1.5. Municipal Facilities

County-Owned Landfills

Chatham County currently monitors five County-owned and permitted landfills. The following table provides information on the monitoring performed at the landfills.

Table 4: Chatham County Owned and Permitted Landfills

Name of Landfill	Location of Landfill	Operating Status (open/closed)	Type of sampling (groundwater, surface water, other)
Sharon Park	Garden City	Closed*	Groundwater, Methane, Surface Water
Wilmington	Wilmington Island, Unincorporated County	Closed*	Groundwater, Methane, Surface Water
Thomas	Thomas Avenue, Unincorporated County	Open	Groundwater, Methane, Surface Water
Dillon	DOT Barn Road, Unincorporated County	Open	Groundwater, Methane, Surface Water
Chevis	Chevis Road, Unincorporated County	Open	Groundwater, Methane, Surface Water

**Site currently used as a drop off point for recycling, yard debris, and bulk trash, but never accepted household waste.*

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County Facility Inspections

Chatham County Public Works will perform an annual stormwater site inspection to ensure that there is no stormwater pollution discharged from any of the following County facilities. Inspection reports will be included in the annual report.

Table 5: Chatham County Municipal Waste Facilities

Facility Name	Type of Operation
Thomas Avenue Landfill	Landfill facility
Wilmington Island Drop-off Center	Recyclable goods facility
Chevis Road Drop-off Center	Recyclable goods facility
Sharon Road Drop-off Center	Recyclable goods facility
Eisenhower Resource Education Center	Recyclable goods facility
Old Mosquito Control Facility	Indoor equipment storage for Public Works

Other Municipal Facilities with the Potential to Cause Pollution

Facility Monitoring

In compliance with the NPDES Industrial General Permit, the County has submitted a No Exposure Exemption for coverage and developed a Stormwater Pollution Prevention Plan (SWP3) for the Public Works. Current SWP3 are kept onsite at each facility.

The SWP3 includes good housekeeping, spill prevention, employee training, inspection and water quality monitoring procedures. The County is required to perform quarterly outfall monitoring and annual site inspections, and to submit an annual report to EPD on the status of SWP3 implementation. The County will amend their SWP3s to address any changes to permit requirements.

Facility Inspections

Facility operators will perform annual stormwater site inspections to ensure that there is no stormwater pollution discharged from any of the following County facilities. Inspection reports will be included in the annual report.

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Table 6: Chatham County Facilities with the Potential to Cause Pollution

Facility Name	Type of Operation
Fleet Operations	Maintenance yard and fuel facilities
Mosquito Control	Adulticide and larvicide application and equipment housing
Sheriff's Complex Fuel Site	Vehicle fueling and vehicle housing facility
Department of Public Works	Maintenance facility yard

3.3.1.6. Pesticide, Fertilizer and Herbicide Application

Public Works Herbicide Application Standard Operating Procedure

Chatham County Public Works utilizes herbicide to control excess emergent vegetation in open drainage ways. By controlling vegetation in open drainage ways, County staff ensures that stormwater can flow unobstructed through the system thereby preventing flooding. In order to protect water quality during the application of herbicides, to the maximum extent possible, County staff follows the standard operating procedures described below:

- Herbicide is not sprayed during breezy or windy conditions.
- Herbicide is not sprayed during or shortly before a rain event.
- Herbicide is not applied to the banks of drainage ways to prevent excess erosion from vegetation removal.
- Herbicide is not applied to ditches planted with turf grass.

Public Works has prepared an official Stormwater Standard Operating Procedure, which is included in Appendix E.

County Licensed Pesticide Applicators

Chatham County Public Works requires all supervisors receive the appropriate training and their Commercial Pesticide Applicators License from the Georgia Department of Agriculture.

Chatham County Mosquito Control Pesticide Discharge Management Plan

Chatham County Mosquito Control has a Pesticide Discharge Management Plan to reduce pesticide discharge through establishment of best management practices for pesticide storage,

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management, application, and training. This plan requires Chemical Spill Response OSHA Level II training for staff handling, loading or applying pesticides.

Commercial Pesticide Applicator Certification Program

Chatham County relies on the Georgia Department of Agriculture (DoA) to address requirements for Pesticide Applicator Training and Certification. The DoA requires commercial applicators of pesticides (herbicides and insecticides) to obtain and retain a “Commercial Pesticide Applicators License.” The DoA also requires that distributors of restricted pesticides obtain and retain “Distributor Licenses.” Continuing education units are required each year to maintain the license.

3.3.2. Illicit Discharge Detection & Elimination Program

3.3.2.1. Legal Authority

Chatham County currently regulates illicit discharges into the MS4 through its Stormwater Management Ordinance located in Appendix E. The following language addresses illicit discharges:

§24-709 Illicit Connections.

1. It is unlawful for any person, company, corporation, etc., to connect any pipe, open channel, or any other conveyance system that discharges anything except storm water or unpolluted water which is approved by the Director, based on the exemptions listed in §24-708.2 above, to the MS4.
2. Improper connections in violation of this code must be disconnected and redirected, if necessary, to the nearest sanitary sewer system upon approval by the Director.

3.3.2.2. Outfall Inventory/Map

Chatham County has 439 known outfalls to Waters of the State. A map of the outfalls is available as a GIS layer and database maintained by Department of Engineering.

3.3.2.3. Illicit Discharge Detection & Elimination Plan

Chatham County has an Illicit Discharge Detection & Elimination (IDDE) Plan that includes an inspection program, dry and wet screening procedures, investigative procedures for suspected illicit discharges, and procedures for source removal. The IDDE Plan is included in Appendix A.

3.3.2.4. Spill Response Procedures

Hazardous Material Spill Containment & Response Procedures

Chatham County has a Stormwater Pollution Prevention Plan (SWP3s) for the Public Works, Mosquito Control and Fleet Maintenance to address the following spill prevention and response procedures:

- BMPs for spill prevention;
- Materials needed and available for spill response;
- Party responsible for plan implementation; and
- Numbers of agencies to call in the event of a spill.

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In accordance with the requirements of the NPDES Industrial Stormwater General Permit, the County completes and submits an annual report on the status of SWP3 implementation to the GA EPD.

In the event of a hazardous material spill, Chatham Emergency Management Agency (CEMA) is responsible for coordinating spill response between Chatham County, Savannah Fire Department HazMat, Chatham County Health Department, Local Emergency Preparedness Committee, GA EPD, US Coast Guard, and any other agencies responsible for spill mitigation. CEMA operates under an Emergency Operations Plan, which addresses local government responsibilities for spill mitigation.

Hazardous Material Spill Prevention Program

County Staff Training

All new County staff that work with potentially hazardous materials will be trained on proper use, storage and disposal of commonly used hazardous or potentially polluting materials. The SWP3s developed for sites in Chatham County require staff that work at these sites be trained on the procedures for spill prevention and response outlined in the plan. This training will take place after update of the SWP3 and for any new employee within twelve months of beginning work at a site covered by an SWP3.

Hazardous Material Record Keeping

The County has a policy that it only purchases hazardous materials in small quantities that will be used immediately. This eliminates the need for any significant hazardous material storage. However, when hazardous materials are onsite, all departments within Chatham County are responsible for maintaining an inventory of all hazardous materials for which a MDS is provided.

At a minimum the following information is recorded:

- Type of material;
- Amount of material brought into the facility;
- Amount currently being stored at the facility; and
- Amount currently being used at the facility

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Wellhead Protection Program

Chatham County has a Wellhead Protection Ordinance that establishes protection zones with prohibited use around public water supply wells. Public water supply wells are those wells that are pumping greater than 0.1 million gallons per day or those wells that serve more than 15 connections or 25 customers. As part of this program Chatham County regulates land use within the protection zone. Some of the prohibited uses include the storage or use of hazardous substances and underground storage tanks. As part of this program, Chatham County will maintain an inventory of all public wells, and activities occurring within the associated protection zones.

3.3.2.5. Public Reporting Procedures

Citizen Complaint Program

Chatham County has procedures for encouraging and addressing citizen complaints about water quality. As the program is currently implemented, both the Engineering and Public Works Departments receive complaint calls from Citizens regarding water quality concerns. Both departments are also responsible for responding to complaints depending on the nature of the complaint within three days. Generally, Public Works is responsible for responding to complaints that require system maintenance. If structural engineering may be required, the Department of Engineering will inspect the site, and oversee the complaint response. The Department of Engineering is also responsible for responding to E&S complaints.

The Public Works Department currently maintains a computerized database (Cartegraph) that is used to generate work orders related to the complaint and map the address where the problem was reported. Caller information, description of the complaint, and actions taken by the Public Works staff to address the complaint are recorded in this database. The Department of Engineering maintains its own log of complaints.

In order to promote the Citizen Complaint Response Program and to encourage citizens to report water quality violations, Chatham County advertises the appropriate complaint reporting numbers on the local cable access channel and in promotional materials. The Public Works web page has a Service Request link (Chatham County Connect App) for citizens to report drainage issues and illegal dumping.

Stormwater Management Webpage

The County administers a public education program on their webpage which provides information to promote, publicize and facilitate public reporting of illicit discharge.

The County Public Works Department also maintains a Service Request portal on the Public Works' website where citizens can report all drainage system issues including illicit discharges

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<http://publicworks.chathamcounty.org/>. Once complaints are received by the Public Works department they are immediately investigated and logged into the work order system.

3.3.2.6. Proper Management & Disposal of Used Oil & Toxic Materials

Household Hazardous Material Education Program

The Chatham County Stormwater webpage along with Chatham Emergency Management Agency (CEMA) and the Local Emergency Planning Committee (LEPC) webpages provide information to help citizens of Chatham County dispose of hazardous household waste properly.

Recycling Centers

Chatham County has a Resource Conservation Center with the following program goals:

- Implement public education and outreach programs related to resource conservation, solid waste, recycling, waste reduction, yard waste, and litter programs.
- Develop programs and initiatives which will reduce solid waste through advertising, Public Services Announcements, special promotional campaigns, brochures, and hand-outs in order to increase public awareness and participation in waste reduction and resource conservation initiatives.
- Plan events, programs, and special out-reach community workshops on a monthly basis in order to fully utilize the Resource Conservation Education Center and increase the community's awareness of the Center and what it offers.

This Center is also the headquarters for recycling in Chatham County. The following items are accepted at the Resource Conservation Education Center:

- Cardboard
- News Paper
- Magazines
- Office Paper
- Scrap Metal
- Cans (Cleaned soup or food)
- Plastics 1 & 2 (clear bottle, Milk Jug, & Detergent bottle)
- Used Eye Glasses
- Black Plastic Plant Nursery Pots
- Used Motor Oil
- Lead Acid Batteries
- Rechargeable Batteries
- Old CD's
- Used Ink & Toner Cartridges

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- Used Cooking Oil
- Electronics (NO TVs)
- Plastic Shopping Bags
- Mobile phones

Chatham County operates and maintains two additional recycling centers where citizens of the County can bring aluminum cans, glass, cardboard, newspapers, junk mail, and yard debris to be recycled. The centers are open to all citizens of the County and operate six days per week. Chatham County advertises these centers through the County website, Chatham County Resource Facebook page, Stormwater Facebook page, the local yellow pages, and the Chatham County government access channel.

Yard Waste Mulching Program

Chatham County operates a yard waste recycling program for all residents in unincorporated Chatham County. Yard waste is picked-up curbside on a weekly basis. The yard waste is then brought to the recycling centers for mulching. The mulch is available free to all residents of the County six days per week.

Bulk Trash Pickup

Chatham County operates a monthly pickup of bulk trash items. Items are disposed at local landfills according to the rules and regulations of those facilities.

3.3.2.7. Sanitary Sewer Infiltration Controls

Sanitary Sewer Spill Response Plan

Chatham County owns sanitary lines that deliver the vast majority of sanitary sewage to the City of Savannah for treatment. The sanitary sewage system is operated by a private utility company. In order to prevent and respond to sanitary sewage spills, the County Public Works Department has developed a Sanitary Sewer Spill Response Plan however the operator of the system has primary responsibility for notification and clean-up of any spill. Chatham County Public Works has personnel and equipment ready to assist if needed. The response plan details the procedures for notifying the proper authorities and the public. The information to be reported is also detailed. For more detailed information, please see Appendix E.

Septic System Education Program

The ~~MPC~~ [Chatham County Stormwater webpage](#) ~~has~~ ~~provides~~ ~~links~~ ~~to~~ educational materials developed by UGA Cooperative Extension Service designed to educate homeowners on proper septic system installation and maintenance. These materials are made available to the County for distribution at County buildings or to residents upon request. The Chatham County Health Department also has brochures to distribute as appropriate as they inspect new and failing septic systems in unincorporated Chatham County.

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Septic System Inspection Program

The Chatham County Health Department is legally responsible to inspect septic systems in unincorporated Chatham County during construction to ensure proper design. Chatham County Health Department will also inspect existing septic systems if there are any indications of failure including complaints, odor, high fecal coliform levels detected during dry or wet outfall inspections or other sampling, etc. If the Health Department discovers a malfunctioning septic system, it will require the owner to have the system pumped and otherwise maintained as necessary.

3.3.3. Industrial Facility Storm Water Discharge Control

Industrial facilities have the potential to severely impact receiving waters through a MS4. Consequently, an effective SWMP should include an organized program for monitoring and controlling pollutants originating from such facilities. This program includes a systematic approach, outlining the procedures for inspections and the controls to be implemented to prevent pollutants from contacting stormwater runoff.

3.3.3.1. Industrial Facility Inventory

Chatham County maintains an inventory of industrial facilities that discharge to the MS4. This inventory is based on the Georgia Manufacturers Directory, EPD's NPDES Industrial Stormwater permittee list, and EPA's Toxic Release Inventory. This inventory is included in Appendix E. The inventory generally contains the following information: name of facility, street address, type of operation, and Standard Industrial Classification (SIC) code or North American Industrial Classification System (NAICS) code (where known). Chatham County will continue to modify and update this list as new facilities open, old facilities close or when inspection indicates the facility does not discharge to the MS4. Chatham County will submit any changes to the inventory in the following Annual Report.

3.3.3.2. Inspection Program

The Department of Engineering is responsible for conducting stormwater inspections of industries on the industrial inventory list. Inspections are performed annually according to the following procedures:

- First determine whether the industrial facility discharges to the County MS4. If the facility does not discharge to the County MS4, remove it from the Industrial Facility Inventory.
- Check to ensure that the facility has submitted an NOI to be covered under the NPDES Industrial General Permit, if it is required.
- Perform a cursory review of the implementation status of the associated Stormwater Pollution Prevention Plan (SWP3).
- Inspect according to the Inspection Checklist.
- Should an inspection reveal a potential threat to water quality in the MS4, notify the industry or business, provide them with a copy of the inspection checklist, and perform a re-inspection to ensure that all necessary corrections were made.

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- Notify the EPD if assistance is needed for enforcement or if there is a threat to Waters of the State.

The County maintains records of inspections results, problems found, and actions taken. Documentation of these inspections will be submitted each year with the Annual Report. An inspection checklist is included in Appendix E. The County will perform inspections on at least 20% of facilities per year.

Facility Monitoring Program

In order to monitor industrial facilities discharging to the Chatham County MS4, County staff will continue to operate the Industrial Stormwater Inspections Program in accordance with Section 3.3.3.2. Chatham County may elect to perform priority pollutant sampling at the facility outfall, as described in the CFR 126.26.

3.3.3.3. Enforcement Procedures

The County requires industrial developers to comply with the Stormwater Management Ordinance, which governs post-development stormwater management practices for new development and redevelopment. Stormwater must be managed on industrial project sites to address water quality and water quantity issues in accordance with the County's Stormwater Management Ordinance. The site plan for stormwater management must be prepared by a Professional Engineer, licensed in Georgia, and approved by the County Department of Engineering before a Land Disturbing Activity (LDA) Permit is issued and construction can begin.

If evidence is found during the inspection process that activities on-site are contributing to pollution in the MS4, the site owners will be notified of the violation. Site owners/operators will be given a specific time period, proportional to the violation, in which to correct the problem. If the problem is not corrected, enforcement actions, as described in the Enforcement Response Plan (Section 3.3.6), will be taken.

3.3.3.4. Educational Activities

Chatham County distributes links to state approved resources to facility operators during facility inspections and through the Chatham County Stormwater webpage. Such materials include information regarding BMPs and NOI requirements.

3.3.4. Construction Site Management Program

3.3.4.1. Legal Authority

Chatham County is a Local Issuing Authority for LDA Permits as defined by the GESA. The new model Soil Erosion and Sedimentation Ordinance, as written and distributed by EPD, was adopted July 2010 and updated in 2016. Accordingly, the County Department of Engineering administers the programs described below in accordance with the responsibilities related to being a Local Issuing Authority. EPD has taken the position that any program in compliance with the regulations of GESA will also be considered in compliance with those requirements of the NPDES MS4 program that relate to E&S.

3.3.4.2. Site Plan Review Procedures

Development Review Coordination

The Chatham County Department of Engineering hosts weekly development review coordination meetings for appropriate County staff, MPC staff, and developers. These meetings bring together all parties who must approve site plans, stormwater management plans, landscaping plans, and E&S control plans before a LDA Permit is issued. Developers are invited to attend so that they can participate in the discussion and receive technical assistance regarding their site plan, if warranted. The coordination meeting is designed to streamline the development review process, and ensure that all applicable requirements and regulations are met including the E&S Control Ordinance, Stormwater Management Ordinance, Zoning Ordinance, LDA Ordinance, and Section 404 permit regulations.

Plan Review

Department of Engineering staff reviews ESCPs, stormwater management plans, and landscaping plans for compliance with the E&S Control, Stormwater Management, and LDA Ordinances to ensure the proposed sedimentation and erosion plan, post-construction stormwater control measures, and future landscaping will effectively reduce pollutants entering the MS4. Stormwater management site plans must also comply with the Engineering Policy. If necessary, staff makes site-specific recommendations on the type of control structures to use, depending on the location and impact the project would have on the surrounding area and receiving waters. Staff utilizes a checklist for plan review to ensure that all applicable regulations and requirements are satisfied. The checklist is included in Appendix E. ESCPs must be designed according to standards set forth in the Georgia Erosion and Sedimentation Control Manual. Post construction runoff controls must be designed in accordance with the Engineering Policy Manual. The Department of Engineering sets standards for landscaping plans in the LDA Manual. ESCPs are sent to Natural Resources Conservation Service (NRCS) who performs

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reviews locally for official approval. The ESCP must be approved by NRCS and returned to the County before the Department of Engineering issues a LDA Permit.

Land Disturbing Activities Permit

All developers are required to comply with the Chatham County E&S Ordinance and obtain a Land Disturbing Activities (LDA) Permit prior to the start of any land disturbing activities that will disturb more than 2,500 square feet within the unincorporated County. The local ordinance includes a requirement that a County-approved ESCP and stormwater management and landscaping plan are included with the LDA application. For land disturbance activities equal to or greater than 1 acre or within 200 feet of state waters, NRCS approval of the ESCP is also required. These plans must meet the requirements of GESA and Chatham County's E&S Control, Stormwater, and LDA Ordinances, which include the requirement to control turbidity in the site runoff, control impacts on receiving streams, protect natural vegetation, and ensure the implementation of the minimum pollution control measures.

The Department of Engineering uses permitting database software, LDO, to track the number of plans reviewed and permits issued each year. A list of site plans received and the number of plans reviewed, approved and denied each year will be submitted with each annual report. The total number of LDA permits issued each year will also be submitted with each annual report.

3.3.4.3. Construction Site Inspection Program

The Chatham County Department of Engineering is responsible for the inspection program that targets all construction projects within the unincorporated County. The inspections include checking all E&S control measures for compliance with the approved ESCP and LDA Permit. Post-construction controls under construction are also checked for compliance with approved stormwater plans. The E&S Control Ordinance provides authority for such inspections. If, upon inspection, a construction site is found to be in non-compliance with its approved E&S plan, LDA permit, and the minimum requirements of the E&S Control Ordinance, the Department of Engineering will be responsible for enforcing the provisions of the E&S Control Ordinance.

Inspections are conducted in accordance with the following procedure:

- The County must receive certification by the developer and then verify that all E&S BMPs are installed prior to issuance of an LDA Permit. Once a site is under construction monitor it on a regular basis until the site is stabilized. Inspections during the construction process are prioritized as follows:
 - Following a significant rain event
 - Evidence of poor housekeeping

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- History of poor compliance
- Evidence of absent or malfunctioning controls
- Proximity to local waterways
- Inspections also address potential sources of pollutants other than sediment, including petroleum products, litter, and construction debris.
- If a site is found to be in violation of the County's E&S Ordinance, the County will notify the site operator. The site operator will then have five (5) days to correct said violation, unless an alternative schedule is agreed to by both parties. Perform a follow-up inspection to verify that corrective measures were taken for previously documented deficiencies. If the follow-up inspection indicates the violation is not corrected, take action in accordance with the Enforcement Response Plan (Section 3.3.6).
- Conduct a final site inspection at all LDA Permit sites after land disturbing activities have ceased to ensure that the site is adequately stabilized and that all excess materials were removed.
- Complete an E&S Inspection Checklist during each site inspection. A log of all inspections, violations, and enforcement actions are kept by the Department of Engineering.

3.3.4.4. Enforcement Procedures

The Department of Engineering follows enforcement procedures described in the Enforcement Response Plan (Section 3.3.6), when necessary. The enforcement response procedures for E&S violations include:

- For the first and second violations the County will issue a written warning to the violator. The violator will have five (5) days, or an alternative schedule agreed to by both parties, to correct the violation. If the violation is not corrected within the allotted time period, the County will issue a Stop Work Order.
- For a third and each subsequent violation, the County will issue an immediate Stop Work Order.
- All Stop Work Orders are effective immediately upon issuance and remain in effect until the necessary corrective action or mitigation has occurred.

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- If final stabilization is not achieved to the satisfaction of the Department of Engineering, the following actions are taken: 1) the certificate of occupancy is put on hold; 2) the start of the site infrastructure warranty period is postponed; 3) the bond is forfeited; and/or 4) there are monetary penalties.

3.3.4.5. Certification

GESA requires all municipal/County employees involved with plan review, site inspections, or E&S Ordinance enforcement, as well as construction site operators, to undergo a training seminar by the GSWCC. Chatham County requires all construction site operators to provide evidence in their LDA Permit application that they have received this training. Evidence of certification must also be produced during an E&S inspection. Chatham County requires all applicable staff to receive this training as soon as possible after the start of their employment.

3.3.5. Highly Visible Pollutant Sources (HVPS)

3.3.5.1. HVPS Facility Inventory

The County maintains an inventory of commercial businesses and facilities that are considered to be highly visible sources of pollutants (HVPs). The County considers the following types of businesses to be HVPs:

- Auto Repair/Maintenance Facilities
- Gas Stations
- Car Washes
- Vet Offices/Kennels

In addition, any business which has had an enforcement action against it is added to the HVPS inventory for inspection per the schedule. The current inventory is included in Appendix E, and is updated annually based on changes to the business license database.

3.3.5.2. HVPS Inspection Program

The Department of Engineering is responsible for conducting stormwater inspections onsite at facilities on the HVP inventory list. The County will inspect at least 20% of listed HVPs in each year so all sites will be inspected within the permit period.

The standardized Site Stormwater Inspection checklist is used to record the inspection results. A database is maintained on all inspections, problems found, and actions taken. Documentation of these inspections will be submitted each year with the Annual Report.

3.3.5.3. Enforcement Procedures

If a violation of the Stormwater Management Ordinance is identified, County staff will notify the industry or business, provide them with a copy of the inspection checklist, and perform a re-inspection (if necessary) to ensure that any mandatory corrections are made. If the violation is not corrected Chatham County will take enforcement action as described in the Enforcement Response Plan (Section 3.3.6).

3.3.5.4. Educational Activities

Chatham County maintains HVPS educational material on the Chatham County Stormwater website. HVPS educational materials are annually distributed (via mail) to three HVPS on the County's facility list. Copies of all the educational materials distributed as part of the HVPS Facilities Educational Activities will be included in the Annual Report.

3.3.6. Enforcement Response Plan

The Stormwater Management Ordinance, the Erosion, Sedimentation and Pollution Control Ordinance, and the Land Disturbing Activities Ordinance provide Chatham County with enforcement against potential impacts the MS4. Each ordinance has unique enforcement mechanisms. The Enforcement Response Plan, included in Appendix B, describes how each ordinance is enforced.

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3.3.7. Impaired Waterbodies Monitoring and Implementation Plan

The Impaired Waterbodies Monitoring and Implementation Plan (IWMI) is included in Appendix C. Waterways in unincorporated Chatham County that appear on the 2016 303(d) list for not meeting the standards of their designated use include Hayner’s Creek, the Ogeechee River, and the Savannah Harbor. The current listings are summarized in the table below. Those segments that have approved TMDLs are indicated in the table below.

Table 9: 303(d) Listed Waterways in Unincorporated Chatham County

Waterway (As Described by EPD)	Water Use Classification	Criterion Violated	Potential Cause	TMDL
Savannah Harbor (South of US 17)	Coastal Fishing	Dissolved Oxygen (DO)	Urban Runoff; Municipal Facility	DO – Under Review
Hayner’s Creek (South of Montgomery Crossroad)	Fishing	FC; DO	Urban Runoff	FC – Pending EPD Approval DO - Yes
Ogeechee River (Black Creek to Richmond Hill)	Fishing	Fish Consumption Guidelines (Mercury)	Non-point Source/Unkn own	Yes
Little Ogeechee River (Ogeechee Run to Little Ogeechee Pond)	Fishing	DO	Urban Runoff	No
Little Ogeechee River (Little Ogeechee Pond to below US HWY17 near Burroughs)	Fishing	FC; DO	Urban Runoff	FC – Yes DO - Yes
Pipemakers Canal (Dean Forrest Rd to Savannah River)	Fishing	FC	Urban Runoff	No

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Note: Savannah Harbor had a FC TMDL established in 1999, however this waterbody was removed from the Georgia 303 (d) List of Impaired Waters in 2006. Also note that while County drainage canals, such as Pipemakers canal, are listed as not meeting the designated use of fishing, the County ordinances prohibit the use of the canal for any purpose other than storm water conveyance. Public access to the canals is prohibited.

This SWMP includes a number of BMPs designed to address the impaired waterways within unincorporated Chatham County. While only certain waterways in Chatham County are listed as impaired, these BMPs will be implemented throughout the entire unincorporated area. The table below summarizes these BMPs.

Table 10: BMPS to Address 303(d) Listed Waterways in Unincorporated Chatham County

BMP	Description	Water Quality Parameters Addressed
4.3.1 Erosion & Sedimentation Control Inspections	Chatham County inspects all land disturbing activities to prevent erosion and sediment from entering local waterways.	Mercury, DO, FC, Dieldrin
5.2.2. Highly Visible Pollutant Inspections	Chatham County has added vet offices and dog kennels to its list of HVPs to be inspected.	FC, DO
2.7.1 Sanitary Sewer Spill Response Plan	Chatham County has developed a sanitary sewer spill response plan to address sanitary sewer overflows	FC, DO
2.7.2 Sanitary Sewer Inspections	Chatham County inspects and maintains its sanitary sewer system to prevent discharges to the MS4	FC, DO
2.7.4 Septic Tank Inspections	Chatham County Health Department performs inspection of septic systems prior to operation and when there is evidence of failure.	FC, DO
1.3.1 Roadway Maintenance	Chatham County operates a street sweeper to remove organic materials from the streets and drainage system.	DO
1.2.1 Post Construction Stormwater Management Control Requirements	Chatham County has requires all new development to meet the requirements of the GSMM and CSS.	Fecal, DO

3.3.8. Municipal Employee Training

GESA requires all municipal/County employees involved with plan review, inspections, or Ordinance enforcement to undergo a training annual on topics including, but not limited to, litter control, illicit discharge detection and elimination, hazardous waste disposal and GI/LID techniques.

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3.3.9. Public Education

Chatham County shall be responsible for implementation of the educational programs (or their equivalent) as listed below.

Chatham County Stormwater Website

The Chatham County Department of Engineering will create and maintain a website devoted to stormwater. This webpage will focus on educating the public, residents, and all interested parties about county-wide water resources and stormwater issues.. The webpage will be accessible through the Chatham County government webpage and linked to the Department of Engineering, Department of Public Works, and Department of Parks and Recreation subpages. The official web address is forthcoming. The Chatham County Stormwater Website will maintain, at minimum, the following:

- Erosion & Sedimentation Control
- Green Infrastructure Practices
- Coastal Stormwater Supplement
- Household Hazardous Waste
- Fertilizer, Herbicide, and Pesticides BMPs
- Illegal Dumping and Activity
- Tips on How to Prevent Stormwater Pollution
- Who to Call List: Report any Water Quality Violations, Storm Drain Issues, etc.
- HVPS Resources and BMPs Chatham County Catch Basin Newsletter Issues
- Stormdrain Education and Volunteer Opportunities

Chatham County Catch Basin E-Newsletter

The Chatham County Department of Engineering will produce a quarterly digital newsletter to provide best management practices and educative resources for a wide variety of audiences; including but not limited to, land owners, home owners, business owners, gardeners, educators, and children. Chatham County Catch Basin will provide links to county-wide resources focused on water issues. In addition it will provide a consistent communication conduit to advertise yearlong stormwater educational and outreach opportunities and events. Topics addressed within the newsletter will include: ways in which residents can properly dispose of household hazardous waste; contact number(s) for citizens to report water quality

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violations or stormwater infrastructure issues; proper application, storage, and disposal of lawn chemicals such as fertilizers and pesticides; tips for stormwater pollution prevention; and ways in which they can be stormwater stewards to help minimize issues with stormwater quality and quantity. Newsletters will be distributed digitally to County staff and elected officials as well as an email listserve comprised of local school representatives, general public, and all other interested parties. Newsletters will also be shared through social media outlets like Facebook and housed on the Chatham County Stormwater webpage.

Stormwater Video/PSA

In years past, the MPC created educational videos about stormwater issues including flooding, runoff, pollution prevention, and pollution impacts. These videos about stormwater issues are played on Chatham County and City of Savannah Public Access channels several times each month and are seen by local residents.

Household Hazardous Material Education Program

The Chatham County Stormwater webpage provides a list of locations where household hazardous materials can be disposed along with educational materials that discuss the proper disposal of household hazardous waste materials. These educative materials are also distributed at public outreach events, including the Earth Day Festival, at County facilities, and upon request to the Chatham County Stormwater staff.

Septic System Education Program

Community Outreach and Education

Chatham County provides stormwater education throughout the year at community-based events and as requested to local educative facilities. These programs strengthen county wide stormwater education efforts allowing a broader reach to larger audiences, encouraging collaboration with other jurisdictions in the County, and offering opportunities to relay educative materials on ways they can assist with addressing stormwater issues regarding water quality and quantity.

To support the outreach and education efforts, the Chatham County Department of Engineering maintains a Chatham County Stormwater Facebook page and Twitter account to disseminate educative materials regarding stormwater quality and quantity.

3.3.10. Public Involvement

Chatham County provides multiple opportunities for citizens to participate in stormwater management. Those opportunities include:

Coastal Georgia Adopt-A-Drain (AAD) Volunteer Monitoring Program

Chatham County is working to create a volunteer-based stormwater monitoring program that allows residents to monitor, assist with cleaning, and report any problems they encounter with local storm drains. This program is called the Coastal Georgia Adopt-A-Drain (AAD) Volunteer Monitoring Program, or AAD for short. Copies of AAD programming materials will be included in the Annual Report.

Stormwater Pollution Prevention Clean-Up Events

Chatham County along with Keep Chatham Beautiful organizes clean up events throughout the year. Copies of any advertising for the event and information regarding the number of volunteers and materials collected at the event will be included in the annual report.

Web and Social Media Involvement

To support the public involvement efforts and increase participation in these events, the Chatham County Department of Engineering maintains a Chatham County Stormwater webpage, Facebook page and Twitter account to disseminate opportunities in which residents, civic-minded groups, and general audiences can become involved in stormwater quality and quantity efforts throughout Chatham County.

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3.3.11. Post-Construction

3.3.11 (a) Post-Construction Stormwater Control

Chatham County amended its Stormwater Management Ordinance in 2007 to include the post construction runoff control requirements recommended in the Georgia Stormwater Management Manual (GSMM), and any of its adopted addenda including the Coastal Stormwater Supplement (CSS). The ordinance is included in Appendix E. The Stormwater Management Ordinance requires a Stormwater Management Plan (SWMP) to be submitted and approved for all development activity that is required to have a permit for land disturbing under the provisions of the Land Disturbing Activities Ordinance, Flood Damage Prevention Ordinance, or Soil Erosion and Sedimentation Control Ordinance. A permit is required if the total land disturbance will exceed 2,500 square feet. The plans must include provisions that limit the post-development peak runoff rate to the peak pre-development runoff rate, unless discharges are direct to open tidal waters. The ordinance also dictates that SWMP must address the following minimum criteria:

- Better Site Design (As defined in the GSMM)
- Stormwater Runoff Quality
- Stream Channel Protection
- Overbank Flood Protection
- Extreme Flood Protection
- Upstream and Downstream Hydrologic Analysis
- Groundwater Recharge
- Post Construction Maintenance & Operation

If a development is to be completed in phases, a conceptual plan must be created for the overall development and a specific stormwater management plan must be created for each phase.

The County adopted, by reference in the Stormwater Management Ordinance, the GSMM, and any of its current or future addendums including the CSS. These manuals include design criteria/guidelines to assist developers in designing a site plan that will manage post-construction runoff quality and quantity as required by the NPDES Phase I MS4 Permit. The GSMM and CSS offer BMP recommendations specific to coastal drainage conditions including high water tables, large tidal ranges and unique terrestrial habitats of coastal Georgia. These

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manuals expand post-construction stormwater management efforts to include prevention, as opposed to just mitigation, of the negative impacts of the land development process. The County provides guidance, through adoption of this manual on an integrated green infrastructure based approach to natural resource protection, stormwater management and site design.

3.3.11(a) (3) Linear Transportation Projects

Permitting and design standards apply to all land disturbing activities, including linear transportation projects performed by Chatham County. It is not feasible to apply the standards to all projects. In certain cases, the use of structural BMPs can be omitted from linear transportation projects (which include roads, sidewalks, multi-use paths and trails, and canal maintenance roads) because their use is deemed infeasible. The specific reasons for infeasibility are the following and shall be applied to each outfall individually:

1. The cost of construction of the BMP equals or exceeds ten percent of the combined cost for right of way, construction, and utilities for that phase of the project;
2. No additional right of way is required for construction of the project except for the inclusion of post construction BMPs;
3. The use of BMPs will impact threatened or endangered species habitat;
4. The use of BMPs will significantly damage a community resource such as a historical area, a park, a wildlife refuge, a nature trail, or school facilities;
5. The BMP implementation will result in the violation of a Federal or State law;
6. The soil hydraulic conductivity (K) is less than 10^{-4} cm/second can be considered infeasible (while 10^{-5} cm/second is the absolute lower limit) when considering infiltration BMPs. In which case, water quality volume must still be considered for the 1.2 inch rain event; or
7. The site is too small to infiltrate the necessary volume or treat water quality for the 1.2 inch rain event. In which case, alternative methods and reduced standards must be considered and the site must infiltrate and treat the maximum volume possible.

Infeasibility is to be determined individually for each of the eight regulated criteria described in Section 3.3.11(a)(1). When documenting the reason for infeasibility it should be applied to the BMP with the least amount of impacts such that all other BMP's would also be considered infeasible. For example if an enhanced swale and a stormwater quality pond are both sufficient

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BMPs then the swale should be studied because it has the least amount of impacts. When one or more of the standards are found to be infeasible for a given outfall then a letter written by the engineer of record shall be drafted detailing the site-specific reason for the infeasibility. The letter shall contain the location of the outfall, the standard that is not being met, and the site specific reason for the infeasibility (meaning list one or more of the numbered criteria above and give some detail relative to the site on how it meets that criteria).

Although certain conditions as noted above may relieve the County of the obligation to follow certain sections of the MS4 permit, the risk to life, property, and infrastructure must be considered. Other rules and regulations must be considered as well. Drainage design should never be an afterthought in the design process. Instead, it should be done to complement good design.

3.3.11 (b) Green Infrastructure/Low Impact Development

Green Infrastructure (GI) uses vegetation, soils, and natural processes to manage water and create healthier built environments with fewer negative impacts on surrounding green space and wildlife habitat. At the scale of a large city or region, green infrastructure refers to the overall network of natural areas that provide habitat, flood protection, cleaner air, and cleaner water. At the scale of a neighborhood or site, green infrastructure refers to stormwater management systems that mimic nature by soaking up and storing water. These site-specific techniques are collectively described as Low Impact Development (LID), an approach to development that works with nature to manage stormwater as close to its source as possible. LID employs site design priorities such as preserving and recreating natural landscape features, minimizing impervious surfaces, and incorporating stormwater as an on-site resource rather than a waste product. Chatham County has a Green Infrastructure/LID Program which is described in Appendix D.