City of Mobile

205 Government Street
Mobile, Alabama 36602

Storm Water Management Program (SWMP) Plan

NPDES Permit No. ALS000007

March 2025

Prepared By:

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SECTION 1

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1. Program Administration

1.1. Introduction

In 1990, the U.S. Environmental Protection Agency (EPA) promulgated regulations establishing Phase I of the National Pollutant Discharge Elimination Systems (NPDES) storm water program. The Phase I program for municipal separate storm sewer systems (MS4s) requires operators of "medium" and "large" MS4s that generally serve populations of 100,000 or greater to implement a storm water management program as a means to control to the Maximum Extent Practicable (MEP) polluted discharges from certain municipal, industrial and construction activities into the MS4.

The Alabama Department of Environmental Management (ADEM) presently has primary jurisdiction over permitting and enforcement of the Storm Water Program for Alabama. The City of Mobile was issued NPDES Permit Number ALS000007 on 7 July 2021. The City's NPDES Permit became effective on 7 July 2021 and will expire on 6 July 2026. The City of Mobile is required to develop and implement a Storm Water Management Program (SWMP) in accordance with the NPDES Permit requirements. A copy of the NPDES Permit is provided in Appendix A.

The City of Mobile's SWMP has been updated to address the storm water pollution prevention and management programs described in the NPDES Permit. Part II.B of the NPDES Permit describes 10 program elements that are required to be incorporated in the City's SWMP.

1. Storm Water Collection System Operations;
2. Public Education and Public Involvement on Storm Water Impacts;
3. Illicit Discharges Detection and Elimination (IDDE);
4. Construction Site Storm Water Runoff Control;
5. Post-Construction Storm Water Management in New Development and Re-Development;
6. Spill Prevention and Response;
7. Pollution Prevention / Good Housekeeping for Municipal Operations;
8. Application of Pesticide, Herbicide, and Fertilizer (PHFs);
9. Oil, Toxics, and Household Hazardous Waste Control; and,
10. Industrial Storm Water Runoff.

The Storm Water Management Program (SWMP) Plan has been updated to generally describe the City of Mobile's efforts to maintain compliance with the requirements of NPDES Permit ALS000007. This document is intended to be a dynamic document and shall be revised as needed to accurately reflect the City's activities in implementing its SWMP.

1.2. SWMP Plan Objectives

The City of Mobile's SWMP Plan is a MS4 specific comprehensive program developed to accomplish the following objectives:

- Reduce discharge of pollutants from MS4 to the Maximum Extent Practicable (MEP);
- Monitor storm water collection system operations;
- Identify and eliminate illicit discharges and improper disposal into the storm sewer;
- Develop, implement, and enforce controls to minimize pollutants from construction activities;
- Develop and implement pollution prevention / good housekeeping practices for municipal operations;
- Develop and implement storm water management practices for new developments and re-developments;
- Reduce discharges of pollutants from the application of pesticides, herbicides, and fertilizers;
- Prevent, contain, and respond to spills that may discharge into the MS4;
- Monitor and control pollutants in storm water discharges from industrial facilities (such as municipal landfills, hazardous waste treatment, sewage treatment, storage, disposal, and recovery facilities subject to Emergency Planning and Community Right to Know Act (EPCRA) Title III, Section 313; and
- Implement public education activities regarding the storm water management program, recycling programs, household hazardous waste, and proper disposal, etc.

The City's efforts to maintain and comply with its NPDES permit to the MEP shall be described in the MS4 Annual Report.

1.3. Legal Authority

The City's Code of Ordinances is available electronically through the City's website. A summary of the Ordinances applicable to the City's storm water program are provided in the following sections.

1.3.1. Unified Development Code

The City updated its Zoning Ordinance on 12 July, 2022 to adopt a Unified Development Code (UDC). On 19 January 2023, the City adopted revisions to the Subdivision Regulations.

The latest version of the Zoning Ordinance is incorporated into the SWMP Plan by reference and is available by link on the City's website at:

https://www.cityofmobile.org/udc/

1.3.2. Subdivision Regulations

The City of Mobile adopted Subdivision Regulations on 19 January 2023. The Subdivision Regulations have been amended several times since initial adoption in 1962. The Subdivision Regulations address the following:

- Authority and jurisdiction;
- Procedures;
- Requirements for plats and supplementary data;
- Design standards;
- Improvements (including storm drainage);
- Dedications;
- Modifications;
- Definitions;
- Administration and amendments; and
- Severability clause.

The latest version of the Subdivision Regulations is incorporated into the SWMP Plan by reference and is available on the City's website at:

https://www.buildmobile.org/uploads/ApprovedSubdivisionRegulationsJanuary192023.pdf

1.3.3. Storm Water Management and Flood Control Ordinance

On 8 July 2014, the City of Mobile adopted revisions to the Storm Water Management and Flood Control Ordinance (Ordinance No. 17-025-2014) to incorporate requirements of the City's MS4 NPDES Permit. This ordinance addresses land disturbance activities, illicit discharges, and flood damage prevention.

The latest version of the Storm Water Management and Flood Control Ordinance is incorporated into the SWMP Plan by reference and is available on the City's website at:

https://library.municode.com/al/mobile/codes/code_of_ordinances?nodeId=CICO_CH17STMAFLCO

1.3.3.1. Land Disturbance

The Storm Water Management and Flood Control Ordinance establishes the following requirements for land disturbing activities within the City's MS4:

- Administration: Land disturbance activities shall be administered, implemented, and enforced by the City Engineer or his designee.
- Review of Construction Best Management Practices (CBMP) Plan: Requires review and approval of a CBMP Plan prior to commencing land-disturbing activities.
- Tier 1 and Tier 2 Land Disturbance Permit Requirement: Requires owners to obtain a Tier 1 or Tier 2 land disturbance permit prior to performing land disturbing activities.
- Defines Land Disturbing Activities: Establishes clear definitions of what requires a land disturbance permit and what is exempt. Examples of projects not requiring a land disturbance permit include agriculture, minor home repairs and additions, home gardens, minor land disturbing activities including excavations of less than four thousand square feet, etc.
- CBMP Plan Requirements and BMP Approval Requirements: Establishes requirements for plans and performance of BMPs for land-disturbing activities.

- Bond Requirements: Requires a letter of credit or surety bond in the amount of $1,000 ($2000 in a special flood hazard area) for each cleared acre and $3,000 ($6000 in a special flood hazard area) for each acre of earthwork operations.

- Compliance Inspection: Allows City Officials the right of entry to inspect, evaluate, request information, and monitor land-disturbing activities.

- Violations, Enforcement, and Penalties: The City has an escalating level of enforcement actions it may pursue if violations occur. The City may issue a verbal warning, a written notice of violation, a Municipal Offense Ticket (MOT), a stop work order, a Uniform Non-Traffic Citation and Complaint (UNTCC) or a Summons and Complaint. The UNTCC, Summons and Complaint are sworn statements/complaints signed by a magistrate, which requires a court appearance. The municipal judge can issue a warrant for an appearance of the violator in municipal court, as city ordinance violations are misdemeanors under state criminal code. Fines for violations are $60.00 for a first violation, $150.00 for a second violation (within a 30-day period), and a court appearance and penalty from a municipal judge for a third violation. After 90 days from rectification of all violations, further violations will be counted as first violations.

1.3.3.2. Illicit Discharge Detection and Elimination

The Storm Water Management and Flood Control Ordinance establishes the following requirements for prohibiting, monitoring, and enforcing illicit discharges within the City's MS4:

- Administration: The IDDE Program will be administered and implemented by the City Engineer or his designee.

- Prohibition of Illicit Discharges and Illicit Connections: Prohibits the discharge of pollutants or waters containing pollutants into the City's MS4. The ordinance provides a list of activities that are not considered to be a source of pollution that includes but are not limited to water line flushing, air conditioning drains, dechlorinated swimming pools, dye testing, etc.

- Industrial or Construction Activity Discharges: Requires industries with individual, general, or construction NPDES permits to report compliance information to the City for review.

- Compliance Monitoring: Allows the City right of entry for inspection, sampling, and monitoring.

- Prevent, Control, and Reduce Storm Water Pollutants through BMPs: Requires all commercial, industrial, and high-risk facilities to identify, implement, and maintain BMPs to prevent pollution of storm water to the MEP.

- Notification of Accidental Discharges and Spills: Requires responsible parties to notify the City in the event of an accidental discharge or spill within a required time frame.

- Violations, Enforcement, and Penalties: The City has an escalating level of enforcement actions it may pursue if violations occur. The City may issue a verbal warning, a written notice of violation, a Municipal Offense Ticket, a stop work order, a Uniform Non-traffic Citation and Complaint (UNTCC), or a Summons and Complaint. The UNTCC and Summons and Complaint are sworn statements/complaints signed by a magistrate, which requires a court appearance. The municipal judge can issue a warrant for an appearance of the violator in municipal court, as city ordinance violations are misdemeanors under state criminal code. Fines for violations are $60.00 for a first violation, $150.00 for a second violation (within a 30-day period), and a court appearance and penalty from a municipal judge for a third violation. After 90 days from rectification of all violations, further violations will be counted as first violations.

1.3.3.3. Flood Damage Prevention

The Storm Water Management and Flood Control Ordinance promotes the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas of provisions designed to:

- Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;

- Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

- Control the alteration of natural floodplains, stream channels and natural protective barriers which are involved in the accommodation of flood waters;

- Control filling, grading, dredging, and other development which may increase erosion or flood damage; and,

- Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters, or which may increase flood hazard to other lands.

1.3.4. Other Ordinances

The City has adopted several other ordinances that help to minimize the potential of pollutants from being discharged in storm water runoff. A list of the ordinances with an outline of applicable sections are provided below.

Garbage, Litter and Lot Maintenance

- General – Trash collection and hauling;
- Litter;
- Lot Maintenance; and,
- Septage and Grease Hauler Regulations.

Hazardous Materials

- Transporting hazardous materials;
- Signs, Advertising, Etc.
- Signs in Public Rights-of-Way; and
- Distribution of Handbills.

Streets and Sidewalks

- In General - Permission required before filling drainage ditch;
- In General – Bridges over gutters, inc.
- Sidewalks – Sidewalks to be kept free of grass, weeds and other obstructions.
- Sidewalks – Obstructions on sidewalks – Generally.
- Streets – Trash, etc. in streets
- Right of Way Construction and Administration

1.4. SWMP Revision

Revisions to the SWMP Plan shall be documented in Table 1-1.

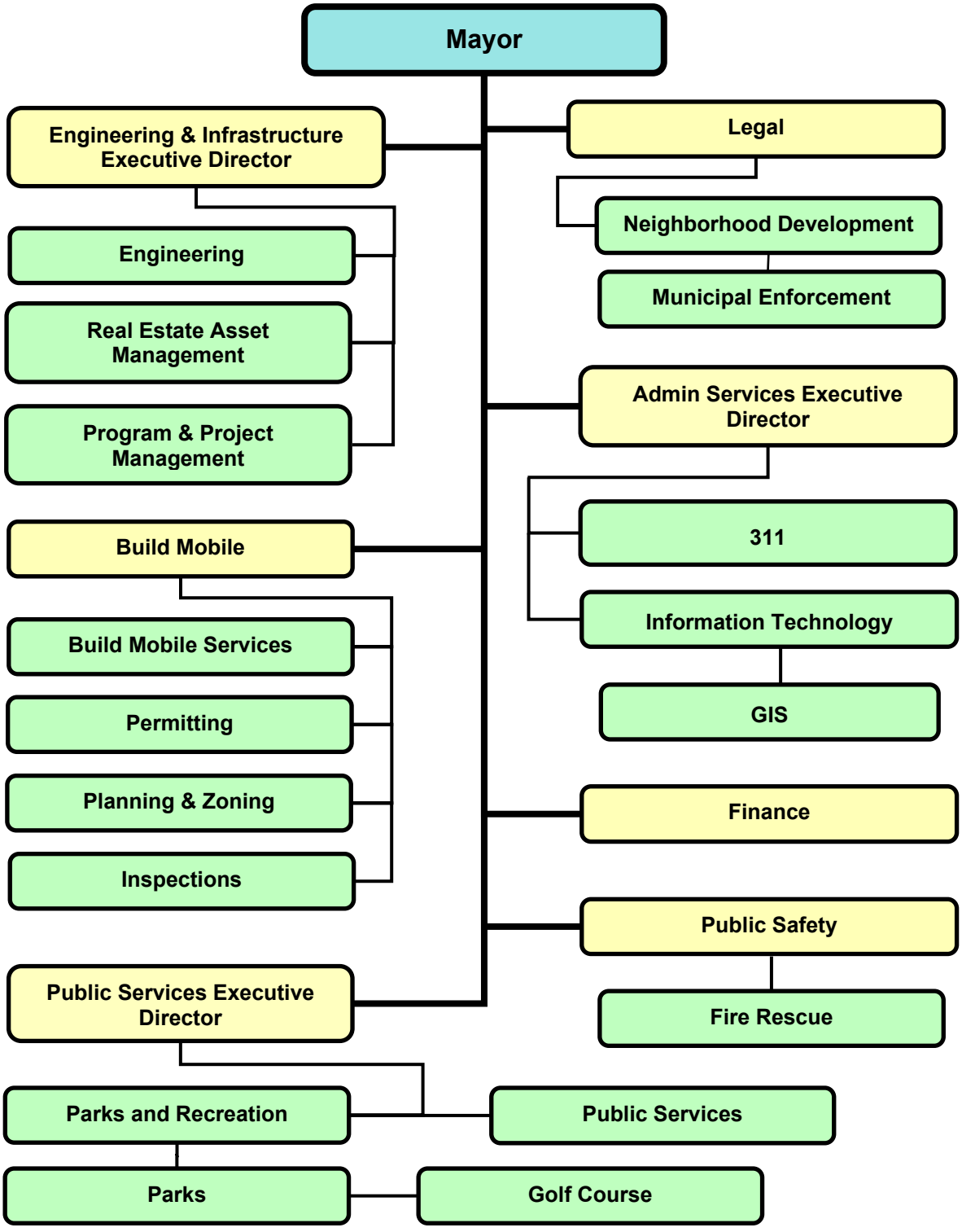
Table 1-1 SWMP Plan Revision Record

Date:	Revised By:	Description of Revision:
September 2017	City of Mobile, Neel-Schaffer, Inc. and Hydro Engineering Solutions	Storm Water Management Program (SWMP) Plan Update
September 2018	City of Mobile, Neel-Schaffer, Inc. and Hydro Engineering Solutions	Storm Water Management Program (SWMP) Plan Update
September 2019	City of Mobile, Neel-Schaffer, Inc. and Hydro Engineering Solutions	Storm Water Management Program (SWMP) Plan Update
January 2020	City of Mobile, Neel-Schaffer, Inc. and Hydro Engineering Solutions	Storm Water Management Program (SWMP) Plan Update – Litter Boat and Litter Patrol
January 2021	City of Mobile, Neel-Schaffer, Inc. and Hydro Engineering Solutions	Storm Water Management Program (SWMP) Plan Update
January 2022	City of Mobile, Neel-Schaffer, Inc. and Hydro Engineering Solutions	Storm Water Management Program (SWMP) Plan Update
January 2023	City of Mobile, Neel-Schaffer, Inc. and Hydro Engineering Solutions	Storm Water Management Program (SWMP) Plan Update
March 2025	City of Mobile, Michael Baker International and Hydro Engineering Solutions	Storm Water Management Program (SWMP) Plan Update to incorporate annexed areas

1.5. Program Administration

The City's general organizational structure for administrating its SWMP Plan is provided in Figure 1-1. The specific organizational structure associated with implementation of each program element is described in the following sections.

Figure 1-1 SWMP Organizational Chart



The Engineering Department has been tasked with the responsibility of overseeing the City's SWMP. Responsibilities include but are not limited to the following:

- Development and implementation of the SWMP Plan;
- Coordination with other City Departments;
- Development of Annual Report; and,
- Coordination with regulatory agencies.

1.6. Signatory Requirements

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

John Forrester, PE	City Engineer
Name	Title
Signature	Date

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Mobile, Alabama 36633-1827

Phone: (251) 208-7426

SECTION 2

MS4 Area

2. Permit Area and MS4

2.1. City of Mobile Permit Area

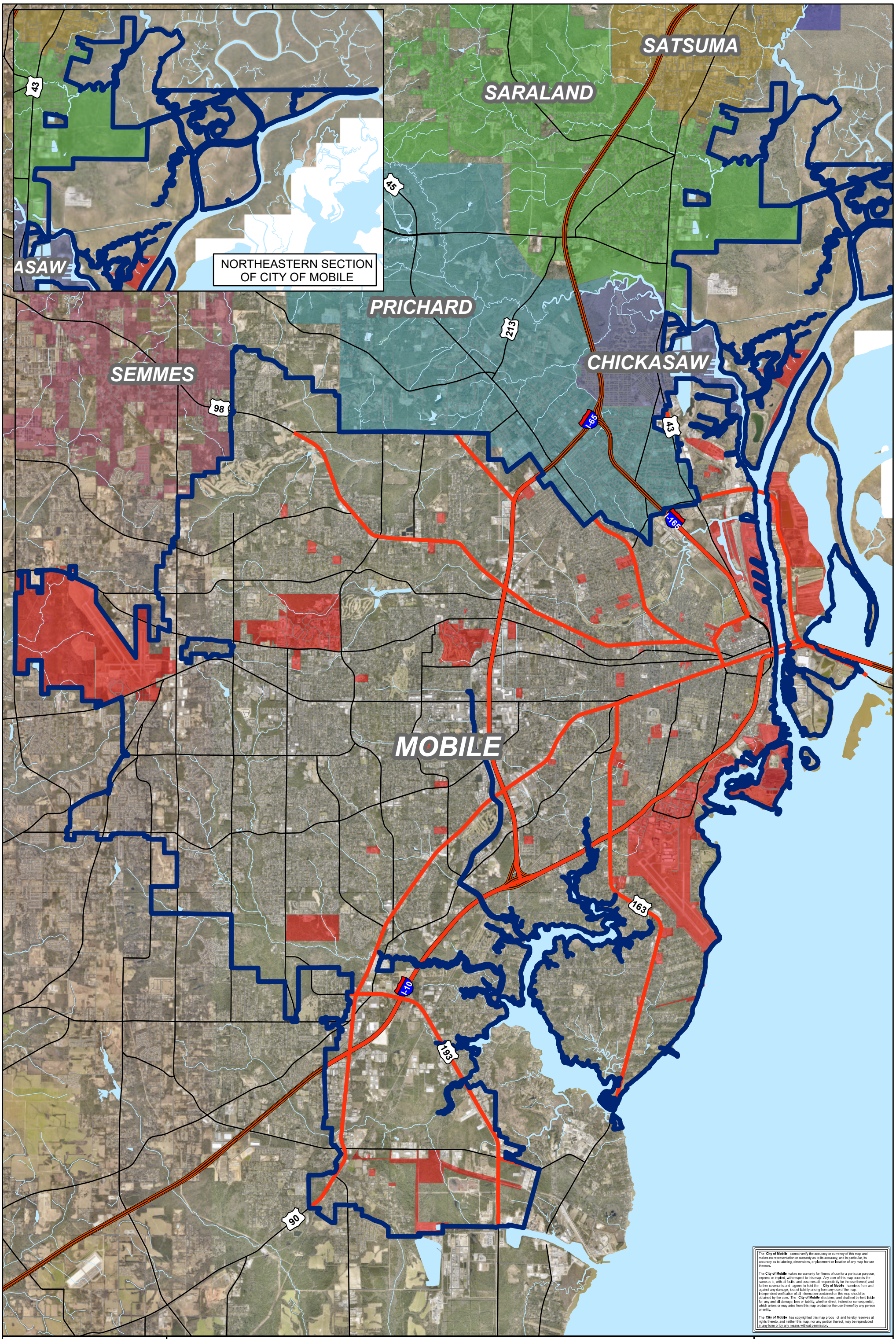
Part I.A. of NPDES Permit ALS000007 defines the City of Mobile Permit Area (Mobile Permit Area) as "*The permit applies to the corporate boundaries of the City of Mobile that are regulated by the Permittee and discharge to the Permitte's Municipal Separate Storm Sewer System (MS4).*" In accordance with Part II.A.3.a. of NPDES Permit ALS000007 the City of Mobile Permit Area is shown in Figure 2.1.

2.2. City of Mobile MS4

A MS4 is defined by EPA at 40 CFR Part 122.26(b)(8) as:

> *(8) Municipal separate storm sewer system means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):*
>
> *(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special district under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;*
>
> *(ii) Designed or used for collecting or conveying stormwater;*
>
> *(iii) Which is not combined sewer; and*
>
> *(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.*

The City of Mobile's NPDES Permit ALS000007, that became effective on 7 July 2021, defines a MS4 in Part V.AA.26 as:



CITY OF MOBILE MS4 PROGRAM

City of Mobile
GIS Department
Email: gis.support@cityofmobile.org

MOBILE PERMIT AREA

- Permit Boundary
- ALDOT MS4
- Roads
- State / Federal Hwy
- Interstate
- Tunnel
- Stream
- Water
- Non Permitted MS4s

N

FIGURE 2-1

1 0.5 0 1
Miles

PRINT DATE: 12/19/2024

"Municipal Separate Storm System" is defined at 40 CFR Part 122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined in ADEM Administrative Code 335-6-6-.02(nn).

It is important to note that the definition of MS4 is limited to "conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains)" that are owned or operated by an entity described in 40 CFR Parts 122.26(b)(8)(i) through 122.26(b)(8)(iv) and NPDES Permit Number ALS000007 Part V.AA.26. To further illustrate the City of Mobile MS4 (Mobile MS4), Figure 2.2 provides an example small area of the City of Mobile Permit Area that shows the following:

1. Areas highlighted in yellow are privately owned properties located within the City of Mobile Permit Area.

2. Areas highlighted in grey are part of ALDOT's Permit Area located within the City of Mobile Permit Area.

3. Areas that are highlighted in pink are part of other MS4s located within the City of Mobile Permit Area.

4. Areas highlighted in green and orange are owned, operated, and/or maintained by the City of Mobile. Conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains), as defined by 40 CFR Part 122.26(b)(8) and NPDES Permit Number ALS000007 Part V.AA.26, located within the areas highlighted green and orange are part of the Mobile MS4.

N
W
E
S
10
Maxar
Private Property
City of Mobile Property
Mobile MS4
ALDOT MS4 Permit Area
Other MS4 Permit Areas
Streams
MOBILE
ALABAMA
City of Mobile
Mobile MS4 Example
Figure 2.2
January 2024

The City shall implement its stormwater program within the City of Mobile Permit Area as described in this section, as supported by State law, and NPDES permit requirements as described below:

1. Section 94 of the Alabama Constitution prohibits Alabama municipalities from using public money and resources on private property unless the expenditure is deemed to fulfill a "public purpose."

2. State law limits the jurisdictional scope of local MS4 program requirements to that absolutely required by federal law as shown in the sections of the *Code of Alabama* set forth below.

    a. **§11-89C-1(e)** states *"It is further the intention of the Legislature to limit the jurisdictional scope of local storm water management programs to include only those sites discharging into the municipal separate storm sewer system and, because this federal initiative is an unfunded mandate, to limit the substantive scope of such local programs to include only those rules, regulations, and/or aspects that are absolutely required to satisfy the Clean Water Act, as specifically set out in the Code of Federal Regulations. ..."*

    b. **§11-89C-1(f)** states *"It is further the intention of the Legislature for an individual governing body or public corporation to primarily rely upon ADEM, to the fullest extent allowed by applicable state and federal laws, for the permitting and enforcement of all ADEM NPDES sites rather than subjecting such sites to double regulation. …"*

    c. **§11-89C-2(12)** defines *"STORM WATER LAWS. Those provisions of the Clean Water Act, 33 U.S.C. §1251 et seq., together with all other and subsequent applicable federal and state laws, rules, and regulations, as set out in applicable permits, relating specifically to the control of discharges into and from municipal separate storm sewers, but specifically excluding any EPA guidance and/or interpretations of said laws, rules, and/or regulations not promulgated in accordance with the Alabama Administrative Procedure Act or Administrative Procedure Act, 5 U.S.C. §500 et seq."*

3. NPDES Permit No. ALS000007 Part V. Q. states *"This permit is issued under ADEM Administrative Code, Chapter 335-6-6. All provisions of this chapter that are applicable to this permit are hereby made part of this permit. This permit does not authorize the non-compliance with or violation of any laws of the State of Alabama or the United States of America or any regulations or rules implementing such laws."*

2.3. 2023 Annexation

In July 2023, a special vote was held by residents of several areas adjacent to the City and they elected to be annexed into the corporate city limits. In October 2023, the annexed areas officially became part of the City of Mobile. However, it will take several years to provide all the City's services within the annexed areas. The City is evaluating the annexed areas to determine which program components of the SWMP Plan may need to be updated.

2.4. MS4 Characterization

The City of Mobile is located adjacent to Mobile Bay in the southernmost part of Alabama. The City now occupies approximately 190.41 square miles up from the previous 178.78 square miles. Municipalities that share boundaries with the City of Mobile include Prichard, Saraland, Chickasaw, Satsuma, Theodore, Tillman's Corner, and Mobile County.

There are several federal facilities, state facilities, military bases, universities, and state roads located within the City that are exempted from the City's regulations and enforcement authority. The City has initiated an effort to identify and inventory areas of the City that are not part of the MS4. The current inventory is summarized in Table 2-1. The City shall evaluate the annexed areas to determine if additional entities need to be added to the inventory.

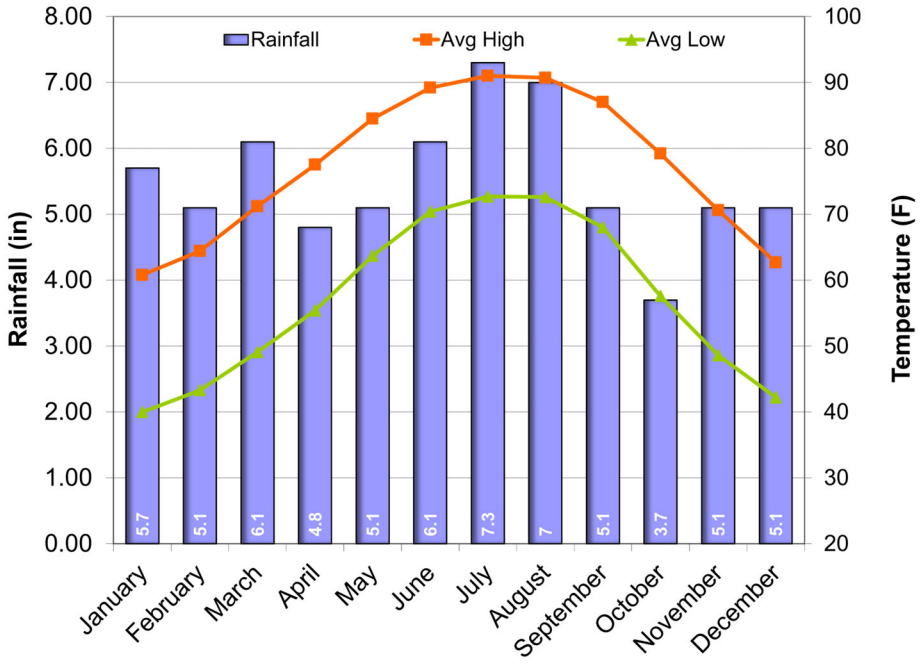
Table 2-1 Non-Regulated Areas

Non-Regulated Area	NPDES Permit No.
Federal Facilities	
US Coast Guard Complex	
State Facilities	
Alabama Department of Transportation	ALS000006
Alabama State Port Authority	ALG140910 AL0002976 AL0047651 AL0042374
Alabama National Guard (Fort Whiting)	
Educational Facilities	
Bishop State	
University of South Alabama	ALR040060

2.4.1. Climate

Mobile's geographical location on the Gulf of Mexico provides a mild sub-tropical climate, with hot, humid summers and mild, rainy winters. Average high and low temperatures in January are 60.8°F and 40.0°F, respectively. Summer temperatures average 91.0°F in July with highs exceeding 90°F for more than 65 consecutive days per year. The Mobile area receives approximately 66 inches of rainfall annually. Rainfall studies have determined that Mobile is the wettest city in the contiguous 48 states. Rainfall tends to be consistent throughout the year with wetter periods occurring during the summer and early fall months. Mobile is occasionally affected by major tropical storms and hurricanes which can produce copious amounts of rainfall in a very short period of time. Significant snow fall events are rare in Mobile. Average monthly rainfall and temperatures are summarized in Figure 2-3.

Figure 2-3 Average Monthly Rainfall and Temperatures

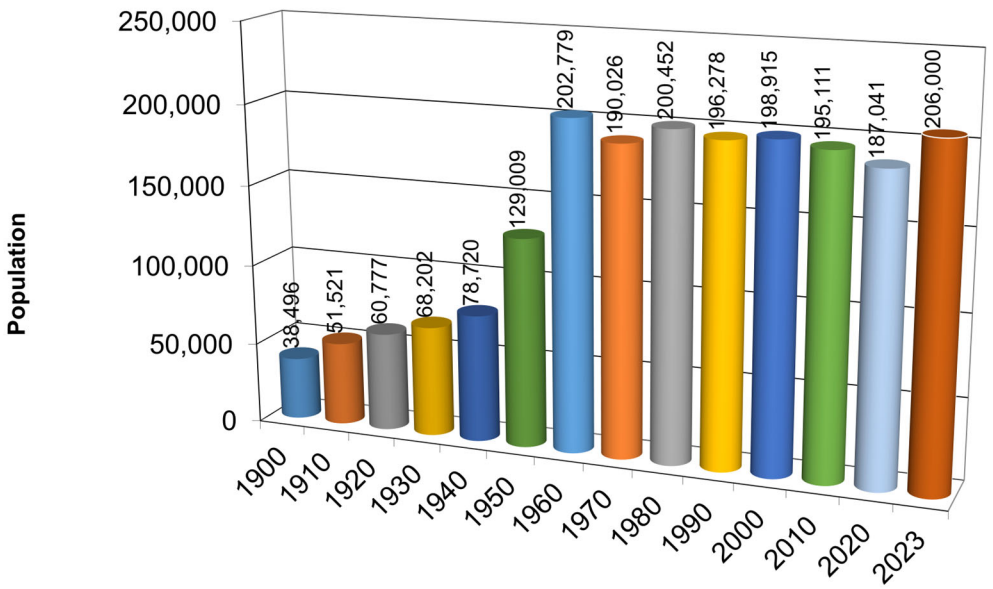


2.4.2. Population

Since the City of Mobile was incorporated in 1814, the City has experienced a steady increase in population through the 1960's. From 1960 through 2020, the City has experienced a population decline. Figure 2-4 provides a graph showing the historical population of the City since 1900.

The 2020 Census estimated the total population of the City of Mobile to be 187,041. As compared to the population in 2010 of 195,111, the City has experienced a population decrease of 8,070 (approximately 4.1%) over the past 10 years. Since 1960, the population growth in the City has been relatively flat. With the newly annexed areas, Mobile's total population has increased by approximately 10 percent from the 2020 census total to 206,000. Based on these population estimates, the City of Mobile is the second most populated city in Alabama.

Figure 2-4 Historic Population



2.4.3. Watersheds

To develop, implement and maintain an effective storm water management program that minimizes pollutant discharges in storm water runoff, it is important for the City to be knowledgeable of the following:

- Major drainage basins within the City;
- Water quality concerns of each drainage basin; and,
- Potential sources of pollutants by land use.

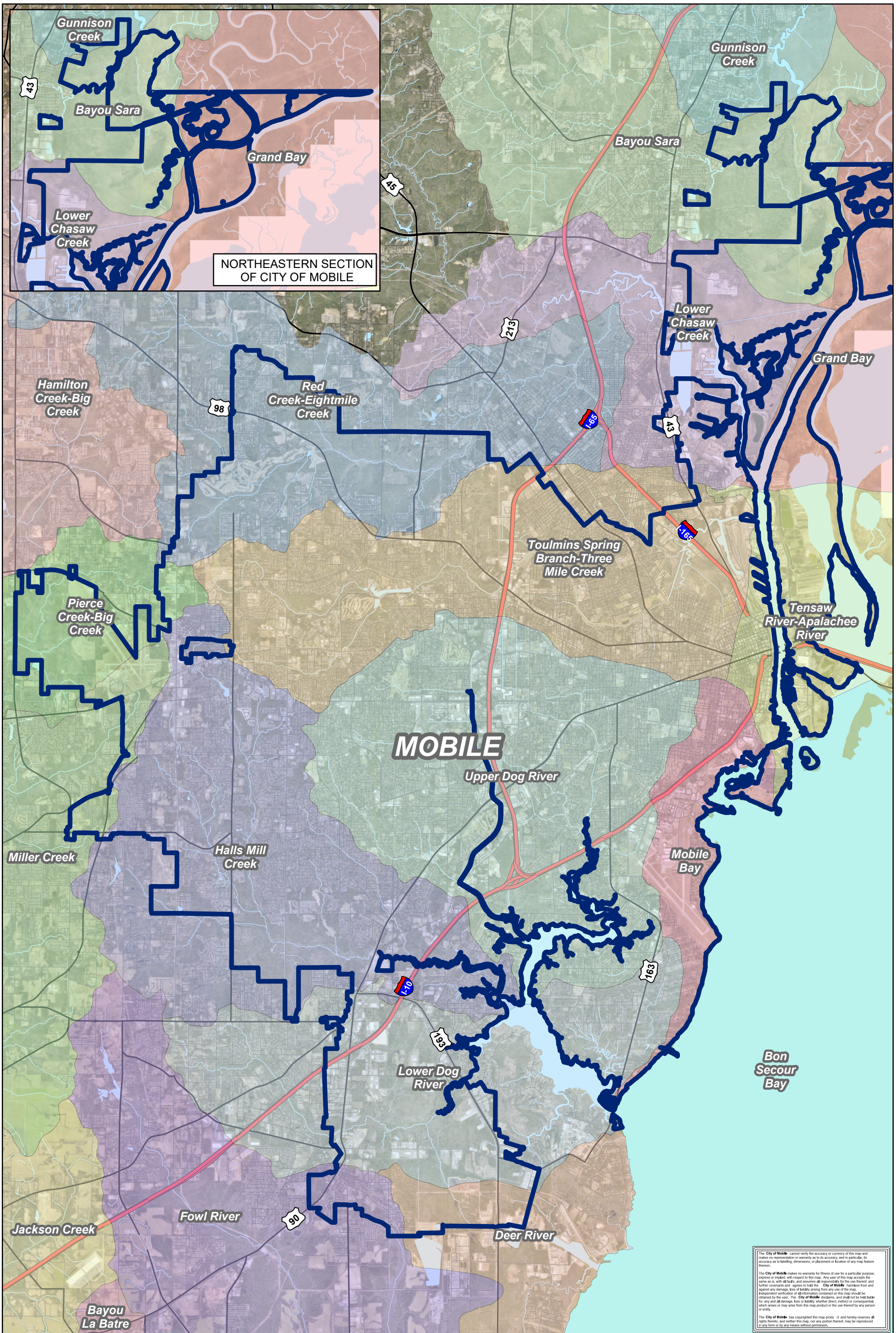
The City of Mobile is located within fifteen (15) drainage basins that have a 12-digit Hydraulic Unit Classification (HUC-12). The area of the City located within each HUC-12 drainage basin is summarized in Table 2-2 and shown in Figure 2-5.

Table 2-2 HUC-12 Drainage Basins

	City of Mobile	
HUC 12 Basin	**Area (mi^2)**	**Area (% of City)**
Upper Dog River	32.91	21.54
Three Mile Creek	27.19	17.79
Halls Mill Creek	24.76	16.20
Lower Dog River	13.98	9.15
Eight Mile Creek	11.81	7.73
Tensaw River – Apalachee River	6.97	4.56
Lower Chasaw Creek	6.66	4.36
Mobile Bay	6.55	4.29
Grand Bay	6.02	3.94
Bayou Sara	5.50	3.6
Pierce Creek – Big Creek	4.40	2.88
Deer River	2.20	1.44
Miller Creek	2.14	1.40
Fowl River	1.36	0.89
Gunnison Creek	0.19	0.12
Bon Secour Bay	0.17	0.11
Total	152.81	100.0

2.4.4. Land Use

The City maintains a GIS layer to track zoning and land use throughout the City. Each major district is further subdivided into more detailed subcategories that characterize specific land use or land cover. A summary of the approximate land use within the City is summarized in Table 2-3 and shown in Figure 2-6.



CITY OF MOBILE MS4 PROGRAM

City of Mobile
GIS Department
Email: gis.support@cityofmobile.org

MS4 HUC 12 WATERSHED

MS4 Boundary · Water · State/Federal Hwy · Tunnel
Stream · Roads · Interstate

N

FIGURE 2-5

1 0.5 0 1
Miles

PRINT DATE: 12/18/2024

NORTHEASTERN SECTION
OF CITY OF MOBILE

43
45
213
98
I-65
43
I-10
163
193
90

The **City of Mobile** cannot verify the accuracy or currency of this map and makes no representation or warranty as to its accuracy, and in particular, its accuracy as to labeling, dimensions, or placement or location of any map feature thereon.

The **City of Mobile** makes no warranty for fitness of use for a particular purpose, express or implied, with respect to this map. Any user of this map accepts the same as is, with all faults, and assumes all responsibility for the use thereof, and further covenants and agrees to hold the **City of Mobile** harmless from and against any damage, loss of liability arising from any use of the map. Independent verification of all information contained on this map should be obtained by the user. The **City of Mobile** disclaims, and shall not be held liable for, any and all damage, loss or liability, whether direct, indirect or consequential, which arises or may arise from this map product or the use thereof by any person or entity.

CITY OF MOBILE MS4 PROGRAM

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MS4 LANDUSE

MS4 Boundary — Roads — Interstate — Stream — Industrial — Commercial
State/Federal Hwy — Tunnel — Water — Residential

N

FIGURE 2-6

1 0.5 0 1
Miles

PRINT DATE: 12/19/2024

Table 2-3 Land Use Summary

Land Use	Area (mi^2)	Area (%)
Residential	89.38	65.99
Commercial	16.85	12.44
Industrial	29.21	21.57
Total	135.44	100.00

Overlapping the land use with watershed boundaries will provide the City with the information needed to identify and implement Best Management Practices (BMPs) that are targeted to help improve water quality.

2.5. Known Problems

Section 303(d) of the Clean Water Act (CWA) establishes that states are to identify and list waters (rivers, streams, etc.) for which technology based limits alone do not ensure attainment of applicable water quality standards. The 303(d) list of impaired waters will include a priority ranking for establishment of Total Maximum Daily Loads (TMDLs) for these waters. The state will establish a TMDL that will meet water quality standards for impaired streams, considering seasonal variations and a margin of safety that accounts for uncertainty. TMDLs establish the maximum amount of a pollutant that a water body can assimilate without exceeding water quality standards. Once a TMDL is developed for a water body, the water body will be removed from the 303(d) list.

2.5.1. 303(d) Listed Streams

According to ADEM's Draft 2024 303(d) list, there are four (4) streams within the City that have been designated as impaired. ADEM's 303(d) listed streams located within the City are summarized in Table 2-4 and shown in Figure 2-7.

Table 2-4 2024 303(d) Listed Streams

Waterbody		Designated Use	Pollutant of Concern	Sources
Name	ID			
Toulmins Spring Branch	AL03160204-0504-300	Fish and Wildlife	Nutrients	Urban Runoff Storm Sewers
UT to Three Mile Creek	AL03160204-0504-500	Fish and Wildlife	Nutrients	Urban Runoff Storm Sewers
Halls Mill Creek	AL03160205-0102-110	Fish and Wildlife	Siltation (Habitat Alteration)	Land Development
Middle Fork Deer River	AL03160205-0105-300	Fish and Wildlife	Organic Enrichment	Collection System Failure Urban Runoff Storm Sewers

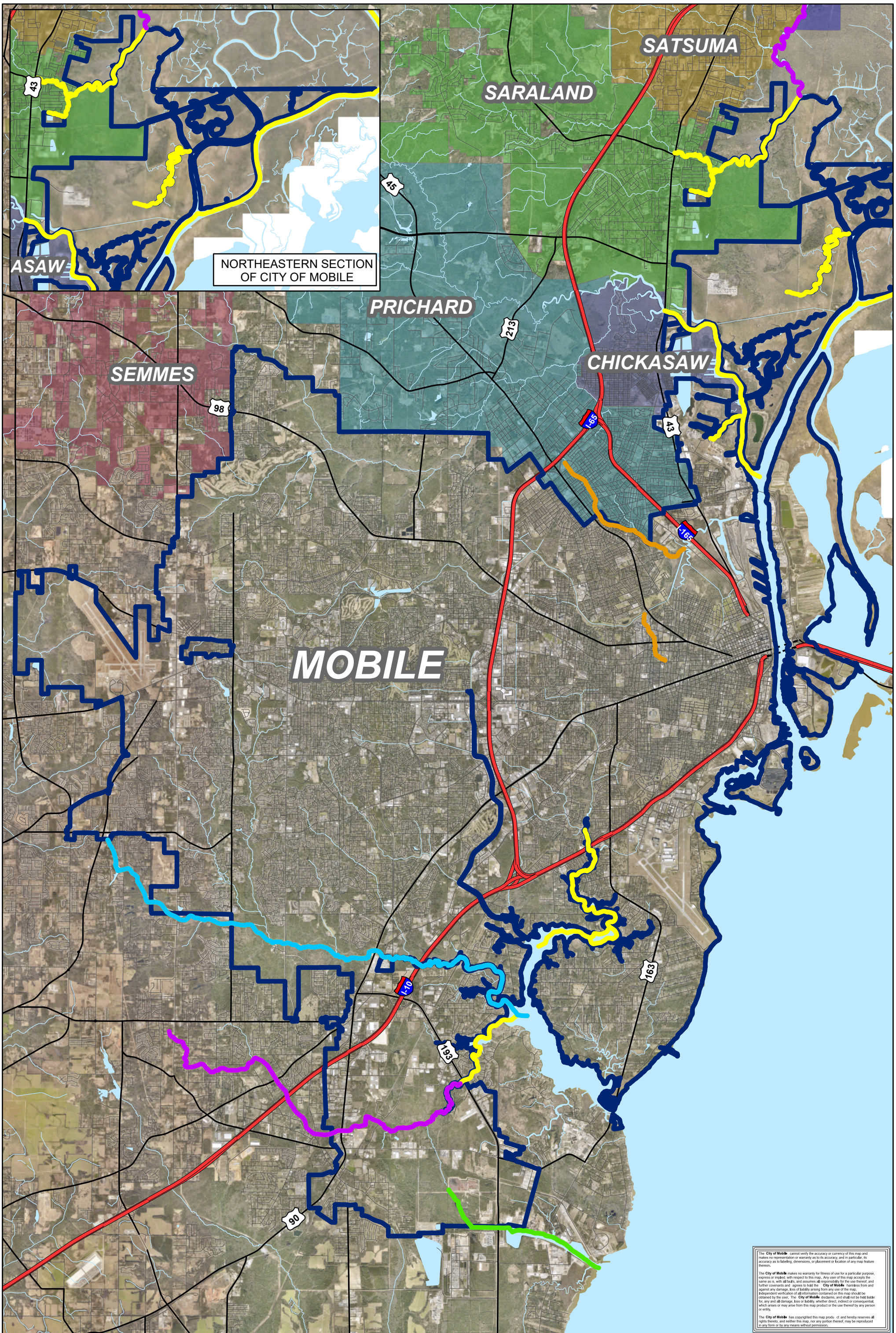
2.5.2. Approved TMDLs

EPA has approved ADEM's TMDLs for selected stream segments on several streams located within the City. Pollutants of concern for each stream segment are summarized in Table 2-5. The location of streams where a TMDL has been developed is shown in Figure 2-8.

Table 2-5 Approved TMDLs

Waterbody		Pollutant of Concern	Date of Approval
Name	Assessment ID		
Bayou Sara / Norton Creek	AL03160204-030-01	Organic Enrichment Low Dissolved Oxygen	August 1997
Eightmile Creek	AL03160204-050-01	Pathogens	October 2004
Rabbit Creek	AL03160205-020-01	Pathogens Organic Enrichment Low Dissolved Oxygen	April 2005
Dog River	AL03160205-020-02	Pathogens Organic Enrichment Low Dissolved Oxygen	April 2005

Waterbody		Pollutant of Concern	Date of Approval
Name	Assessment ID		
Three Mile Creek	AL03160204-0504-101 AL03160204-0504-102 AL03160204-0504-103	Organic Enrichment Low Dissolved Oxygen	January 2007
Toulmins Spring Branch	AL03160204-0504-300	Pathogens	September 2009
UT to Three Mile Creek	AL03160204-0504-500	Pathogens	September 2009
Bolton Branch (East)	AL03160205-0202-300	Pathogens	September 2009
Bolton Branch (West)	AL03160205-0202-700	Pathogens	September 2009
Eslava Creek	AL03160205-0202-400	Pathogens	September 2009
Three Mile Creek	AL03160204-0504-101 AL03160204-0504-102	Pathogens	November 2013



CITY OF MOBILE MS4 PROGRAM

City of Mobile
GIS Department
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2024 303(d) STREAMS

- MS4 Boundary
- Roads
- State/Federal Hwy
- Interstate
- Tunnel
- Stream
- Water
- METALS (MERCURY)
- NUTRIENTS
- ORGANIC ENRICHMENT (CBOD, NBOD)
- PATHOGENS (E.COLI)
- SILTATION (HABITAT ALTERATION)

N

FIGURE 2-7

1 0.5 0 1
Miles

PRINT DATE: 12/18/2024

NORTHEASTERN SECTION
OF CITY OF MOBILE

SATSUMA
SARALAND
PRICHARD
CHICKASAW
SEMMES
MOBILE
ASAW

NORTON CREEK
BAYOU SARA
EIGHTMILE CREEK
TOULMINS SPRING BRANCH
THREEMILE CREEK
INDUSTRIAL CREEK
UT TO THREEMILE CREEK
BOLTON BRANCH
ESLAVA CREEK
MOORE CREEK
HALLS MILL CREEK
RABBIT CREEK
DOG RIVER

43
158
45
213
98
I-65
I-10
163
193
90

CITY OF MOBILE MS4 PROGRAM

City of Mobile
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2024 TMDL STREAMS

- ORGANIC ENRICHMENT
- PATHOGENS
- PATHOGENS/ORGANIC ENRICHMENT
- MS4 Boundary
- Roads
- State/Federal Hwy
- Interstate
- Tunnel
- Stream
- Water

N

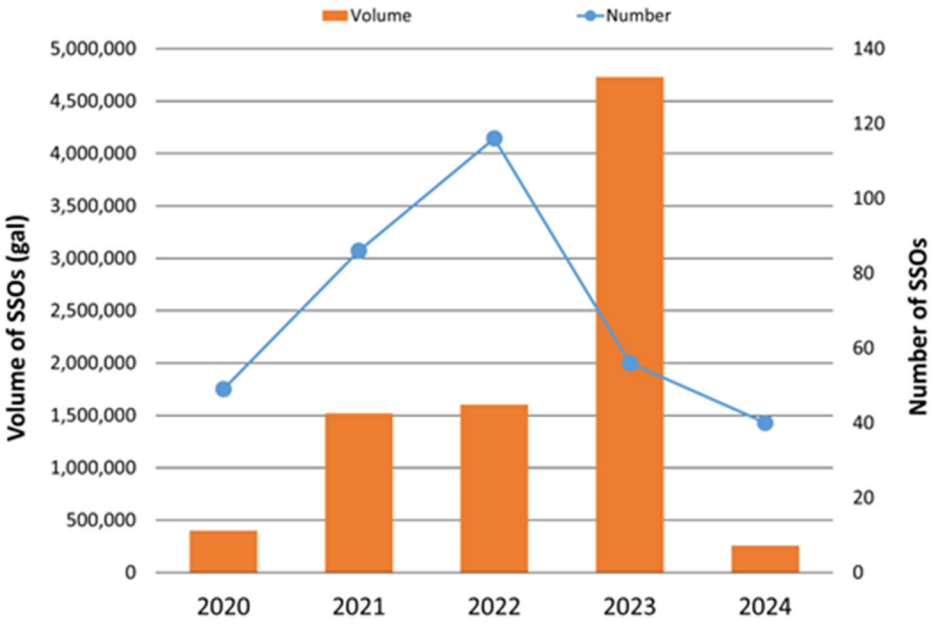
FIGURE 2-8

1 0.5 0 1
Miles

PRINT DATE: 12/18/2024

Review of the TMDLs revealed that the primary source of pollution contributing to the impairment is attributed to municipal collection system failure or on-site wastewater treatment systems. A review of the sanitary sewer overflows (SSOs) reported by the Mobile Area Water and Sewer System (MAWSS) revealed a significant number of SSOs discharging a significant volume of wastewater into local streams. A graph showing the number of MAWSS reported SSOs and volume of wastewater discharged is provided in Figure 2-9.

Figure 2-9 Historic Sanitary Sewer Overflows (SSOs)



SECTION 3

Storm Water Collection System Operations

3. Storm Water Collection System Operations

3.1. Introduction

Proper operation and maintenance of storm water collection systems can greatly reduce the potential of flooding and reduce the potential discharge of pollutants to downstream waters. Pollutant loadings from total suspended solids (TSS) can cause high levels of turbidity, particulate concentrations of heavy metals and nutrients.

The City of Mobile has implemented and maintained BMPs to provide a means of mitigating the negative impacts of various pollutants that can be carried off by rainfall through the storm sewer system to receiving waters. The City's Storm Water Collection System Operations Program shall include the activities included in Part II.B.1 of the NPDES Permit. A description of the BMPs being implemented by the City for this program element is described in the following sections.

3.2. Program Administration

The Engineering Department has the overall responsibility for this program element. Specific departments and associated responsibilities are summarized below:

Engineering Department
- Program development
- Inspections
- Enforcement

Municipal Enforcement
- Enforcement

Public Services and Fleet/Motor Pool
- Routine maintenance
- Clean-up activities

GIS Department
- Data management
- Data mapping

3.3. Program Components

Due to the topography of the MS4 Area, storm water runoff is conveyed through a series of either closed conduit storm sewer systems and/or open drainage ditches. Structural controls owned, operated, or maintained by the City primarily consists of storm water detention or retention ponds located at various City facilities.

3.3.1. Structural Controls

In accordance with Part II.B.1.a. of the NPDES Permit, structural controls that are owned, operated, or maintained by the City shall be operated in a manner to reduce the discharge of pollutants to the MEP. A "Structural Control" is defined in the NPDES Permit as "*an engineered BMP constructed with rigid walls and/or weirs and piped drainage that utilize active or passive treatment and/or mechanical systems for the purpose of treating stormwater runoff.*"

The City maintains several detention and retention ponds at various City facilities. Since a detention pond only attenuates peak discharges during a storm event, a detention pond does not provide storm water treatment and is not considered as a "Structural Control" as defined by the NPDES Permit.

3.3.1.1. Structural Control Inventory

The City has 17 structural controls that are owned, operated or maintained by the City. During the 2024 permit year, the City evaluated the annexed areas and determined that there were no structural controls that should be added to the inventory.

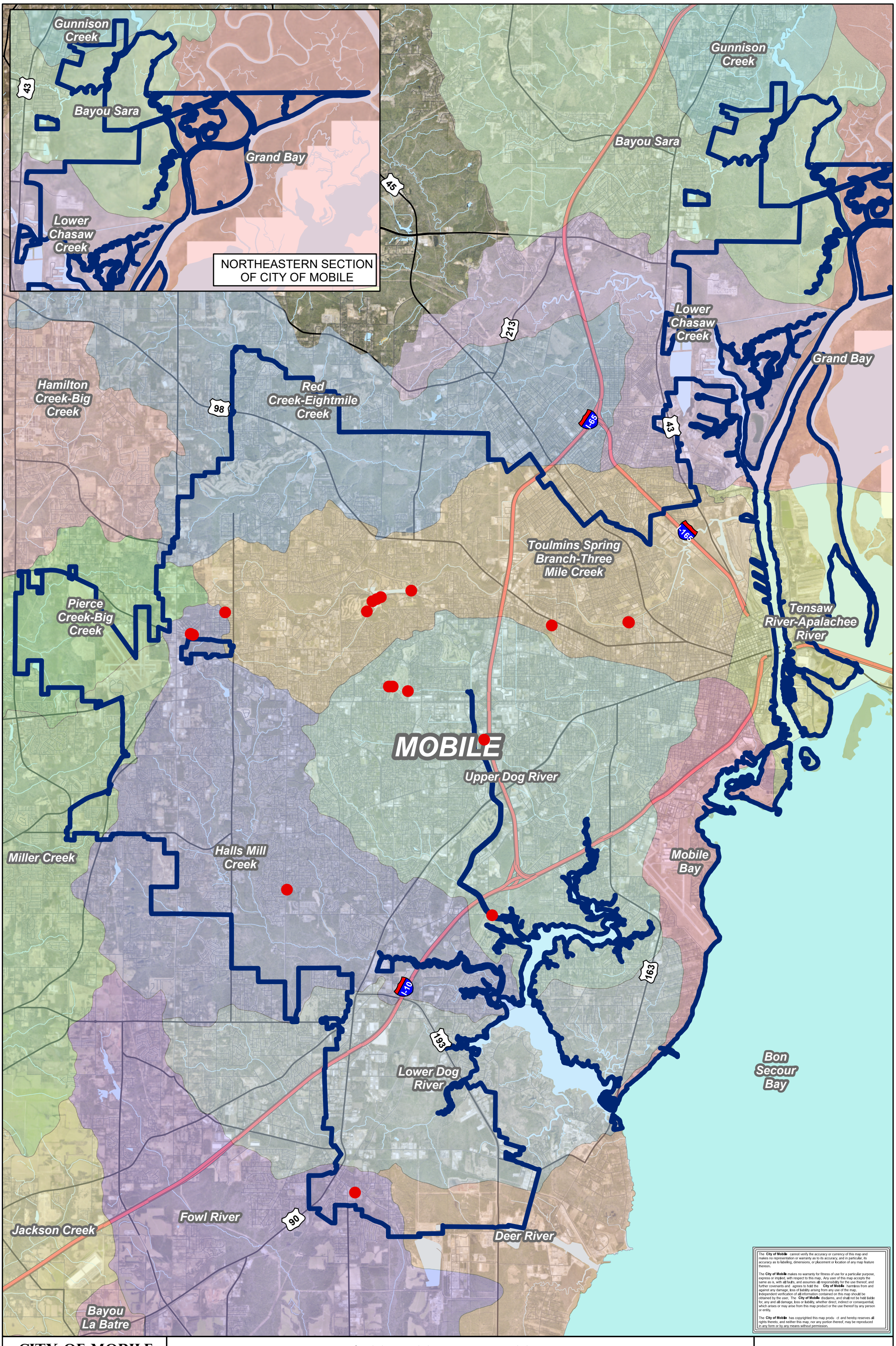
The current inventory of structural controls is provided in Figure 3-1.

3.3.1.2. Standard Operating Procedures

The City has developed Standard Operating Procedures (SOPs) for the inspection and maintenance of structural controls. Copies of the SOPs are provided in Appendix C.

3.3.1.3. Inspections

The City and/or their representative shall perform an inspection of each structural control on a semi-annual basis. Results of the inspection shall be documented on a Structural Controls Semi-annual Inspection Form. To maximize the use of technology and resources for structural control inspections, the Structural Controls



CITY OF MOBILE MS4 PROGRAM

City of Mobile
GIS Department
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MS4 STRUCTURAL CONTROLS

Public Structural Controls
MS4 Boundary
Roads
State/Federal Hwy
Interstate
Tunnel
Stream
Water

N

FIGURE 3-1

1 0.5 0 1
Miles

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Semi-annual Inspection Form may be converted into an electronic format that can provide inspectors with the following enhanced capabilities that may include:

- GPS mapping to facilitate structural control location;
- Electronic data collection;
- Minimize the types of equipment needed for the inspection;
- Ability to report a problem immediately when it is discovered;
- Ability to create an inspection report;
- Ability to automatically create an inspection report; and,
- Data collected is easily converted to a format for ArcGIS.

An example Structural Controls Semi-annual Inspection Form is provided in Appendix C.

3.3.1.4. Maintenance

During the semi-annual inspection, the inspector shall determine if maintenance of the structural control is needed and establish a priority on how quickly maintenance should be performed. The following categories shall be used to establish maintenance priority:

High – The structural control is not operating as designed and/or components of the structural control require immediate attention to prevent a structure failure;

Medium – The structural control is operating as designed and components of the structural control only requires routine maintenance; and,

Low – The structural control is operating as designed and only requires routine cleaning to remove sediment, debris, and/or litter.

If a structural control requires maintenance, the inspector shall complete a Structural Controls Maintenance Request Form and provide the form to the Public Services Department. The Public Services Department shall schedule the required maintenance based on the maintenance priority and availability of resources. Maintenance activities shall be tracked on a Structural Control Inspections and Maintenance Summary Form.

To maximize the use of technology and resources for structural control maintenance, the City may convert the Structural Controls Maintenance Request Form into an electronic format for use in a mobile application. An example of the Structural Controls Maintenance Request Form is provided in Appendix C. The

inspections and maintenance of structural controls are combined into one tracking form. An example Structural Control Inspections and Maintenance Summary Form is provided in Appendix C.

3.3.2. Catch Basins

In accordance with Part II.B.1.b. of the NPDES Permit, the City has developed a program to operate and maintain catch basins in a manner to reduce the discharge of pollutants to the MEP.

Engineering, Public Services, and GIS collaboratively worked together and launched a Nexgen Web Application system for catch basin inspections and maintenance. This system allows City workers to input inspections, and, if necessary, maintenance information into the application when field work is completed. Once each inspection is marked as complete by the Public Services Supervisor, the NexGen application transfers the data into the City GIS geodatabase and is immediately available to City staff.

Information available to the Engineering Department representative during the inspection and cleaning operations includes a detailed map of the current location that shows parcels, addresses, and catch basin numbers. If a previously unmapped catch basin is identified, the Engineering Department representative can add the catch basin to the existing inventory in the field. Screen shots of the NexGen application are provided in Figure 3-2.

Figure 3-2 NexGen Asset Manager – Catch Basins

3.3.2.1. Inventory

As of September 2024, the City maintains 31,828 catch basins within its corporate limits. If additional catch basins are identified, they may be added to the inventory

using the NexGen application. After the GIS Department has been notified that a new catch basin has been mapped, the data will be checked for accuracy, a unique identification number will be assigned, and the catch basin shall be included in the inventory. To minimize the potential of duplication and double counting, the GIS Department has developed a script to prevent duplicate catch basins in the inventory. A secure webpage is utilized to make the catch basin inventory available to City supervisors.

The City shall evaluate the annexed areas to determine if the inventory needs to be updated to include additional catch basins. A map showing the existing catch basin inventory is provided in Figure 3-3. Any updates to the catch basin inventory shall be included in the annual report.

3.3.2.2. Inspection

A catch basin inspection shall be triggered in one of two ways: 1) As part of the routine inspection program; or, 2) As a result of a citizen concern. Both types of inspections utilize the NexGen Web Application and the same documentation.

For the routine inspections, the City has developed a schedule to inspect a minimum of 5% of the current inventory of catch basins located within the City. A map showing the areas of the City where catch basins shall be inspected each year is provided in Figure 3-4.

For a citizen's concern, the citizen typically contacts the City through the 311 system to identify the concern and initiate a Service Request Order (SRO). The City has recently enhanced the SRO procedure for catch basin cleaning by including a general map that shows the approximate location, street address, catch basin locations, and catch basins identification numbers.

At a minimum, the City shall inspect 5% of the current inventory of catch basins each year. The inspections are documented in the NexGen Web App by the Public Services crew. This information is summarized on a Catch Basin Inspection and Cleaning Summary Form. An example of the Storm Drain and Catch Basin Cleaning Equipment Daily Report and Catch Basin Inspection and Cleaning Summary are provided in Appendix C.

CITY OF MOBILE MS4 PROGRAM

City of Mobile
GIS Department
gis@cityofmobile.org

MS4 CATCH BASIN INVENTORY

MS4 Boundary
Roads
Interstate
Stream
Inlet
State / Federal Hwy
Tunnel
Water

N

FIGURE 3.3

0.75 0.38 0 0.75
Miles

PRINT DATE: 10/2/2024

SEMMES
SEMMES
PRICHARD
SARALAND
CHICKASAW
FY2028
FY2025
FY2015
FY2016
FY2029
FY2032
FY2030
FY2033
FY2024
FY2026
FY2034
FY2019
FY2027
FY2023
FY2035
FY2031
FY2018
FY2017
FY2021
FY2022
158
213
217
98
43
45
I-65
I-165
163
I-10
90
193

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MS4 PROGRAM

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MS4 CATCH BASIN INSPECTION SCHEDULE

MS4 Boundary
Water
Roads
Interstate
Inlet Clean Zone
Stream
State / Federal Hwy
Tunnel

N

FIGURE 3-4

0.65 0.33 0 0.65
Miles

PRINT DATE: 10/16/2024

3.3.2.3. Maintenance

During a routine inspection or a citizen request, City personnel shall determine if maintenance of the catch basin is needed and establish a priority on how quickly maintenance should be performed. If the catch basin only requires cleaning, it is cleaned at the time of inspection. If additional maintenance is needed, the Public Services catch basin crew will note the needed maintenance on their inspection form. A supervisor will then generate a Service Request Order through the NexGen system. The condition of the catch basin is noted as Good, Minor Repair or Major Repair. The Public Services Department shall schedule the required maintenance based on the maintenance priority and availability of resources.

To assist with routine catch basin cleaning, the City operates four (4) vacuum trucks. A photograph of a vacuum truck cleaning an existing catch basin is provided in Figure 3-5. If a catch basin is cleaned during the inspection, the Public Services crew documents the cleaning activities directly in the NexGen System. The volume of material removed is recorded by vehicle number. Examples of the Storm Drain Catch Basin Cleaning Equipment Daily Report and the Catch Basin Inspection and Cleaning Summary Form is provided in Appendix C.

Figure 3-5 Vacuum Truck

3.3.2.4. Training

In 2023, City Engineering trained Public Services Supervisors and Operators on the new procedure for catch basin inspections and tracking of data. The training included the introduction of an updated catch basin daily worksheet (Storm Drain and Catch Basin Cleaning Equipment Daily Report) and the NexGen Web App for

catch basin tracking. This training shall be conducted on an as-needed basis for new employees.

3.3.3. Litter Trap(s)

On 23 June 2015, the City installed a Bandalong litter trap in Eslava Creek, a tributary of Dog River, just off of McVay Drive. The litter trap manufacturer has performed several in field adjustments to the litter trap to enhance its capabilities for capturing litter. A picture and the location of the litter trap are provided in Figure 3-6. A site layout plan of the litter trap site is provided in Appendix C.

3.3.3.1. Inspections

The City shall inspect the litter trap on a weekly basis and after significant rainfall events. A significant rainfall event shall be considered a 2-year, 24-hour storm event that produces approximately 5.67 inches of rainfall (according to NOAA Atlas 14, Volume 9). If a significant rain event occurs on a weekend or holiday, the City shall perform the inspection on the next workday. Litter trap inspections shall be documented on the Litter Trap Inspection Checklist and summarized in the annual report. An example of the Litter Trap Inspection Checklist is provided in Appendix C.

Figure 3-6 Eslava Creek Litter Trap

3.3.3.2. Cleaning

The litter trap shall be cleaned when it accumulates one-quarter cubic yard of floatable materials excluding any vegetation. Vegetation is removed from the trap, along with the floatables, and disposed of appropriately. Litter trap cleaning activities shall be documented on the Litter Clean-Up Form and summarized in the annual report. An example of the Litter Clean-Up Form is provided in Appendix C.

3.3.4. Litter Patrol

In 2017, the City reorganized the Public Services Department to include a Litter Patrol that picks up litter along City rights-of-way. The City has devoted resources to acquire specially designed ATVs with vacuums which pull the litter into attached garbage cans. Additionally, four trucks were purchased specifically devoted to patrolling and removing litter along City rights-of-way. Pictures of the litter truck and the specially designed ATV are provided in Figure 3-7. Working in partnership with the City's Municipal Court and Legal Department, community service members are being utilized to remove litter from the City ROW's. The amount of litter removed from the rights-of-way is documented in the Public Services Litter Collection Summary Form. An example of the Public Services Litter Collection Summary Form and Community Service Tracking Form are provided in Appendix C.

Figure 3-7 Litter Truck and ATV

3.3.5. Additional Trash Control Measures

The NPDES Permit requires the City to develop and implement in the public rights-of-way a program to effectively prevent trash from entering waterways and tributaries during any special events or wherever large amounts of trash are anticipated.

The City's program involves a variety of activities that help to keep trash out of the MS4. Some of the activities are covered in other components described in the SWMP Plan. Examples include but are not limited to the following:

- Catch basin cleaning program described in this section is a direct removal of trash from the MS4;
- Litter and trash removal for City ROW's on a regular schedule is a direct removal of trash from the MS4;

- Clean up events described in the Public Education and Public Involvement section is a direct removal of trash prior to entry to the MS4; and,

- Utilization of trash receptacles throughout the City is an example of prevention through disposal alternatives.

Trash control measures not described in other sections of the SWMP Plan are further described in this section.

3.3.5.1. Special Events

The City hosts several special events throughout the year that not only brings a lot of residents to the downtown area; but also, brings people from around the region and country. Notable special events include Mardi Gras and Reese's Senior Bowl Parade. To help manage trash, debris, and potential pollutants from entering the storm sewer system, the City has implemented several structural and non-structural BMPs that include but are not limited to the following:

- Catch Basin Screens – The City has installed catch basin screens that consist of metal grate covers over catch basin openings. Catch basin screens prevent trash from entering the storm sewer system and have been installed along the Mardi Gras parade Route A and along other streets in the downtown area. An example of a catch basin screen is shown in Figure 3-9. The Mardi Gras parade Route A and inventory of catch basins screens are shown in Figure 3-8.

- Cooking Oil Recycling – There are many food vendors that participate in Mardi Gras. When these vendors apply for a City permit, they receive a letter explaining the garbage and grease pick-up service. At the conclusion of each day's activities, the vendors will place used cooking oil in a container and place the container in front of their booth. The Public Services Spill Crew picks up the cooking oil and sends the containers to an oil recycling facility. This information is documented on a Spill Prevention and Response Summary Form. An example of the Spill Prevention and Response Summary Form is provided in Appendix H.

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MS4 PROGRAM

City of Mobile
GIS Department
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MS4 CATCH BASINS WITH SCREENS

Litter Basket
Screen

Parade Route A
Parade Route B
Parade Route C
Parade Route D
Parade Route E
Parade Route F
Roads
State/Federal Hwy
Interstate
Tunnel
Stream
Water

N

FIGURE 3-8

0.05 0.03 0 0.05
Miles

PRINT DATE: 12/18/2024

- Trash Pick Up – At the conclusion of each day's activities, the City has a crew that consists of a variety of personnel, equipment, and street sweepers that clean the streets and surround area. Typically, this cleaning crew is deployed within 30 minutes after the special event has ended. These crews also pick up garbage from the food vendors. The amount of garbage collected is documented in the Special Events Trash Summary Form. An example of the Special Events Trash Summary Form is provided in Appendix C.

- Special Events SOP – The City has developed a SOP that defines a Special Event as public gatherings that generate a volume of sanitation waste that is too large for typical sanitation gathering activities that occur daily in the downtown loop. A copy of the SOP is provided in Appendix C.

Figure 3-9 Catch Basin Screen Example

3.3.5.2. Enforcement

The Municipal Enforcement Division oversees the litter enforcement team as well as the activities of the property maintenance group. The Municipal Enforcement division has field inspectors tasked to perform the following activities:

- Conduct investigations and initiate compliance measures with property owners, when warranted, for various city codes relating to litter and illegal dump sites;
- Routinely patrol commercial corridors for litter concerns or issues;
- Enforce the requirement for all dumpsters to be labeled and identify the responsible party;
- Investigate SRO's; and,
- Issue tickets as warranted.

The City's Police Department may also issue tickets for litter offenses.

3.4. Program Goals and Evaluation

The City has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing the Storm Water Collection System Operations. Program goals are summarized in Table 3-1.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness of the Storm Water Collection System Program. Results of the program evaluation will be summarized in the Annual Report.

Table 3-1 Storm Water Collection System Operations – Program Goals

Program Component	BMP Description	Frequency	Responsible Department
Structural Controls	Inventory	Annually	Engineering, GIS
	SOPs	Update as needed	Engineering
	Quarterly Inspection Form	Update as needed	
	Inspections	Semi-annually	
	Maintenance Request Form	Update as needed	Engineering
	Maintenance and Repairs	Track	Public Services Parks & Recreation
Catch Basins	Inventory	Annually	Engineering, GIS
	Inspection schedule	Annually	Engineering
	Inspection Form	Update as needed	
	Inspection	5% annually	Public Services
	Maintenance	Track	
	SRO inspections / cleaning	Track	
	Estimated floatable, litter, sediment and debris removed	Track	
	Training	Track	Engineering
Litter Traps	Inventory	Annually	Engineering
	Inspection Form	Update as needed	Public Services
	Routine Inspections	Weekly	
	Storm Event Inspections	After Significant Rainfall	
	Cleaning	Track	
Litter Patrol	Remove Litter from City ROWs	Track	Public Services
Special Events	Catch basin screen inventory	Annually	GIS
	Special events held	Track	Public Services

Program Component	BMP Description	Frequency	Responsible Department
Special Events (continued)	Trash pick up	Track	Public Services
	Cooking oil recycling	Track	Equipment Services
Enforcement	Investigations	Track	Municipal Enforcement
	Enforcement actions	Track	
Program Evaluation	Evaluate program effectiveness	Annually	Engineering
All Components	Evaluate Annexed Areas	Update as needed	Engineering

SECTION 4

Public Education and Public Involvement

4. Public Education and Public Involvement

4.1. Introduction

The MS4 NPDES permit requires the City to develop, implement and evaluate a public education, involvement, outreach, and participation program. Goals of the program are to:

- Educate the community about the impacts of storm water discharges into streams, rivers, lakes and ponds;
- Identify steps that the community can take to help reduce pollutants in storm water runoff;
- Provide opportunities for public input and feedback;
- Engage the public to actively participate; and,
- Facilitate opportunities to provide public education.

As the public gains a greater understanding of the benefits of a storm water program, the City is likely to gain more support for the SWMP and increased compliance with the NPDES permit requirements. Public education and involvement provide a mechanism to help the public understand how their actions can potentially impact storm water quality. Public participation can also help reduce the amount of pollution generated and identify potential pollution causing activities and/or sources. The City's Public Education and Involvement Program shall include the activities described in Part II.B.2 of the NPDES Permit.

4.2. Program Administration

Public education and involvement is an activity that is routinely carried out by many departments. The Engineering Department shall provide assistance and coordination with other departments to facilitate the education and involvement activities associated with the SWMP Plan. The 311 and Police Departments assist with the Litterbug Hotline.

4.3. Target Audiences

Development within the City consists of residential, commercial, institutional, and industrial uses. Audiences typically associated with this type of development and land use include:

- Residents (Homeowners and renters);
- Schools;
- Business (Owners and employees);
- Engineers;
- Contractors; and,
- Developers.

Educational materials may be specifically tailored to communicate a specific topic to a targeted audience.

4.4. Target Pollutant Sources

There are several sources of pollution that need to be targeted in the public education program. Target pollutant sources may include but are not limited to the following:

- Illicit dumping, discharges and improper disposal;
- Litter, floatables, and debris;
- Disposal of used oil and household hazardous wastes;
- Impacts of development;
- Construction site erosion; and,
- Improper application of pesticides, herbicides, and fertilizers (non-agricultural).

Educational materials may also be developed to describe BMPs that are effective in reducing the impacts of development on storm water runoff. Topics may include but are not limited to the following:

- General impacts of storm water runoff;
- Rain water reuse;
- Proper household hazardous waste, used oil, and grease disposal;
- Litter, rubbish, and leaf collection and control;
- Low impact development practices; or,
- Impacts of development.

Educational materials may be specifically tailored for the targeted pollutant source of concern and/or pollution prevention practices.

4.5. Public Education

The City may utilize a variety of techniques to implement its public education and involvement program. Mechanisms and activities that have proven to be effective in educating the public include but are not limited to the following:

- Local Partnerships;
- Website;
- Brochures;
- News Media;
- Social Media;
- Public Service Announcements; or,
- Meetings and presentations.

The City shall perform public education activities for a minimum of two of the above listed categories. A description of how the City is using these activities is described in more detail in the following sections.

4.5.1. Local Partnerships

The City of Mobile has formed partnerships with local and statewide organizations to improve the City's MS4 program and educate citizens. Websites of partnership organizations that provide beneficial activities to the City's storm water program include:

Mobile Bay National Estuary Program	www.mobilebaynep.com
Mobile Baykeeper	www.mobilebaykeeper.org
Clean Water Future	www.cleanwaterfuture.com
Alabama Coastal Foundation	www.joinacf.org
Dog River Clearwater Revival	www.dogriver.org
Keep Mobile Beautiful	www.keepmobilebeautiful.org
The Peninsula of Mobile	www.thepeninsulaof mobile.org
ALDOT	www.dot.state.al.us
EPA	www.epa.gov
ADEM	www.adem.state.al.us
DCNR	www.outdooralabama.ocm
MAWSS	www.mawss.com
Alabama Water Watch	www.alabamawaterwatch.org

Additional educational activities are performed by the above listed organizations and further documented on their website. As the City's MS4 program continues to evolve, the City may seek partnerships with other agencies and organizations to facilitate the public education program. Links to each organization are provided on the City's storm water website (www.stormwatermobile.org).

4.5.2. Website

The City maintains two separate websites that provides information about the City. The City's main website (www.cityofmobile.org) provides general information about the City regarding online services, Mobile governments, news room, visiting Mobile, working in Mobile and living in Mobile. The City has also developed a website dedicated to storm water-related issues (www.stormwatermobile.org). The storm water website provides some general information, what the public can do to help minimize pollution and how to protect the quality of storm water runoff. A summary of web pages and the information available on the website includes the following:

- Home;
- Litter;
- Outreach and Education;
- Links & Resources;
- Reports & Docs; and,
- News and Events.

The City's main website (www.cityofmobile.org) provides links to the City's regulations, ordinances, and permitting requirements. Both websites are maintained and updated on an as needed basis.

4.5.3. Brochures

The City of Mobile has developed several brochures to provide general information about storm water related issues. Brochures are made available through the Engineering Department and during various City sponsored events. Some brochures are developed to address either a specific storm water related issue or to a particular audience. These brochures are typically provided to the audience of interest. The City and Mobile County collaborated on many of the brochures to be used in both MS4 programs. A summary of the brochures that have been developed is provided in Table 4-1.

Table 4-1 Brochures

Description	Target Pollution Source	Target Audience
Composting and Mulching	General Information	Residents
Construction Activities	Construction Site Runoff	Engineers Contractors Developers
Draining Pools and Spas	Illicit Dumping, Discharges or Disposal	Residents Business
Food Service Establishment	Illicit Dumping, Discharges or Disposal	Business
Grass Clippings and Lawn Waste	Impacts of Development	Residents Business
Illicit Discharges	Illicit Dumping, Discharges or Disposal	Residents Business Engineers Contractors Developers
Know Your Stormwater	General Information	Residents Business
Lawn Maintenance and Gardening	General Information	Residents Business
Pet Waste Disposal	General Information	Residents
PHF Usage, Storage and Disposal	Illicit Dumping, Discharges or Disposal	Residents Business
Proper Paint Disposal Methods	Illicit Dumping, Discharges or Disposal	Residents Business
Rain Garden Catch It Where It Falls	General Information	Residents
Recycling	Recycling	Residents Business
Storm Water Pollution Prevention	General Information	Residents Business Engineers Contractors Developers
Storm Water Pond Maintenance	Impacts of Development	Business
The Dos and Don'ts of Household Hazardous Waste	Illicit Dumping, Discharges or Disposal	Residents Business

The City has enhanced its brochure development and distribution procedure to implement more cost-effective solutions. The City determined that using newsletter publications and the City's website were more effective in reaching a larger audience. This change will allow the City more flexibility and creativity while reaching a wide public audience. There are many advantages to this strategy, including the following:

- Environmental impact of reduced brochure or door hanger printing (newsletters are published electronically);
- Reduced cost of printing;
- Distribution to a wide-reaching audience independent of visiting a physical location;
- Ability to reach an audience several times a year through newsletters and full time through the website; and,
- Increased communication with City employees, residents, community groups, and neighborhood leaders.

Brochures distributed shall be tracked on the Brochure Distribution Summary Form. Copies of the brochures and an example of the Brochure Distribution Summary Form are provided in Appendix D.

4.5.4. News Media

The City's Stormwater program receives exposure through various media outlets highlighting different accomplishments and initiatives throughout the permit year. Neighborhood cleanups, household hazardous waste collection days, or scrap tire amnesty days are examples of the types of stories that may be produced and broadcasted on local radio or television stations.

4.5.5. Social Media

The City is active on several social media platforms. This allows the City the opportunity to send direct messages in a timely manner to residents, businesses, property owners, and others actively following the City on these platforms. These outlets offer a cost effective, environmentally friendly mechanism to potentially inform the public regarding stormwater related issues. The City currently maintains the following social media platforms:

4.5.5.1. Facebook

The City of Mobile has a Facebook account that may provide support to the City's stormwater program and can be accessed through the following link:

https://www.facebook.com/CityofMobile/

4.5.5.2. Instagram

The City of Mobile has an Instagram account that may provide support to the City' stormwater program and can be accessed through the following link.

https://www.instagram.com/cityofmobileal/

4.5.5.3. Twitter

The City of Mobile has an X (Twitter) account that may provide support to the City's stormwater program and can be accessed through the following link.

https://twitter.com/City_of_Mobile

4.5.5.4. YouTube

The City of Mobile has a Youtube channel that may provide support to the City's stormwater program and can be accessed through the following link.

https://www.youtube.com/channel/UCdLrEwf3ewSNmCNm21fVfNg

4.5.6. Meetings and Presentations

The City provides general education on the impacts that litter has on water bodies and ways to help reduce litter. To help convey this message, the City may participate in public events, public meetings, postings to the City's storm water website and/or presentations at schools.

4.5.7. Public Service Announcements

Clean Water Future has created several PSAs to help educate citizens on reoccurring problems with pollution that impacts a MS4. The City's storm water website has incorporated the "Understanding the MS4 Process" PSA and has created a link to the Clean Water Future website where additional PSAs are provided. Available PSAs include:

- All the Cups;
- Why is There a Pond in My Backyard;
- Plastic Bag;
- Stories from the Gulf: Living with the oil disaster;
- Low Impact Development;
- Stormwater and Pollution;
- A RedFish Tale;

- A RedFish Tale 2: FishSlap;
- Protecting Alabama's Waters;
- Understanding Your Watershed; and
- Understanding the MS4 Process.

PSAs are available on the Clean Water Future website.

4.6. Public Participation

The City may utilize a variety of techniques to implement its public education, involvement, and outreach program. Mechanisms and activities that have proven to be effective in engaging the public include:

- Public involvement through public meetings and City's website;
- Mobile 311;
- Litterbug Hotline;
- Recycling; or
- Clean-Up events.

The City shall perform public participation activities for a minimum of two of the above listed categories. A description of how the City is using some of these activities is described in more detail in the following sections:

4.6.1. Public Involvement

The City's storm water website shall be used as the primary mechanism of providing information to the public and receiving input from the public regarding the City's SWMP. As an example, the City has posted previous SWMP Plan and annual reports on the website for review and comment by the public. If someone would like to provide comments, that individual can contact the City via e-mail at stormwater@cityofmobile.org. This email has been setup to receive public comments for review and consideration by the City.

Part II.B.2.d. of the NPDES permit states "The current SWMPP and latest annual report should be posted on the Permittee's website". The City has posted the latest versions of SWMPP and annual report on the City's Storm Water website.

4.6.2. Mobile 311

The City has implemented a hotline for the general public to provide suggestions and/or to report incidents that may potentially impact the City's MS4. A citizen can

report any issue of concern by calling 311, (251) 208-5311, by emailing the City (mobile311@cityofmobile.org) or online via the City's website.

The City uses custom software as the backbone of the City's Mobile 311 call center. This system provides the City with the effective tools to work with citizens and resolve their issues. The Mobile 311 was established to:

- Electronically route service requests to appropriate departments;
- Provide a neutral forum for citizens to make suggestions about City services and departments;
- Provide a way to track the progress of Service Request Orders (SRO);
- Answer questions citizens have concerning City organizations and services; and,
- Assist citizens in obtaining City services in a fair and efficient manner.

The City's Mobile 311 call center is operated by city personnel and staffed Monday through Friday from 7:00 am to 6:00 pm.

4.6.3. Litterbug Hotline

The City has a Litterbug Hotline for citizens to report instances of another citizen throwing litter from their vehicle. For a citizen to report a litter issue, the citizen can call 208-6025 or 311 and provide the vehicle tag number, driver, or passenger, what they tossed and the location. With this information, the Police Department will send a letter to the owner of the vehicle warning them that they have violated the Litter ordinance. An example of the Litter Bug Warning Letter sent by the Police Department is provided in Appendix D.

4.6.4. Recycling

The City of Mobile strives to educate and motivate citizens to act for a cleaner environment and a more attractive City. As part of this program, the City promotes recycling and has recently changed to a single-stream recycling program. The City has selected two drop off locations: 1) Pinehill Drive near Public Safety Memorial Park, 2) Museum Drive across the street from Langan Park and 3)1750 Dauphin Island Parkway. A picture of the single-stream collection bins is provided in Figure 4-1. Materials accepted at the recycling locations include the following:

- Mixed paper products;
- Cardboard;
- Plastics #1-7;
- Steel; and,
- Aluminum.

Due to the single stream recycling operation, the recycling activity is being measured by counting the number of vehicles that participate in recycling. The City tracks recycling activities on the Community Service Tracking Form, Recycling Activity Report and Single-Stream Recyclables. An example of each form is provided in Appendix D.

Figure 4-1 Single Stream Recycling Containers

4.6.5. Clean-Up Events

The City hosts and assists with clean-up events focused on the removal of litter, floatables, and debris. Typically, clean-up events are coordinated through the Engineering or Public Services Departments. The City works with schools, civic groups, community groups, environmental partners, private companies and residents to coordinate and implement a clean-up event. The size of a clean-up event can range from only a few volunteers to hundreds of volunteers.

The City supports clean-up events by providing cleanup materials (trash grabbers, gloves, safety vests and trash bags) to volunteers. Additionally, the City Public Services Department provides trash disposal and scrap tire removal.

4.7. Program Goals and Evaluation

The City has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing a Public Education Program. Program goals are summarized in Table 4-2.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness of Public Education Program. The results of the program evaluation will be summarized in the Annual Report.

Table 4-2 Public Education and Involvement – Program Goals

Program Component	BMP Description	Frequency	Responsible Department
Public Education (Minimum 2 activities / year)	Local partnerships	Track	All Departments
	Website	Track	Engineering
	Develop new brochures	Track	
	Public service announcements	Track	
	Meetings and presentations	Tack	Engineering
Public Involvement (Minimum 2 activities / year)	Public meetings	Track	Engineering
	Mobile 311	Track	Mobile 311
	Litterbug hotline	Track	
	Recycling	Track	Public Services
	Cleanup events	Track	Engineering Public Services
Program Evaluation	Evaluate program effectiveness	Annually	Engineering

SECTION 5

Illicit Discharge Detection and Elimination

5. Illicit Discharge Detection and Elimination

5.1. Introduction

Illicit discharges are defined as a storm drain that has measurable flow during dry weather containing pollutants and/or pathogens. A storm drain with measurable flow but containing no pollutants is simply considered a discharge. Dry weather discharges are composed of one or more possible flow types:

- Sewage and septage flows from sewer pipes and septic systems;
- Wash water flows generated from commercial laundry wastewater, commercial carwash wastewater, gray water from homes, fleet washing, and floor washing from shop drains;
- Liquid wastes such as oil, paint, process water, etc. that enter the storm drain system;
- Tap water leaks and losses;
- Landscape irrigation from residential and commercial sources; and
- Groundwater and spring water flows occurring when the groundwater table rises above the storm pipe invert and infiltrating cracks and joints.

The Illicit Discharge Detection and Elimination (IDDE) Program has been developed using the Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments, October 2004. This document is incorporated into the SWMP Plan by reference and available in the office of the City Engineer.

The City's IDDE Program shall include the activities included in Part II.B.3 of the NPDES Permit.

5.2. Authorized Discharges

In accordance with Part I.B.2. of the NPDES Permit, the following non-storm water discharges have been determined not to be significant sources of pollution:

1. Water line flushing;
2. Landscape irrigation (not consisting of treated, or untreated wastewater unless authorized by the Department);
3. Diverted stream flows;
4. Uncontaminated ground water infiltration;
5. Uncontaminated pumped groundwater;
6. Discharges from potable water sources;
7. Foundation and footing drains;
8. Air conditioning drains;
9. Irrigation water (not consisting of treated, or untreated, wastewater unless authorized by the Department;
10. Rising ground water;
11. Springs;
12. Water from crawl space pumps;
13. Lawn watering runoff;
14. Individual residential car washing, to include charitable carwashes;
15. Residual street wash water;
16. Discharge or flows from firefighting activities (including fire hydrant flushing);
17. Flows from riparian habitats and wetlands; and,
18. Dechlorinated swimming pool discharges.

5.3. Program Administration

The Engineering Department is responsible for screening major outfalls for the presence of non-storm water discharges. If a suspect illicit discharge is identified during the screening activities, the Engineering Department shall report the suspect illicit discharge to the appropriate department and/or agency that may be responsible for corrective actions.

Enforcement of this program to abate and/or remove non-storm water discharges is performed by an Engineering Department representative. Illicit discharge investigations specifically for raw sewage discharges on private property will be performed by Inspection Services' Plumbing Inspectors with the support of the

Engineering Department. The 311 Department receives complaints of illicit discharge incidents and routes the complaint to the appropriate department.

5.4. Legal Authority

On 8 July 2014, the City of Mobile adopted revisions to the Storm Water Management and Flood Control Ordinance (Ordinance No. 17-025-2014) to incorporate requirements of the City's new MS4 NPDES Permit. The ordinance establishes the guidelines for prohibiting, monitoring, and enforcing illicit discharges within the City's MS4.

The latest version of the Storm Water Management and Flood Control Ordinance is incorporated into the SWMP Plan by reference and is available on the City's website at:

https://library.municode.com/al/mobile/codes/code_of_ordinances?nodeId=CICO_CH17STMAFLCO

5.5. Standard Operating Procedures

The City has developed Standard Operating Procedures (SOPs) for the various activities required for implementing the Illicit Discharge Detection and Elimination Program. SOPs include but are not limited to the following:

- SOP ENG-0117 – Illicit Discharge Detection and Elimination; and
- SOP ME-0216 – Illegal Dumping and Illicit Discharges.

SOPs are provided in Appendix E.

5.6. Staff Training

The City may outsource the outfall reconnaissance inventory (ORI) of major outfalls to a consultant. If the ORI effort is outsourced, the consultant selected shall have adequate training and experience to perform the ORI. If the City elects to utilize internal staff, staff selected to perform the ORI shall receive the following initial training:

Classroom Training

- Outfall reconnaissance inventory

Field Training

- Water quality monitoring procedures;
- Outfall reconnaissance inventory field procedures; and,
- Illicit discharge tracking procedures.

Refresher training shall be provided on an as needed basis. Any new staff incorporated into the ORI shall receive the initial training described above and refresher training, as applicable.

5.7. Preventing Illicit Discharges

The IDDE Program identifies key behaviors of the public, facilities and municipal operations that produce intermittent and/or transitory discharges. These key behaviors are targeted to improve pollution prevention practices and prevent or reduce the risk of discharge. The City may develop a wide variety of education and enforcement tools to promote pollution prevention practices.

5.7.1. Public Education

The City may use the following types of activities when informing the public and City employees about the hazards associated with illicit discharges and improper disposal of waste:

- Distribute brochures to encourage proper use and disposal of household chemicals, maintenance of on-site sewage disposal systems, and recycling;
- Discuss the storm water program in a City Council meeting and/or other meetings open to the public;
- Provide information on the City website about pollutant reduction;
- Support local stream clean-up events conducted by non-profits, organizations or State / Federal agencies and programs;
- Support local volunteer monitoring and public education programs;
- Support local storm drain marking program;
- Support regional household pollutant collection events; and,
- Support local and regional recycling of wastes.

Information regarding the City's efforts associated with public education and involvement is further described in the Public Education and Public Involvement section of this SWMP Plan.

5.7.2. Mobile 311

The City has implemented a hotline for the general public to report suspect illicit discharges and/or to report incidents that may potentially impact the City's MS4. A citizen can report any issue of concern by calling 311 or (251) 208-5311, sending an email to mobile311@cityofmobile.org, or using the City's phone app (City of Mobile, AL 311) or by going online to:

http://311.cityofmobile.org/311react/mainwelcome.aspx

5.7.3. Structural BMPs

To minimize potential illicit discharges from a dumpster, "Dumpster Juice", or a car wash, the City has implemented a policy to require that all drains from dumpster pads and car washes be connected to the sanitary sewer system. A copy of the policy and a Dumpster Pad Storm Water Problems and Solutions drawing are provided in Appendix E. The Zoning Ordinance was revised on 11 December 2012 to reflect the Engineering Department dumpster policy so that Planning Commission applications reflected this requirement on the site plans submitted.

5.8. Data Management

The City has a dedicated staff responsible for obtaining, developing, and maintaining the City's Graphic Information System (GIS) data and system. The City uses a state-of-the-art GIS system to manage all types of information and data. Mapping layers used to support the City's illicit discharge program include, but are not limited to, the following:

- Major storm water outfalls;
- Aerial photography;
- City boundaries;
- Roads and Bridges;
- Parcels;
- Zoning information;
- Sanitary sewer system;
- Water distribution system;

- Hydrologic data (streams, wetlands, drainage basins, etc.);
- TMDL and 303(d) listed stream segments; and,
- Drainage ditches.

5.9. Searching for Illicit Discharges

The City shall implement a comprehensive program to detect and eliminate illicit discharges. There are two categories of pollutants that will be addressed in different ways.

1. The first category is pollutants introduced into the MS4 from individuals in a one-time distinct episode at a discrete point of entry. Examples of these are dumping of yard waste, motor oil, antifreeze, or trash into a creek or storm drain. These types of pollutants, when discovered in the MS4 or local streams, cannot be effectively investigated as to the source (i.e. the individual causing the pollution). Also, they are not normally discovered using a City-wide MS4 inspection program of monitoring fixed stations with scheduled workday inspections. One of the best means of discovery will be through input from citizens, City crews, Police and Fire Departments, businesses, and field crews. Prevention of future isolated pollution episodes will rely upon implementation of the public education and public involvement programs.

2. The second category is pollutants from sources that have a chronic or frequently repeating discharge that can be traced through stream channels and the MS4 system using visual inspections, chemical field test kits, and/or laboratory monitoring. Pollutants from these sources will be dispersed downstream as a detectable odor, visual color, increased turbidity, excessive algae growth, or changes in water chemistry (e.g. pH, conductivity, etc.) when compared to uncontaminated water in the stream or MS4. These chronic pollutants are amenable to “source tracking” inspections, and the sources are more likely to be found and mitigated.

Searching for illicit discharge problems consists of detective work and involves field screening of sub watersheds to locate outfalls and identify suspect illicit discharges. The primary field screening tool that will be used is the Outfall Reconnaissance Inventory (ORI). This recommended method is very effective for finding illicit discharge problems and developing an outfall inventory of the MS4. If suspect discharges are encountered during the field screening, the ORI will be supplemented with indicator monitoring methods to test suspect discharges.

5.9.1. Field Activities

Field activities associated with the ORI shall be performed when there has been a prolonged dry period with a minimum of 72 hours from the previous measurable (greater than 0.10-inch rainfall) storm event.

5.9.2. Outfall Inventory Schedule

At a minimum, the City shall screen all major outfalls at least once per five years. The City has developed a schedule to screen all existing major outfalls by September 2025. As a result of the annexation, if additional major outfalls are located, they shall be added to the City's inventory and screened at least once during each five-year period. The City shall evaluate the annexed areas to identify major outfalls by September 2028. A Major Outfall Screening Schedule is provided in Figure 5-1. If all known major outfalls are screened in less than a five-year period, the City may not perform any subsequent major outfall screening activities until the next five-year period.

5.9.1. Priority Areas

Based on the small number of suspect non-storm water discharges observed during previous major outfall screening activities, the City has not identified any priority areas that require more frequent screening.

5.10. Outfall Reconnaissance Inventory

The outfall reconnaissance inventory is designed to locate and record basic characteristics of each outfall. During the inventory process, each outfall shall be screened for the presence of non-storm water discharge(s). The City's ORI methodology and procedures have been developed using Chapter 11 of the Illicit Discharge Detection and Elimination Guidance Manual.

5.10.1. Field Sheets

The City may utilize the Outfall Reconnaissance Inventory / Sample Collection Field Sheet provided with the IDDE guidance manual to collect and document each outfall located and screened. An example of the Outfall Reconnaissance Inventory / Sample Collection Field Sheet is provided in the Appendix E.

NORTHEASTERN SECTION
OF CITY OF MOBILE

Year 2021

Year 2025

Year 2024

Year 2023

Year 2021

Year 2022

CITY OF MOBILE
MS4 PROGRAM

City of Mobile
GIS Department
gis@cityofmobile.org

MS4 MAJOR OUTFALL SCREENING SCHEDULE

MS4 Boundary
Roads
Interstate
Stream
State / Federal Hwy
Tunnel
Water

N

FIGURE 5-1

0.75 0.375 0 0.75
Miles

PRINT DATE: 12/29/2021

The City's IDDE Program describes the approach and use of best available technology for completing an ORI to identify and screen outfalls. A mobile application was used to convert the ORI form into an electronic format. This mobile application provides field crews with the following enhanced capabilities:

- GPS mapping to facilitate outfall location;
- Electronic data collection;
- Minimize the types of equipment needed for field work;
- Ability to report a problem immediately when it is discovered;
- Ability to automatically create an outfall screening report; and,
- Data collected is easily converted to a format for ArcGIS.

Data collected during the ORI is maintained in the City's GIS dataset for the outfall inventory. Screen shots of the mobile application are provided in Figure 5-2. An example of the Outfall Screening Form is provided in the Appendix E.

5.10.2. Screening Data

Information and data collected for each outfall is summarized on Outfall Screening Form. Information and data that will be collected for each major outfall includes the following:

Section 1 – Outfall Information
- Coordinates

Section 2 – Outfall Type
- Outfall Type
- Condition
- Shape
- Material
- Dimensions
- Submerged

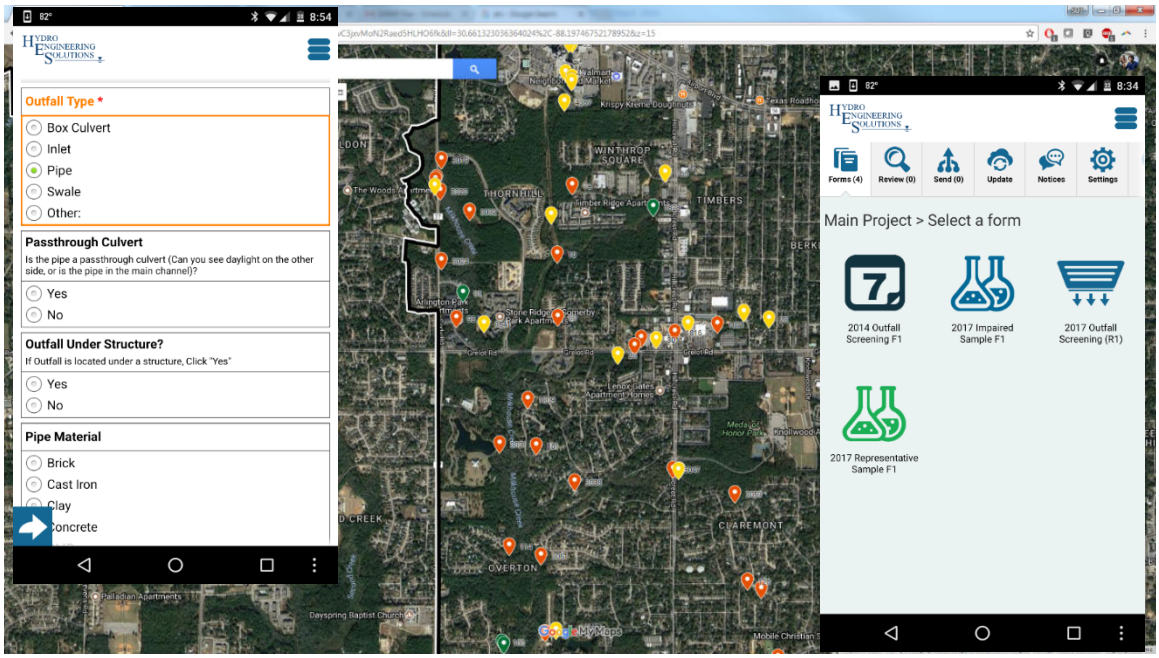
Section 3 – Flow Observation
- Flow Present
- Suspect Illicit Discharge
- Comments

Section 4 – Physical Indicators
- Indicator
- Relative Severity Index
- Comments

Section 5 – Photographs

- Pictures
- Captions

Figure 5-2 Mobile Application Screen Shots



Chapter 11 of the Outfall Reconnaissance Inventory of the Illicit Discharge Detection and Elimination Guidance Manual provides direction in completing the Outfall Screening Form.

5.11. Outfall Inventory

In previous permit years, the City has located and mapped a total of 1,132 outfalls within the City. Of the 1,132 outfalls, only 523 outfalls were considered major outfalls as defined by the City's NPDES permit. A major outfall is defined as:

> *"Major outfall" is the point(s) where the MS4 discharges to a water of the State from (1) a pipe (or closed conveyance) system with a cross-sectional area equal to or greater than 7.07 square feet (e.g., if a single circular pipe system, an inside diameter of 36 inches or greater), (2) a single conveyance other than a pipe, such as an open channel ditch, which is associated with a drainage area of more than 50 acres, (3) a pipe (or closed conveyance) system draining "industrial land use" with a cross-sectional area equal to or greater than 0.79 square feet (e.g., if a single circular pipe system, an inside*

diameter of 12 inches or greater), (4) or a single conveyance other than a pipe, such as an open channel ditch, which is associated with an "industrial land use" drainage area of more than 2 acres; For the purpose of this permit, outfalls of the "double barrel" type, whose combined cross-sectional area is greater than 7.07 square feet, equivalent to a single circular pipe outfall with an inside diameter of 36 inches or greater, are also considered major outfalls.

The City's minimum pipe size requirement for storm sewers is 18-inches diameter. Storm sewer pipes smaller than 18-inch diameter are not part of the City's MS4. The City's major outfall inventory is presented in Figure 5-3.

5.12. Suspect Non-Storm Water Discharges

If a suspect non-storm water discharge is encountered during the outfall reconnaissance inventory at a major outfall, field personnel may take the following steps to identify and locate a suspect non-storm water discharge.

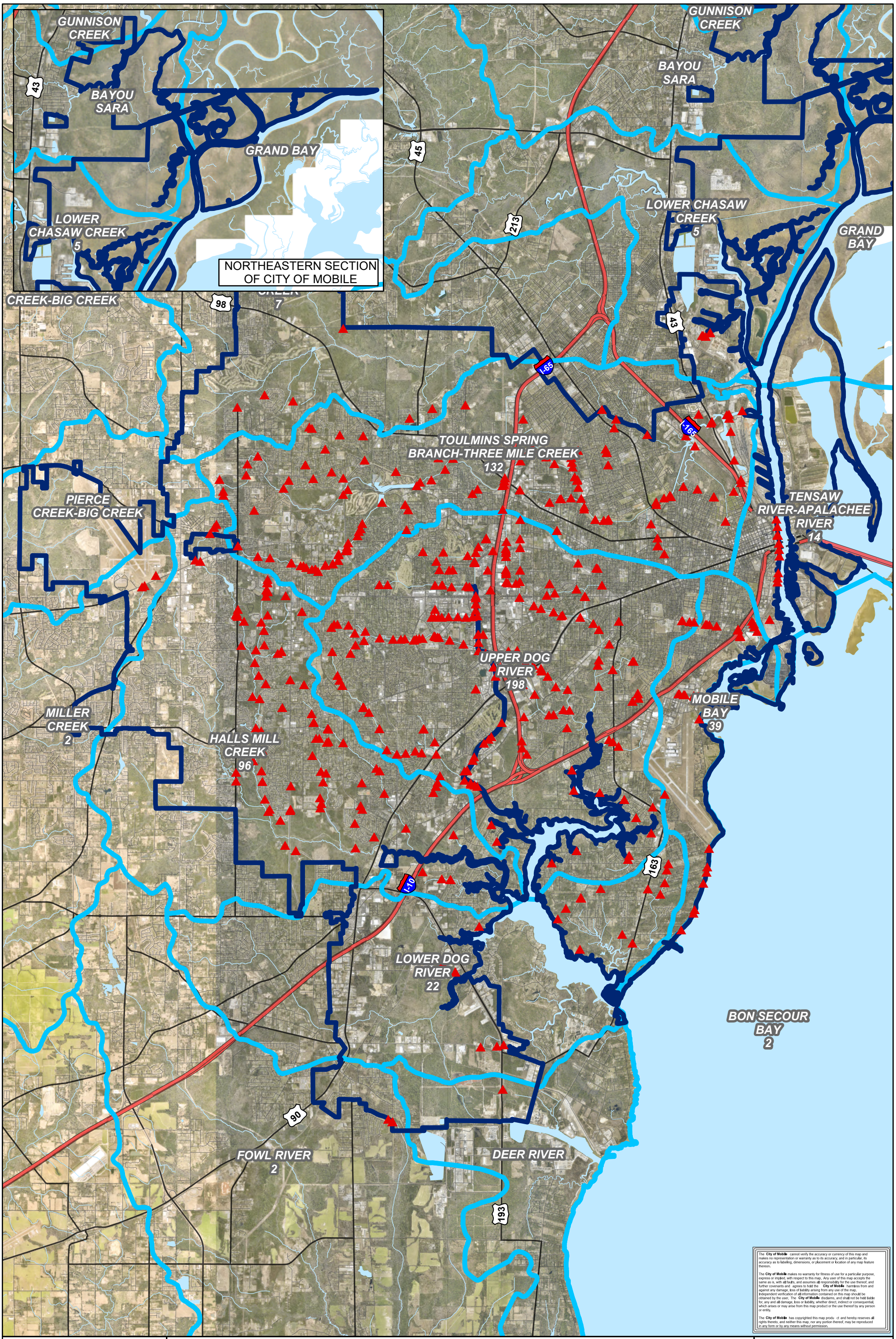
- Evaluate physical indicators of the suspect non-storm water discharge;
- Evaluate indicator parameters of the suspect non-storm water discharge;
- Try to identify the source of the suspect non-storm water discharge; and/or,
- Collect a sample of the suspect non-storm water discharge.

5.12.1. Field Screening

If a suspect non-storm water discharge is encountered, field personnel shall evaluate the physical indicators of the suspect non-storm water discharge and document the findings on an ORI Field Sheet. Field personnel shall also estimate the flow and/or volume of the suspect non-storm water discharge. If the initial screening observations and/or data indicate a suspect non-storm water discharge, field personnel may evaluate the indicator parameters listed in Table 5-1 using a field screening kit.

Table 5-1 Field Screening Parameters

• Ammonia	• Chlorine	• Phosphate
• Potassium	• Conductivity	• Detergents
• Nitrate	• Nitrite	• Temperature
• Conductivity	• TDS	• pH



CITY OF MOBILE MS4 PROGRAM

City of Mobile
GIS Department
gis@cityofmobile.org

MS4 MAJOR OUTFALLS

Major Outfall
Watershed
Water
MS4 Boundary
Stream

N

FIGURE 5-3

0.75 0.38 0 0.75
Miles

PRINT DATE: 10/2/2024

Results of indicator parameters shall be recorded on the ORI form. If the physical indicators and/or indicator parameters indicate a suspect non-storm water discharge, field personnel may proceed in locating the source of the suspect non-storm water discharge.

5.12.2. Sample Collection

If a discharge from a major outfall exhibits a physical characteristic of a non-storm water discharge and/or the source of the suspect non-storm water discharge cannot be easily identified, field personnel may collect a grab sample of the discharge. The sample shall be shipped to an independent laboratory and analyzed for the following parameters.

Table 5-2 Laboratory Screening Parameters

- Ammonia
- Turbidity
- E. Coli
- Hardness
- Chlorine
- Conductivity
- Total Coliform
- Potassium
- Surfactants
- Detergents
- Fluoride
- Fecal

The City shall use the sample collection protocol provided in Appendix G of the Illicit Discharge Detection and Elimination Guidance Manual. Analytical methods for samples submitted to an independent laboratory shall be in accordance with 40 CFR 136.

5.12.3. Evaluation of Results

The Illicit Discharge Detection and Elimination Guidance Manual recommends the use of the Flow Chart Method for identifying the type of non-storm water discharge. The Flow Chart Method is recommended because it is a relatively simple technique that analyzes four or five indicator parameters that are safe, reliable, and inexpensive to measure. The basic decision points involved in the Flow Chart Method for a residential area are shown in Figure 5-4.

5.13. Locating and Removing Illicit Discharges

When episodic, incidental pollution is reported to the City (e.g. motor oil dumped into a storm drain), the City shall record the date, location, information source, and description of the event. If necessary, field personnel shall be sent to investigate and to determine if the site should be cleaned (e.g. removal of yard waste,

containment of oil, etc.). After inspection and/or cleanup, the City shall keep a record of all actions taken regarding the incident.

5.13.1. Locating Illicit Discharges

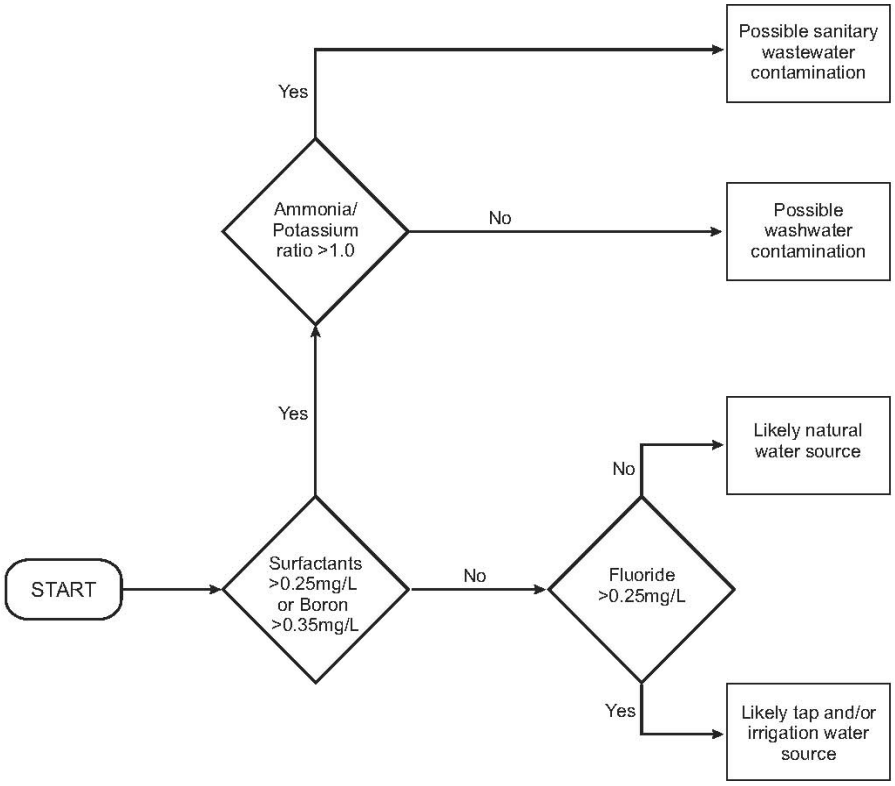
If a suspect non-storm water discharge is identified during the ORI, field personnel shall try to locate the source of the non-storm water discharge before proceeding to the next outfall. Field personnel shall employ the following techniques to locate the suspect non-storm water discharge.

- Storm Sewer System Evaluation – Field personnel shall attempt to follow the suspect non-storm water discharge up the storm sewer system to identify its source.
- Drainage Area Evaluation – Field personnel shall conduct a "windshield" survey of the drainage area to identify its source.
- If the source of a non-storm water discharge is located, field personnel shall report the location and source of the non-storm water discharge to the City.

Upon receipt of the analytical results from samples collected of the suspect illicit discharge, the Engineering Department shall coordinate and/or perform a more detailed investigation to identify the source of a suspect illicit discharge.

- Analytical Results Evaluation – Evaluate the analytical results to characterize the type of illicit discharge.
- Detailed Storm Sewer System Evaluation – Using best available maps and data, attempt to follow the suspect illicit discharge up the storm sewer system to identify its source. Investigation methods may include dye tracing, video inspection of storm sewer system, specialized contractors, and other methods as appropriate.
- Drainage Area Evaluation – Review the land used and types of facilities located within the drainage area. Conduct a survey of potential generating sites to identify the source of the non-storm water discharge.

Figure 5-4 Flow Chart to Identify Illicit Discharges in Residential Areas



5.13.2. Removing Illicit Discharges

After the source of a non-storm water discharge has been identified, the Engineering Department shall take appropriate actions to abate the non-storm water discharge.

5.13.3. Sanitary Sewer System

The majority of the City is serviced by a sanitary sewer system operated by Mobile Area Water and Sanitary Sewer (MAWSS). If the City observes any problems with the sanitary sewer system, the City shall report the problem to MAWSS at:

MAWSS
MAWSS Park Forest Plaza
4725 Moffett Road
Mobile, Alabama 36618
Phone (251) 694-3100

The City shall track sanitary sewer overflows (SSO) that occur within the City on a SSO Tracking Summary Form. The information contained in this form is provided to the City by MAWSS. An example of the SSO Tracking Summary Form is provided in Appendix E.

5.13.4. On-Site Wastewater Treatment Systems

Some residents utilize an on-site sewage disposal system. The Alabama Department of Public Health has the regulatory authority for the design, permitting, construction and maintenance of individual on-site sewage disposal systems.

If the City observes any problems with an on-site sewage disposal system, the City shall report the problem to:

Mobile County Health Department
Onsite Division
251 North Bayou Street
Mobile, Alabama 36603
Phone (251) 634-9803

5.13.5. Spill Response

The City's Fire-Rescue Department are responsible for responding to any type of public spill that may occur within the City. If a spill enters the MS4, the Fire-Rescue Department shall notify the Engineering Department. The Engineering Department shall evaluate the impacts of the spill on the MS4 and ensure appropriate corrective measures are taken to abate the spill. Follow-up inspections of the affected area shall be performed as needed.

Any spills associated with City equipment and/or facilities are handled by the City's Spill Crew. The Spill Crew takes any appropriate corrective measures to abate the spill. If a spill occurs that exceeds the response capabilities of the Spill Crew, additional assistance may be provided by an outside contractor.

5.14. Enforcement

An effective IDDE Program uses an escalating scale of enforcement action to abate illicit discharges. Enforcement actions provided in Section 17-14 of the Storm Water Management and Flood Control Ordinance is described in the following sections. In order to track illicit discharges and enforcement actions, the City shall use the 311system as a tracking mechanism by generating a Service

Request Order (SRO) and an IDDE and Enforcement Tracking Form. An example of the IDDE and Enforcement Tracking Form is provided in Appendix E.

5.14.1. Verbal Warning

When the City has reason to believe that any person or legal entity has violated or continues to violate any provision of the Storm Water Management and Flood Control Ordinance or any order issued, the City may serve that person with a Verbal Warning specifying the violation to have occurred and requesting that the discharger immediately seek to cease any offending discharge.

If the violation is not corrected immediately, the City shall determine if the enforcement action should be escalated to a Notice of Violation.

5.14.2. Notice of Violation

When the City has reason to believe that any person or legal entity has violated or continues to violate any provision of the Storm Water Management and Flood Control Ordinance or any order issued, the City may serve that person with a Notice of Violation and request the offender to immediately seek a remedy to resolve the violation. This Notice of Violation shall contain:

1. The name and address of the alleged violator;
2. The address of the Premises (when available) or a description of the building, structure or land upon which the violation is occurring or has occurred;
3. A citation to the section of the ordinance which has been alleged to have been violated; and
4. A statement specifying the nature of the violation.

The City may require without limitation:

1. The performance of monitoring, analyses, and reporting;
2. The elimination of illicit connections and/or illicit discharges;
3. That violating discharges, practices, or operations shall cease and desist;
4. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property;
5. Payment of an amount equal to administrative and remediation; and/or,
6. The implementation of source control or treatment BMPs.

If the violation is not corrected within the time frame specified in the Notice of Violation, the City shall determine if the enforcement action should be escalated to Municipal Offense Ticket.

5.14.3. Municipal Offense Ticket

When the City has reason to believe that any person or legal entity has violated or continues to violate any provision of the Storm Water Management and Flood Control Ordinance or any order issued, the City may serve that person with a Municipal Offense Ticket and request the offender to immediately seek a remedy to resolve the violation. The Municipal Offense Ticket shall contain:

1. The name and address of the alleged violator;
2. The address of the Premises (when available) or a description of the building, structure or land upon which the violation is occurring or has occurred;
3. A citation to the section of the ordinance which has been alleged to have been violated;
4. A statement specifying the nature of the violation;
5. Scheduled court date and/or pay date; and,
6. The amount of the scheduled fine for the offense.

The City may require without limitation:

1. The performance of monitoring, analyses, and reporting;
2. The elimination of illicit connections and/or illicit discharges;
3. That violating discharges, practices, or operations shall cease and desist;
4. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property;
5. Payment of an amount equal to administrative and remediation; and/or,
6. The implementation of source control or treatment BMPs.

If an illicit discharge enters waters of the state, the City shall notify ADEM.

5.14.4. Fines

Fines provided by the Storm Water Management and Flood Control Ordinance include the following:

1. First Violation - The fine of sixty dollars ($60.00) shall be assessed for a first violation of this ordinance.
2. Second Violation - The fine of one hundred and fifty dollars ($150.00) shall be assessed for a second violation of this ordinance within a 30-day period.
3. Third or Subsequent Violation - For a third or subsequent violation committed by the owner during a 30-day period or longer, the violation will be adjudicated, and the penalty determined by the municipal judge.
4. If after a ninety (90) day period, all violations of this ordinance have been rectified and no additional violations have occurred during that ninety (90) day period, then any further violations of this ordinance will be assessed as a first violation.
5. Right to Appeal – A person convicted and/or found guilty for a violation of the ordinance may appeal within 14 days to Mobile County Circuit Court for trial de novo.

5.15. Program Goals and Evaluation

The City has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing the IDDE program. Program goals are summarized in Table 5-3.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness of IDDE program. Results of the program evaluation will be summarized in the Annual Report.

Table 5-3 Illicit Discharge Detection and Elimination – Program Goals

Program Component	BMP Description	Frequency	Responsible Department
Legal Authority	Stormwater Management and Flood Control Ordinance	Update as needed	Engineering
Outfall Inventory	Outfall inventory and evaluation schedule	Update as needed	Engineering
	Outfall evaluation inspection form	Update as needed	
	Outfall map	Update as needed	GIS
	Outfall evaluation and screening	Each Outfall Once / 5 years	Engineering
	Evaluate priority areas for additional screening	Update as needed	
	Training	As needed	
Illicit Discharges	Complaint tracking system – Mobile 311	Update as needed	Mobile 311
	Illicit discharge inspection form	Update as needed	Engineering
	Illicit discharge investigations	Track	Engineering Inspection Services Public Services
Program Evaluation	Evaluate program effectiveness	Annually	Engineering
All Components	Evaluate Annexed Areas	Update as needed	Engineering

SECTION 6

Construction Site Storm Water Runoff Control

6. Construction Site Storm Water Runoff Control

6.1. Introduction

The variety of pollutants present at a construction site and the severity of their potential effects to receiving waters are dependent upon several factors.

- Nature of construction activity – During clearing and grading activities, the primary pollutant of concern is sediment. As the construction activity progresses in the building phase, other potential pollutants of concern include concrete wash, paints, stucco, pesticides, herbicides, fertilizers, cleaning solvents, asphalt products, scrap wood, metal, glass, trash debris, etc.

- Physical characteristics of the construction site – Potential pollutants at a construction site are carried off in storm water runoff. Construction sites can potentially increase the intensity and volume of storm water runoff resulting in an increase of pollutant loadings.

- Proximity of surface waters – The closer the construction activity is to a surface water increase the potential impacts to surface waters.

The City has developed and is implementing a Construction Site Storm Water Runoff Control Program to monitor and control pollutants in storm water discharges to the MS4 from the following land disturbing activities.

- Tier 1 Qualifying Construction Site – Land disturbance activity equal to or greater than one (1) acre or land disturbance involving less than one (1) acre that is part of a larger common plan of development; and

- Tier 2 Construction Site – All other land disturbance activities that are not exempted from obtaining a land disturbance permit.

This Construction Site Storm Water Runoff Control Program has been developed using the following guidance materials:

- Developing Your Storm Water Pollution Prevention Plan, A Guide for Construction Sites, Environmental Protection Agency, EPA 833-R-06-004, May 2007; and,

- Alabama Handbook for Erosion Control, Sediment Control, and Storm Water Management on Construction Sites and Urban Areas, Alabama Soil and Water Conservation Committee, September 2014.

These documents are incorporated into the SWMP Plan by reference and are available in the office of the City Engineer.

The City's Construction Site Storm Water Runoff Control Program shall include the activities included in Part II.B.4 of the NPDES Permit.

6.2. Program Administration

Engineering is responsible for the development and implementation of the Construction Site Storm Water Runoff Control Program. The City has developed a list of Frequently Asked Questions that describes the various types of construction that occur in the City and the requirements for a land disturbance permit. A copy of the Frequently Asked Questions is provided in Appendix F.

6.3. Legal Authority

On 8 July 2014, the City of Mobile adopted revisions to the Storm Water Management and Flood Control Ordinance (Ordinance No. 17-025-2014) to incorporate requirements of the City's new MS4 NPDES Permit. This ordinance establishes requirements for permitting, Best Management Practices (BMPs) and enforcement options for qualifying construction sites.

The latest version of the Storm Water Management and Flood Control Ordinance is incorporated into the SWMP Plan by reference and is available on the City's website at:

https://www2.municode.com/library/al/mobile/codes/code_of_ordinances?nodeId=CICO_CH64ZO&showChanges=true

6.4. Complaint Tracking System

The City has implemented the Mobile 311 hotline for citizens to report suspect issues with construction sites and/or to report incidents that may potentially impact the City's MS4. A citizen can report any issue of concern by calling 311 or 208-5311 or by going online to:

http://311.cityofmobile.org/311react/mainwelcome.aspx

6.5. Requirements and Control Measures

City of Mobile's Construction Site Storm Water Runoff Control Program requires owners and/or operators of construction sites to select, design, install, implement, inspect, and maintain effective BMPs to minimize the discharge of pollutants into the MS4 to the MEP.

6.5.1. Erosion and Sediment Controls

The owner and/or operator shall select, design, install, implement, inspect, and maintain BMPs appropriate to specific site conditions to, at a minimum:

1. Control storm water runoff within the site to minimize soil erosion;
2. Control storm water discharges to minimize erosion at outlets and to minimize downstream channel and stream bank erosion;
3. Minimize the amount of soil exposed during construction activity through the use of project phasing;
4. Minimize the disturbance of steep slopes;
5. Minimize sediment discharges from the site;
6. Minimize the generation of dust and off-site tracking of sediment from vehicles;
7. Stabilize all construction entrances and exits;
8. Minimize soil compaction and preserve topsoil;
9. Provide and maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible; and,
10. Implement measures or requirements to achieve the pollutant reductions consistent with a TMDL finalized or approved by EPA.

6.5.2. Soil Stabilization

Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding ten (10) calendar days.

6.5.3. Dewatering

Discharges from dewatering activities, including discharges from dewatering of trenches and excavations are prohibited unless managed by appropriate BMPs.

6.5.4. Pollution Prevention Measures

The owner and/or operator shall select, design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented, and maintained to:

1. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, concrete truck washout, and other wash waters. Wash waters shall be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;

2. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to storm water; and,

3. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

6.5.5. Prohibited Discharges

The following discharges are prohibited:

1. Wastewater from washout of concrete, unless managed by an appropriate BMP;
2. Wastewater from washout and cleanout of stucco, paint, from release oils, curing compounds, and other construction materials;
3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
4. Soaps or solvents used in vehicle and equipment washing;
5. Discharges where the turbidity of such discharge will cause or contribute to a substantial visible contrast with the natural appearance of the receiving water; and,

6. Discharges where the turbidity of such discharge will cause or contribute an increase in the turbidity of the receiving water by more than 50 NTUs above background.

6.5.6. Surface Outlets

When discharging from basins and impoundments the owner and/or operator shall utilize outlet structures that withdraw water from the surface, unless infeasible.

6.6. Training and Education

City personnel involved in the MS4 program may maintain a current certification as a Qualified Credentialed Inspector (QCI). To further support this program element, additional City staff may obtain and maintain either a QCP or QCI certification. Staff shall receive annual refresher training. Copies of the current QCI training certificates shall be included in the Annual Report.

To assist educating private construction operators, the City shall provide materials and links on its website regarding information about the appropriate application and maintenance of erosion and sediment controls.

6.7. Permitting and Plan Review

Before the commencement of any land disturbing activity that is not exempted from obtaining a permit, the owner and/or operator of the construction site is required to submit a permit application and obtain a land disturbance permit. The City has developed a permit checklist, permit application review checklist, and permit certification for each the following types of construction activities:

- Tier 1 Qualifying Construction Site – Land disturbance activity equal to or greater than one (1) acre or land disturbance involving less than one (1) acre that is part of a larger common plan of development; and,

- Tier 2 Construction Site – All other land disturbance activities that are not exempt from obtaining a land disturbance permit.

Additionally, the City has developed a checklist and affidavit for land disturbing activities associated with the construction of a single-family residential structure located in a special flood hazard area.

The City has implemented an online permitting system. As various components of the permit application are reviewed, the reviewer will document their review comments in the online permitting system. This allows the permit applicant to have real time access to the permit application status. Once all comments have been adequately addressed from all disciplines who review the plans, a land disturbance permit is issued.

Part of the Tier 1 Land Disturbance Permit Checklist includes a section to check if a Tier 1 Land Disturbance project has an ADEM permit for construction activities. The project Owner and/or Developer shall provide proof of coverage under ADEM's permit for construction activities before the City will issue a Land Disturbance Permit.

As projects located within the annexed areas are being permitted by the City, the projects shall be incorporated into the City's inventory. Existing projects permitted by Mobile County will not be incorporated into the City's inventory.

Copies of the permit checklist, permit application review checklist, permit certification, and affidavit are provided in Appendix F. The permitting and plan review process is presented in Figure 6-1.

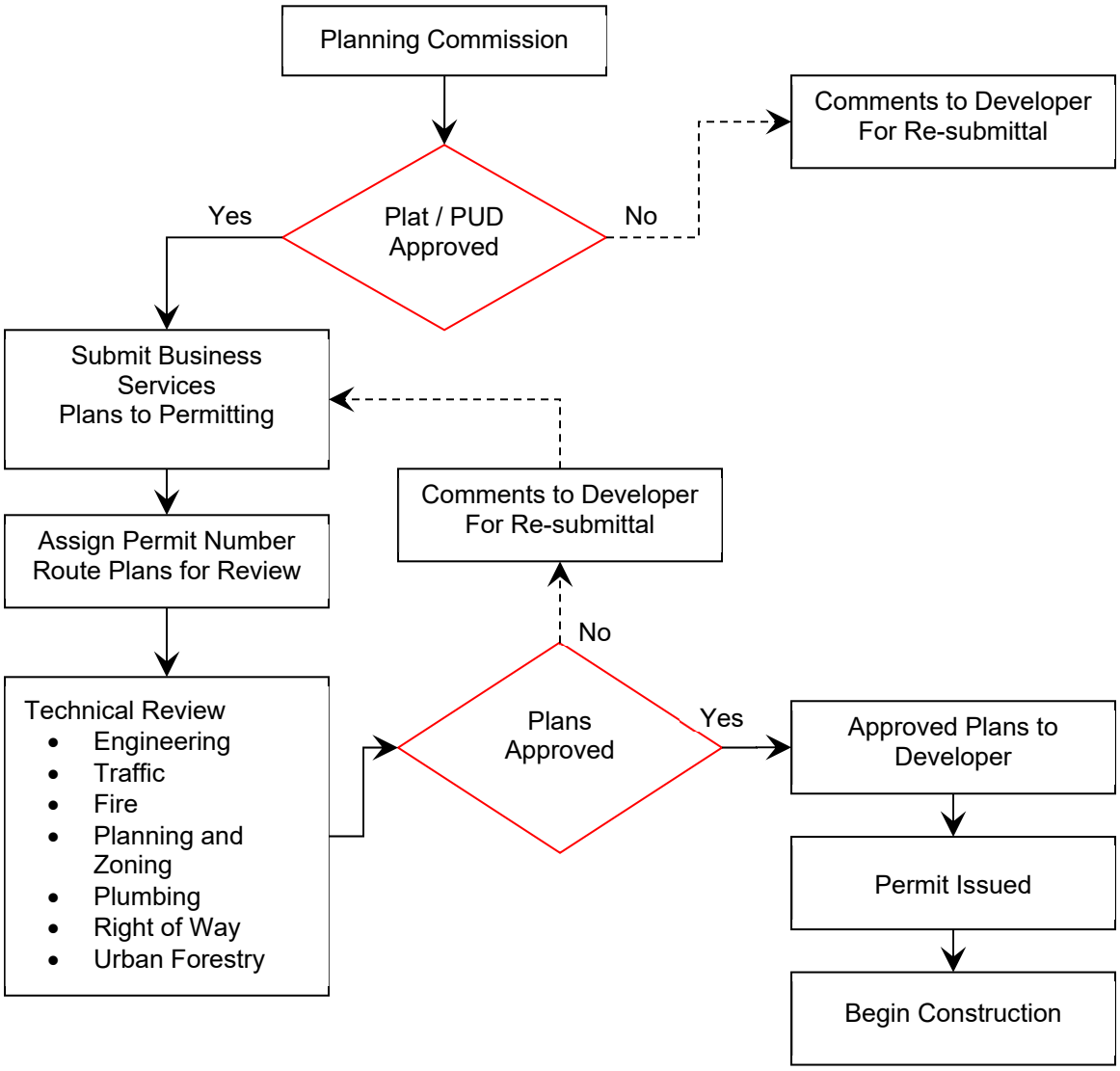
6.8. Construction Site Inventory

The City shall continuously maintain an updated inventory of all active construction sites within the City's MS4 area. A Construction Site Violation spreadsheet is used to track violations, enforcement, and compliance status of active construction sites. Information documented on this spreadsheet is shown on the Construction Site Enforcement Actions Summary Form included in Appendix F.

6.9. Inspections

After a land disturbance permit has been issued, the project shall be assigned to one of the City's inspectors. The inspector shall review the CBMP Plan, design plans, and all applicable project documents. All inspections and activities associated with the project shall be tracked by the permit number.

Figure 6-1 Permit and Plan Review Flow Chart



6.9.1. Inspections

Inspections shall be performed for construction sites that discharge into the City's MS4. A construction site that discharges directly to waters of the United States is not covered by the City's MS4 Permit. Inspections for Priority Construction Sites and construction sites the City has identified as a significant threat to water quality shall occur, at a minimum, monthly. Inspections for all other construction sites shall occur, at a minimum, every two months. Inspections shall address the following:

- Inspect all discharge points from the site;
- Inspect perimeter controls;
- Compare installed BMPs with the CBMP Plan;
- Inspect disturbed areas not currently being worked;
- Inspect areas with final stabilization; and,
- Inspect perimeter areas.

At the City's discretion, the inspection frequency may be increased depending upon the following:

- Status of construction;
- Site conditions;
- Site size;
- Site location;
- Site proximity to sensitive waters and/or areas;
- Type of construction;
- Historical performance and/or issues with the Developer; or,
- Significant storm events.

If deficiencies are noted during the inspection, the inspector shall discuss the nature of the deficiencies with the Developer. If all deficiencies have been corrected, the inspector shall approve the inspection and allow the Developer to proceed with construction of the project. The inspector shall document the results of the inspection.

6.9.2. Final Inspection

Upon completion of all construction activity and receipt of as-built certification, the Developer shall request a final inspection. The inspection may address the following:

- Inspect all discharge points from the site;
- Inspect areas with final stabilization; and,
- Inspect perimeter areas.

If deficiencies are noted during the inspection, the inspector shall discuss the nature of the deficiencies with the Developer and the Developer shall be asked to reschedule the final inspection. The inspector shall document the results of the inspection and schedule the site for re-inspection.

If the site passes the final inspection, the inspector shall document the results of the inspection and close the permit.

6.10. Enforcement

An effective Construction Site Storm Water Runoff Control Program uses an escalating scale of enforcement action to abate construction site issues and illicit discharges. Enforcement actions provided in Section 17-14 of the Storm Water Management and Flood Control Ordinance are described in the following sections. To track enforcement actions on construction sites, the City shall use a Construction Site Enforcement Actions Summary Form. An example of the Construction Site Enforcement Actions Summary Form is provided in Appendix F.

6.10.1. Verbal Warning

When the City has reason to believe that any person or legal entity has violated or continues to violate any provision of the Storm Water Management and Flood Control Ordinance or any order issued, the City may serve that person with a Verbal Warning specifying the violation to have occurred and requesting that the discharger immediately seek to cease any offending discharge.

If the violation is not corrected immediately, the City shall determine if the enforcement action should be escalated to a Notice of Violation, Municipal Offense Ticket, or a Stop Work Order.

6.10.2. Notice of Violation

When the City has reason to believe that any person or legal entity has violated or continues to violate any provision of the Storm Water Management and Flood Control Ordinance or any order issued, the City may serve that person with a Notice of Violation and request the offender to immediately seek a remedy to resolve the violation. This Notice of Violation shall contain:

1. The name and address of the alleged violator;
2. The address of the Premises (when available) or a description of the building, structure or land upon which the violation is occurring or has occurred;
3. A citation to the section of the ordinance which has been alleged to have been violated; and,
4. A statement specifying the nature of the violation.

The City may require without limitation:

1. The performance of monitoring, analyses, and reporting;
2. The elimination of illicit connections and/or illicit discharges;
3. That violating discharges, practices, or operations shall cease and desist;
4. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property;
5. Payment of an amount equal to administrative and remediation; and/or,
6. The implementation of source control or treatment BMPs.

If the violation is not corrected within the time frame specified in the Notice of Violation, the City shall determine if the enforcement action should be escalated to Municipal Offense Ticket or Stop Work Order.

6.10.3. Municipal Offense Ticket

When the City has reason to believe that any person or legal entity has violated or continues to violate any provision of the Storm Water Management and Flood Control Ordinance or any order issued, the City may serve that person with a Municipal Offense Ticket and request the offender to immediately seek a remedy to resolve the violation. The Municipal Offense Ticket shall contain:

1. The name and address of the alleged violator;
2. The address of the Premises (when available) or a description of the building, structure or land upon which the violation is occurring or has occurred;
3. A citation to the section of the ordinance which has been alleged to have been violated;
4. A statement specifying the nature of the violation;
5. Scheduled court date and/or pay date; and,
6. The amount of the scheduled fine for the offense.

The City may require without limitation:

1. The performance of monitoring, analyses, and reporting;
2. The elimination of illicit connections and/or illicit discharges;
3. That violating discharges, practices, or operations shall cease and desist;

4. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property;
5. Payment of an amount equal to administrative and remediation; and/or,
6. The implementation of source control or treatment BMPs.

Upon issuance of a Municipal Offense Ticket, the City may notify ADEM regarding status of the construction violation.

6.10.4. Stop Work Order

In the event that any person holding a permit pursuant to the ordinance violates the terms of said permit or implements site development in such a manner as to materially adversely affect the health, welfare, or safety of persons residing or working in the neighborhood or development site so as to be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood, the City may immediately suspend or revoke the permit, without issuing a Notice of Violation or Municipal Offense Ticket.

6.10.5. Fines

Fines provided by the Storm Water Management and Flood Control Ordinance include the following:

1. First Violation - The fine of sixty dollars ($60.00) shall be assessed for a first violation of this ordinance.

2. Second Violation - The fine of one hundred and fifty dollars ($150.00) shall be assessed for a second violation of this ordinance within a 30-day period.

3. Third or Subsequent Violation - For a third or subsequent violation committed by the owner during a 30-day period or longer, the violation will be adjudicated, and the penalty determined by the municipal judge.

4. If after a ninety (90) day period, all violations of this ordinance have been rectified and no additional violations have occurred during that ninety (90) day period, then any further violations of this ordinance will be assessed as a first violation.

5. Right to Appeal – A person convicted found guilty for a violation of the ordinance may appeal within 14 days to the Mobile County Circuit Court for trial *de novo*.

6.11. Program Goals and Evaluation

The City has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing the Construction Site Storm Water Runoff Control Program. Program goals are summarized in Table 6-1.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness of Construction Site Storm Water Runoff Program. Results of the program evaluation will be summarized in the Annual Report.

Table 6-1 Construction Site Stormwater Runoff Control – Program Goals

Program Component	BMP Description	Frequency	Responsible Department
Legal Authority	Stormwater Management and Flood Control Ordinance	Update as needed	Engineering
Permitting and Plan Review	Land Disturbance Permit Application	Update as needed	Engineering
	Tier 1 – Land Disturbance Permit Checklist	Update as needed	
	Tier 1 – Land Disturbance Permit Application Review Checklist	Update as needed	
	Tier 1 – Land Disturbance Permit Certification	Update as needed	
	Tier 1 – Land Disturbance Performance Bond Letter	Update as needed	
	Tier 1 – Land Disturbance Performance Bond	Update as needed	
	Tier 2 – Land Disturbance Permit Checklist	Update as needed	
	Tier 2 – Land Disturbance Permit Application Review Checklist	Update as needed	
	Tracking System	Update as needed	
Complaint Tracking System	Mobile 311	Track	Mobile 311
Inventory	Construction Site Inventory	Track	Engineering
Inspections	Inspection Form	Update as needed	Engineering
	Priority Construction Site Inspections	Monthly	
	Other Construction Site Inspections	Every 2 Months	
Enforcement Actions	Number and Type	Track	Engineering
Training & Education	QCI Training	Annually	Engineering
	Website Education Materials	Update as needed	
Program Evaluation	Evaluate Program Effectiveness	Annually	Engineering
All Components	Evaluate Annexed Areas	Update as needed	Engineering

SECTION 7

Post Construction
Storm Water Management

7. Post Construction Storm Water Management

7.1. Introduction

Post construction runoff generally has two types of impacts. First, developed areas may increase the type and quantity of pollutants in storm water runoff. When storm water flows over areas altered by development, it has the potential to pick up a variety of pollutants including but not limited to trash, debris, sediment, oil, grease, pesticides, heavy metals and/or nutrients, and carry these pollutants to the streams and lakes. Second, development may increase impervious surfaces resulting in a quantity increase of storm water runoff. Increased impervious surfaces like buildings and parking lots interrupt the natural cycle of gradual percolation of storm water through the vegetation and soil. Instead, storm water is collected on the impervious surface and conveyed to drainage systems where increase volumes of storm water runoff enter the stream quickly. As a result, stream banks are more susceptible to scouring and the downstream areas have a higher potential of flooding.

The NPDES permit requires the City to develop, implement, and enforce a program to address storm water discharges from qualifying new development and redevelopment projects. Goals of this program are to:

- Retain the pre-disturbance hydrological conditions of both surface and groundwater;
- Remove suspended solids and associated pollutants entrained in storm water runoff that result from activities occurring during and after development;
- Decrease the erosive potential of increased runoff volumes and velocities associated with development;
- Preserve natural systems including in-stream habitat, riparian areas, and wetlands; and,
- Reduce the thermal impacts that result from impervious surfaces and treatment devices with large amounts of surface exposed to sunlight such as wet ponds.

The City's Post Construction Storm Water Management in New Development and Re-Development Program shall include the activities included in Part II.B.5 of the NPDES Permit.

7.2. Program Administration

The Planning Department shall be responsible for the planning activities and documents. The Engineering Department shall be responsible for establishing design standards, plan review, as-built certification, inspection, and maintenance requirements for post construction structural BMPs.

7.3. Legal Authority

On 8 July 2014, the City of Mobile adopted revisions to the Storm Water Management and Flood Control Ordinance (Ordinance No. 17-025-2014) to incorporate requirements of the City's new MS4 NPDES Permit. This ordinance establishes requirements for post construction storm water management in qualifying new developments and redevelopments.

The latest version of the Storm Water Management and Flood Control Ordinance is incorporated into the SWMP Plan by reference and is available on the City's website at:

https://www2.municode.com/library/al/mobile/codes/code_of_ordinances?nodeId=CICO_CH64ZO&showChanges=true

The City updated its Zoning Ordinance on 12 July, 2022 to adopt a Unified Development Code (UDC). On 19 January 2023, the City adopted revisions to the Subdivision Regulations.

7.4. Planning and Regulations

Post construction storm water management involves the implementation of structural and/or non-structural BMPs to provide permanent storm water management over the life of a property's use. It is important to recognize that many BMPs are climate dependent and not all BMPs are suitable for every site. The City shall evaluate and identify BMPs that are suitable for this area and are within the City's regulatory control.

Non-structural BMPs may include but not limited to the following:

- Design standards;
- Plan review and approval procedures;
- Post construction BMP evaluation and inspection procedures; and,
- BMP maintenance requirements.

The City has spent considerable resources to develop regional and localized master development plans that evaluate existing land uses, development patterns, redevelopment patterns, and natural resources within the City. The City is responsible for this effort and has developed a mission statement:

> *"To administer and enforce the City's codes, ordinances, and regulations pertaining to planning, development, and property maintenance in a professional manner; and to conduct these services with integrity and equality for each customer to ensure the best quality development and living environment for the City and its citizens"*

The City has prepared numerous planning documents to help the City develop in a sustainable manner. Planning documents include but are not limited to the following:

- Map for Mobile, Framework for Growth
- Comprehensive Plan;
- Downtown Development District Code;
- New Plan for Mobile;
- Comprehensive Plan – Major Street Plan Map;
- Green Space Plan – Map;
- Smart Growth for Mobile Implementation Initiatives; and
- Smart Growth for Mobile Policy.

Copies of these documents are available on the Planning and Development website at http://urban.cityofmobile.org/.

The City's Storm Water Management and Flood Control Ordinance, Zoning Ordinance and Subdivision Regulations provide the regulatory mechanism for the City to implement and enforce a post-construction storm water management program.

7.5. Program Components

There are a variety of structural BMPs capable of not only managing the volume and velocity of storm water runoff, but also provide very effective treatment of

storm water runoff. Structural BMPs may include but are not limited to the following:

- Storm water retention / detention basins;
- Infiltration basins / trenches;
- Proprietary structural devices;
- Pervious pavement;
- Grass swales;
- Filter strips;
- Constructed wetlands;
- Rain barrels; and,
- Rain gardens.

As the City's post construction storm water management program develops, the City will evaluate and identify the most appropriate BMPs to ensure, to the MEP, that post construction runoff mimics pre-construction hydrology. A 1.14 inches rainfall over a 24-hour period preceded by a 72-hour antecedent dry period shall be the basis for the design and implementation of post-construction BMPs.

7.5.1. Low Impact Development

The City shall encourage landowners and developers to incorporate the use of low impact development (LID) into development plans. The City has reviewed and adopted the latest version of the *Low Impact Development (LID) Handbook for the State of Alabama*.

In 2020, the City received a RESTORE Act grant to, in part, develop a stormwater Low Impact Development (LID) Manual. The objectives of the project were three-fold: 1) support a future update to the City's 1984 Floodplain Management Plan, which guides stormwater management policy on public and private land in the City; 2) develop policies for best management practices (BMPs) that can be located in Special Flood Hazard Areas; and 3) comply with the City's 2021 NPDES-MS4 permit, which emphasizes the encouragement of LID-BMPs. Publication of the Manual occurred in October 2023, and is currently available to download at www.mapformobile.org/swm.

7.5.2. Urban Canopy

The City has been very proactive in expanding the tree canopy not only in the urban areas of the City, but throughout the City. Benefits of a tree canopy include but are not limited to the following:

- Reduce the heat island effect;
- Reduce flooding;
- Improve storm water quality;
- Improve air quality; and,
- Provide an aesthetical streetscape.

Preserving natural resources is a high priority for the City. The Mobile Tree Commission was established in 1961 to oversee the protection of trees located in the City rights-of-way. In 1992, the Zoning Ordinance was amended to include landscaping, tree planting, and protection requirements. Tree planting and protection requirements in the City rights-of-way are administered and enforced by the Urban Forestry Department that is part of the Public Services Department. On private property, these requirements are administered and enforced by the Planning and Zoning Department.

The Mobile Tree Commission has established permitting requirements for tree removal trimming and/or relocation. The Mobile Tree Commission has developed the following applications and agreement to manage trees on City property:

- Application for Mobile Tree Commission Permit;
- Application for Private Property Tree Trimming, Removal or Relocation; and,
- Temporary Private Pruning Agreement.

A copy of the applications and agreement are provided in Appendix G.

7.5.3. Post Construction Storm Water Management Requirements

Post construction storm water runoff quality is an important component of the City's SWMP. For all qualifying new development or redevelopment, post construction storm water management shall include water quality BMPs to manage the first 1.14 inches of rainfall over a 24-hour period preceded by a 72-hour antecedent dry period that occurs on the project site.

For all projects that require a Tier 1 Land Disturbance Permit, an engineer is required to complete a Land Disturbance Permit Certification stating *"that post-construction site conditions are designed to provide runoff that mimics the pre-development hydrology for 1.2" of rainfall over a 24 hour period preceded by a 72 hour antecedent dry period"*. This certification is provided as part of the Tier 1 Land Disturbance Permit application.

An example of the Land Disturbance Permit Certification form is provided in Appendix G.

7.5.4. Post Construction BMP Plan Review

The City already has a permitting and plan review process that is shown in Figure 6-1. During the development of the Post Construction Storm Water Management Program, the City has incorporated the post-construction BMP plan review into the existing process.

As projects located within the annexed areas are being permitted by the City, the projects shall be incorporated into the City's inventory. Existing projects permitted by Mobile County will not be incorporated into the City's inventory.

7.5.5. Design Requirements

Post-construction storm water quality is an important component of the City's SWMP. For all qualifying new development or redevelopment, post-construction stormwater management shall include water quality BMPs to detain and treat the first 1.2 inches of rainfall that occurs on the project site. To document design information for post-construction BMPs, the City has developed design forms for BMPs that include detention ponds, retention ponds, underground detention, bioretention areas, and hydro dynamic separators. Copies of the design forms are provided in Appendix G.

7.5.6. As-built Certification

As a part of the NPDES permit, the City must ensure the BMPs that have been designed and approved are constructed and operated in accordance with their original design and intent. To confirm that constructed BMPs meet the designer's intent, an as-built certification form has been developed. It is the Owner's responsibility to have as-built information such as pond volume, embankment size and elevations, invert size and elevations, and spillway elevations field surveyed by a Professional Land Surveyor. It is the Engineer-of-Record's responsibility to utilize the field surveyed information to fill out the as-built certification form. The City has developed the following as-built certification forms:

- Engineer's As-Built Certification for ROW Work and Subdivisions Form; and
- Engineer's As-Built Certification for Commercial and Residential Site Work Form.

The As-built Certification is submitted prior to the final inspection and the issuance of the Certificate of Occupancy. An example of each form is provided in Appendix G.

7.5.7. Annual Inspection

For post-construction BMPs to continue to function in accordance with their original design and installation, annual inspections are required by the City's NPDES permit. The City's Storm Water Management and Flood Control Ordinance requires a property owner or responsible party of post-construction BMP(s) to perform an annual inspection of the BMP(s) and provide copies of the inspections to the City by 1 January or such other date designated by the City Engineer. Inspections are to be performed by a QCI or QCP. In the event the property owner or responsible party fails to provide annual inspection records, the City may conduct an inspection of the BMPs and recoup the cost of the inspection from the property owner or responsible party.

7.5.8. Maintenance

In accordance with the Storm Water Management and Flood Control Ordinance, the Owner and/or responsible party of post-construction BMPs is required to create a formal maintenance covenant that must be approved by the City and recorded in the records of the Probate Judge, prior to final plan approval.

It is the responsibility of the Owner and/or responsible party to operate and maintain the storm water management facility and/or BMPs in accordance with the original design intent and approval. If the original Owner or Developer has sold the project or passed ownership on to a Homeowner's Association (HOA), then it is the new Owner or HOA's responsibility to maintain the facility and provide any required inspection and maintenance.

Should maintenance be needed at a facility as a result of the annual inspection, the Owner is required to provide the City with documentation describing the maintenance required and a schedule for completing all maintenance activities. Once all maintenance activities are completed, the Owner is required to provide documentation to the City of the maintenance performed and that the BMP operates as it was designed.

7.6. Program Goals and Evaluation

The City has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing a Post Construction Storm Water Management Program. Program goals are summarized in Table 7-1.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness of Post Construction Storm Water Management Program. The results of the program evaluation will be summarized in the Annual Report.

Table 7-1 Post Construction Storm Water Management – Program Goals

Program Component	BMP Description	Frequency	Responsible Department
Legal Authority	Stormwater Management and Flood Control Ordinance	Update as needed	Engineering Planning and Zoning
	Zoning Regulation	Update as needed	
	Subdivision Regulations	Update as needed	
Post Construction BMPs	Low Impact Development	Encourage	Engineering Planning and Zoning
	Post Construction Stormwater Management Requirements	Update as needed	Engineering
	Plan Review Procedures and Checklist	Update as needed	
	Inventory of Post Construction BMPs	Update as needed	
As-Built Certifications	As-Built Certification Form	Update as needed	Engineering
	As-Built Certifications	Track	
Annual Inspections	Annual Inspections	Track	Engineering
Maintenance	Maintenance Activities	Maintenance Activities	Public Services
Program Evaluation	Evaluate Program Effectiveness	Annually	Engineering
All Components	Evaluate Annexed Areas	Update as needed	Engineering

SECTION 8

Spill Prevention and Response

8. Spill Prevention and Response

8.1. Introduction

The MS4 NPDES permit requires the City to develop a program that will prevent, contain, and respond to spills which might discharge pollutants into the MS4. There are many types of activities, facilities and/or operations that have a potential to cause an accidental or illegal spill. Potential discharges of pollutants into the MS4 resulting from spills can be minimized by implementing proper training, reporting, and response systems.

The spill prevention and response program has been divided into two major categories.

- Spill Prevention requires the implementation of programs, activities, and BMPs that prevent a spill from occurring. This aspect of the program will be focused on City facilities where materials are stored in significant quantities; and

- Spill Response requires immediate action once a spill has occurred. Historically, spill response has been coordinated either through the City's Fire-Rescue Department or the Public Services Spill Crew.

The City's Spill Prevention and Response Program shall include the activities included in Part II.B.6 of the NPDES Permit.

8.2. Program Administration

Spill prevention is primarily applicable to City facilities where vehicles, equipment, and materials are stored. These operations are performed under the supervision of the Engineering, Fleet/Motor Pool, and Public Services Departments.

Spill response associated with spills from vehicle accidents, industrial, and/or commercial facilities are the responsibility of the Fire-Rescue Department. Spill response associated with City vehicles and equipment are the responsibility of Fleet/Motor Pool and coordinated with Engineering. Fleet/Motor Pool also handles all fueling systems and operations at City facilities.

8.3. Program Components

Since spills and leaks can be one of the largest contributors of storm water pollutants, the City has implemented a spill prevention and response program to actively prevent and/or control spills. The City has also developed partnerships with other local agencies to help respond to spills that occur within the City.

8.3.1. Facility Inventory

To provide the most efficient services to the residents, the City has strategically located support facilities throughout the City. Some of the support facilities include fueling stations and/or the storage of petroleum products. If a facility has an aggregate storage capacity greater than 1,320 gallons of petroleum products aboveground or 42,000 gallons underground, the facility is required to develop and implement a Spill Prevention Control and Countermeasures (SPCC) Plan. An inventory of support facilities that handle petroleum products is provided in Table 8-1.

Table 8-1 Petroleum Storage Facilities

Facility	SPCC Plan Required	SPCC Plan Developed
Azalea City Golf Course	No	No
Fire Station No. 7	Yes	Yes
Hurtel Sanitation Facility	Yes	Yes
Langan Park Refueling Station	Yes	Yes
Police Department 3rd Precinct	Yes	Yes
Public Services/Garage Facility	Yes	Yes
Public Safety Complex/4th Precinct	Yes	Yes

The facilities that do not have SPCC Plans have petroleum product quantities that are less than the limit required to implement a program. All fuel storage facilities are inspected monthly or annually, even if a SPCC Plan is not in place.

8.3.2. Spill Prevention

As part of the Industrial Storm Water Runoff Program, the City has developed an inventory of City facilities that have a potential to contribute pollutants to storm water runoff. Each facility shall be inspected and evaluated to determine if additional BMPs are required at the facility to help improve storm water runoff quality. Facilities that store significant quantities of petroleum products are required to have a SPCC Plan. A SPCC Plan typically includes the following components:

- Location of storage areas, storm sewers, surface waters on or near the site;
- Spill prevention controls, equipment, and procedures;
- Spill response procedures;
- Training and inspection requirements; and,
- Contact information and notification procedures.

Spills from other non-petroleum-based products like pesticides, herbicides, and fertilizers can also contribute pollutants to storm water runoff. During the evaluation of each facility, these types of products have been evaluated to determine if additional BMPs are required to help improve storm water runoff quality.

8.3.3. Spill Response

The City has developed and is currently implementing a very effective program to contain and respond to all hazardous and non-hazardous spills. Currently, the City maintains hazardous response personnel and, equipment at 5525 Commerce Boulevard East. If a spill occurs, the Fire-Rescue Department is responsible for responding to and controlling the spill. Depending upon the magnitude of the spill, the Fire-Rescue Department may utilize resources of the City and/or private contractors to respond, contain, and clean up the spill.

The Fire-Rescue Department has developed Hazardous Materials Operation Guidance (HazMat OG) documents that describe various activities associated with spill response that includes:

- HazMat OG 6200 – Hazardous Materials on Scene Operations; and,
- HazMat OG 6300 – Hazardous Materials Notification, Dispatch, Response.

The Fire-Rescue Department has continued to implement a progressive training and response program. Training is provided for a variety of topics to applicable personnel. Supporting documents for spill response are provided in Appendix H. HazMat incidents during the permit year which may impact the MS4 system shall be tracked on the Environmental Incident Investigation Form and Post Spill Inspection Summary Form. An example of the Environmental Incident Investigation Form and Post Spill Inspection Summary Form are provided in Appendix H.

Any spills associated with City equipment and/or facilities are handled by the City's Spill Crew. The Spill Crew takes any appropriate corrective measures to abate the spill. If a spill occurs that exceeds the response capabilities of the Spill Crew, additional assistance may be provided by an environmental contractor.

The City has developed a SOP for reporting spills from City equipment (SOP SR-0116). The SOP describes procedures the vehicle/equipment operator should perform and contact information for City spill cleanup crews. Reportable spills that occur from City equipment and/or facilities shall be documented on an Environmental Incident Investigation Form and tracked on the Spill Prevention and Response Summary Form. An example of the Spill Reporting SOP, Environmental Incident Investigation Form, and Spill Prevention and Response Summary Form are provided in Appendix H.

8.4. Program Goals and Evaluation

The City has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing the Spill Prevention and Response Program. Program goals are summarized in Table 8-2.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness of the Spill Prevention and Response Program. Results of the program evaluation will be summarized in the Annual Report.

Table 8-2 Spill Prevention and Response – Program Goals

Program Component	BMP Description	Frequency	Responsible Department
Spill Prevention	Facility Inventory	Annually	Engineering Public Services
	Facility Inspections	Annually	
	SPCC Plans	Update as needed	
	Training	Annually	
Spill Response	Petroleum Leaks and Spill Guideline	Update as needed	Fire and Rescue & Equipment Services Engineering
	Non-Hazardous Spill Response	Track	
	Hazardous Spill Response	Track	
	Spills Entering MS4	Track	
	Training	Annually	
	Map of Spill Locations	Annually	Engineering
Program Evaluation	Evaluate Program Effectiveness	Annually	Engineering
All Components	Evaluate Annexed Areas	Update as needed	Engineering

SECTION 9

Pollution Prevention and Good Housekeeping

9. Pollution Prevention and Good Housekeeping

9.1. Introduction

Pollution prevention / good housekeeping for municipal operations is a control measure designed to emphasize the operation and maintenance of the MS4 and proper training of City employees. Performing activities in a careful and proper manner prevents and/or reduces the potential of polluting storm water runoff. City operations may include the following:

- Park and open space;
- Fleet and building maintenance;
- New construction and land disturbances;
- Storm sewer system maintenance;
- Roads and highways;
- Municipal parking lots;
- Maintenance and storage yards;
- Waste transfer stations; and,
- Recycling centers.

The City's Pollution Prevention and Good Housekeeping Program shall include the activities included in Part II.B.7 of the NPDES Permit.

9.2. Program Administration

Pollution prevention and good housekeeping basically involves all the City's departments. Departments that are most directly involved include the following:

- Fleet Department;
- Public Services Department;
- Parks Department; and,
- Engineering Department;

9.3. Standard Operating Procedures

The City has developed Standard Operating Procedures (SOPs) for the various activities required for implementing the Pollution Prevention and Good Housekeeping Program. SOPs may include but are not limited to the following:

- SOP ES-0115 Fleet and Vehicle Maintenance;
- SOP ES-0217 Storage and Disposal of Chemical Waste;
- SOP PR-7514 Mowing and Park Maintenance;
- SOP PR-11714 Trash Receptacles;
- SOP PR-12014 Daily Activities;
- SOP PR-12214 Pet Waste;
- SOP PW-0114 Vehicle and Equipment Washing;
- SOP PW 0214 Material Storage Areas;
- SOP PW-0414 Asphalt Street Repair;
- SOP PW-0514 Concrete and Side Walk Repair;
- SOP PW-0614 Dirt and Gravel Roads and Easement Maintenance;
- SOP PW-2217 Street Sweeper;
- SOP PW-0417 Mowing ROW Maintenance;
- SOP RE-0114 External Building Maintenance; and,
- SOP PW-6818 Special Events.

Copies of SOPs are provided in the Appendix I.

9.4. Municipal Facilities

The City provides a wide range of services to its citizens by various City Departments and facilities located throughout the City. The City maintains 93 parks, 102 ball fields and 120 building grounds.

9.4.1. Municipal Facility Inventory

The locations of City Parks are shown in Figure 10-1. Facility operations where maintenance activities are performed and/or chemicals are stored are summarized in Table 12-3 and shown in Figure 12-2. An inventory of all facilities maintained by the City is provided in Appendix I.

9.4.2. Municipal Facility Inspections

The majority of municipal properties consist of parks and athletic fields which are actively utilized by the public throughout the year. Maintenance and upkeep of these facilities are performed on a routine basis. Additional inspections of parks and athletic fields will not be performed.

The City has identified three (3) facilities where operational activities occur to support City services. Good housekeeping inspections are performed once every

two weeks for the support facilities listed in Table 9-1. An example of a Good Housekeeping Checklist is provided in Appendix I.

Table 9-1 Municipal Support Facilities

Facility Name	Department
Body Shop	Fleet/Motor Pool
Garage/ Public Services	Equipment Services/Public Works
Hurtel Street	Equipment Services

As part of the City's Industrial Storm Water Runoff Program, the City has identified municipal facilities that are used for small equipment maintenance and chemical storage. Municipal facilities listed in Table 12-3 shall be inspected on an annual basis.

9.5. Roads

Motor vehicles can generate runoff pollutants through emissions, deposition of exhaust, discharges of fluids and solid particles while traveling and braking. Although the runoff constituents and concentration levels vary with highway type and location, the sources of roadway runoff pollutants typically fall into one of three basic categories:

1. Vehicle traffic;
2. Deicing activities; and,
3. Vegetation management.

Potential pollutant sources from roadways that can affect water quality include:

- Solids generated from pavement wear, tire wear, engine and brake wear can increase turbidity and transport other pollutants that adhere to the particle surfaces;
- Heavy metals from lubricating oil and grease, bearing wear, tire wear, vehicle wear, break lining wear, and moving engine parts;
- Nutrients from roadside fertilizer application can expedite algae growth and lower dissolved oxygen levels in streams, rivers, and lakes;
- Polycyclic aromatic hydrocarbons (PAHs) such as petroleum and ethylene glycol, resulting from spills and leaks of oil, gas, antifreeze, and hydraulic fluids; and,

- Litter and trash from vehicle traffic.

The City has implemented and maintained BMPs to provide a means of mitigating the negative impacts of various pollutants that can be carried off by rainfall and receiving waters. A description of the BMPs being implemented by the City for its road infrastructure is described in the following sections.

9.5.1. Street Sweeping

The Public Services Department typically has 8 street sweeper operators dedicated for street sweeping. Sweepers are parked around the City for use in various areas. The City's goal is to sweep public paved streets once every two years. Streets scheduled for resurfacing are swept and cleaned prior to resurfacing. Routine sweeping schedules have been developed to maximize the use of street sweepers.

Street sweeping activities are summarized in Monthly Street Sweeping Summary Form. An example of the Monthly Street Sweeping Summary Form is provided in Appendix I.

9.5.2. Litter Control

Roadside litter control BMPs implemented by the City to address health and aesthetic concerns also improve the quality of storm water runoff by limiting trash in runoff conveyance systems. The Public Services Department routinely collects and disposes of litter, trash, and debris found along City ROW throughout the City. The Public Services Department routinely utilizes persons fulfilling court-directed community service hours to collect and dispose of litter, trash, and debris.

The Public Services Department tracks the amount of litter collected in the Public Services Litter Collection Form. An example of the Public Services Litter Collection Form is provided in Appendix I.

9.5.3. Deicing Activities

Based upon the City's location, winter weather is infrequent. The City spreads sand on roads with snow or ice cover. After winter weather has subsided, the City removes the sand using a small front-end loader and a street sweeper. Salt is not used for any deicing activities.

9.6. Training

The City has developed training programs that have been specifically tailored to each facility, department, or operation which could impact storm water. Training is performed annually and may include a discussion on the following topics:

- SPCC Plans;
- Good Housekeeping and Spill Prevention;
- Spill Control and Response;
- Vehicle Fueling;
- Vehicle and Equipment Maintenance;
- Vehicle and Equipment Washing;
- Materials Management;
- Waste Management; and,
- Municipal Facility Maintenance.

As part of the training program, City staff review existing SOPs and are informed about any changes or updates to the SOPs. By participating in the training, City staff acknowledges that they have read and will implement the SOPs.

A sign-in sheet shall be used to document City employees that have been trained and the training received. Examples of the training presentation and sign-in sheet are provided in Appendix I.

9.7. Flood Management Projects

The National Flood Insurance Program (NFIP) provides federally backed flood insurance that encourages communities to enact and enforce floodplain regulations. To be covered by a flood insurance policy, a property must be in a community that participates in the NFIP. The City of Mobile has been a participating community since 1973.

9.7.1. Flood Control Projects

The MS4 NPDES permit requires the City to evaluate flood management projects for incorporation of additional water quality protection devices and practices to help improve water quality. If flood management projects are proposed within the City, the City will evaluate the projects for the potential incorporation of water quality features.

9.7.2. Flood Control Structures

The City does not have any flood control structures located within the City.

9.8. Program Goals and Evaluation

The City has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing the Pollution Prevention and Good Housekeeping Program. Program goals are summarized in Table 9-2.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness of the Pollution Prevention and Good Housekeeping Program. Results of the program evaluation will be summarized in the Annual Report.

Table 9-2 Pollution Prevention and Good Housekeeping – Program Goals

Program Component	BMP Description	Frequency	Responsible Department
SOPs	Various SOPs	Update as needed	Engineering
Municipal Facilities	Inventory	Annually	Engineering
Facility Inspections	Municipal Support Facilities	Once / 2 weeks	Engineering Equipment Services
	Municipal High-Risk Facilities	Annually	Engineering
Roads	Street Sweeping	Track	Public Services
	Litter Control	Track	Public Services Parks and Recreation
	Deicing Events	Track	Public Services
Flood Control Structures	Inventory	Annually	Engineering
	Evaluate new structures for water quality	Track	
Training	Training Modules	Annually	All Departments
Program Evaluation	Evaluate Program Effectiveness	Annually	Engineering
All Components	Evaluate Annexed Areas	Update as needed	Engineering

SECTION 10

Pesticides, Herbicides and Fertilizers

10. Pesticides, Herbicides and Fertilizers

10.1. Introduction

Pesticides, herbicides, and fertilizers (PHF), when used properly, are helpful tools in maintaining grassed and landscaped areas. However, excess use can threaten natural ecosystems, particularly through runoff to streams and rivers or by infiltration to groundwater. Because of this concern for environmental health, the NPDES Permit requires the City to evaluate the use of PHF to seek opportunities to reduce the use of these materials.

When all the land occupied by parks, rights-of-way, easements, open space, and City facilities is added together, the City may own or control a significant portion of the land within a watershed. Maintenance of these areas frequently includes mowing, fertilization, pesticide application, herbicide application, and supplemental irrigation. Effective management and landscaping practices can significantly reduce the pollutants discharged in storm water runoff.

The City's PHF Program shall include the activities included in Part II.B.8 of the NPDES Permit.

10.2. Program Administration

The City's Parks and Recreation Department and Public Services Department are the primary user of PHF. The Public Services Department may also engage licensed contractors for PHF application in rights-of-way areas.

10.3. Program Components

The City is continuously implementing a very effective PHF program to prevent potential pollutants from entering the storm sewer system.

10.3.1. PHF General NPDES Permit

The City has reviewed ADEM's General NPDES Permit for discharges associated with the application of pesticides and has determined that the City does not meet the requirements to obtain coverage under this permit.

10.3.2. PHF Standard Operating Procedures

Application, storage and disposal of PHF shall be performed in accordance with Federal and State regulations and in accordance with the manufacturer's recommendations. The City has developed the following Standard Operating Procedure (SOP) for mixing, application, clean up, storage, training, and record keeping:

- SOP PR-9014 PHF Storage, Application and Spill Procedures

A copy of the SOP is provided in Appendix J.

10.3.3. Facility Inventory

The City shall evaluate land under the control of the City to determine where pesticides, herbicides, and/or fertilizers are being used. Areas of interest within the MS4 Area may include but are not limited the following:

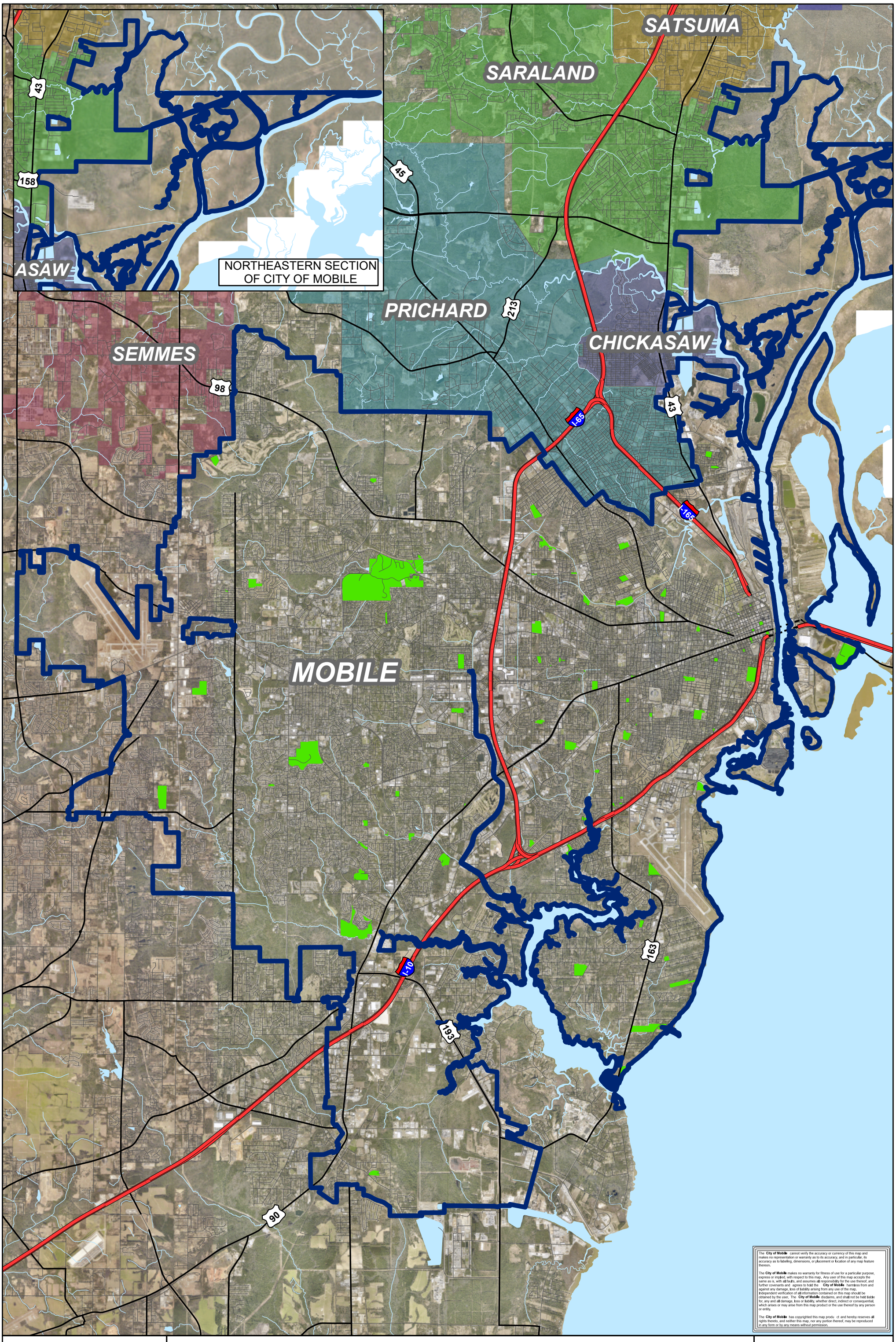
- Public parks;
- Sports complexes;
- Green space around City facilities; and,
- City rights-of-way.

The City is continuously implementing a very effective PHF program to prevent potential pollutants from entering the storm sewer system. The City maintains approximately 315 facilities that consist of parks, ball fields and building grounds. The locations of City Parks are shown in Figure 10-1.

10.3.4. PHF Storage Facilities

The City tries to optimize the use of PHF as well as minimize the quantity of chemicals stored. Chemical storage facilities are summarized in Table 10-1.

Each PHF storage facility is inspected by the City annually using the PHF Storage Inspection Form and summarized in the PHF Storage Inspection Summary Form. An example of the PHF Storage Inspection Form and PHF Storage Inspection Summary Form are provided in Appendix J.



CITY OF MOBILE MS4 PROGRAM

City of Mobile
GIS Department
Email: gis.support@cityofmobile.org

MS4 CITY PARKS

MS4 Boundary
Roads
Interstate
Parks
Stream
State/Federal Hwy
Tunnel
Water

N

FIGURE 10-1

0.75 0.38 0 0.75
Miles

PRINT DATE: 12/18/2024

Table 10-1 PHF Storage Facilities

Facility	Address
Parks Administration Facility	48 N Sage Ave
Langan Park Fueling Station	4901 Museum Drive
Azalea City Golf Course	1000 Joe Barbato Drive

10.3.5. Certification and Licensing

Commercial and non-commercial application of pesticides is regulated in the State of Alabama by the Department of Agriculture and Industries (DAI). To maintain a pest control license, applicators are required to obtain routine training that covers the following topics:

- Pests;
- Pests control and pesticides;
- Labels and labeling;
- The environment;
- Applicator safety;
- Laws and regulations;
- Pesticide storage and disposal;
- Record keeping;
- Application equipment and calibration; and,
- Weed control.

City staff and contractors involved with the application, storage and/or disposal of PHF on City areas shall maintain current certification and training as required by DAI. The City currently has seven (7) employees on staff that maintain an applicator's certification. Their applicator's certification documentation is provided in Appendix J.

10.3.6. Chemical Inventory

The City may use a variety of PHF chemicals on road rights-of-way and City areas. An inventory of PHF stored at each City facility shall be maintained on a PHF Inventory Summary Form. An example of the PHF Inventory Summary Form is provided in Appendix J.

Safety Data Sheets (SDS) for PHF used by City staff shall be maintained at each individual storage location. The SDS will provide information about the chemical to include but not limited to the following:

- Chemical constituents;
- Product use;
- Dilution requirements;
- Mixing requirements;
- Storage instructions; and,
- Health and safety precautions.

10.3.7. Chemical Use

The City Parks and Recreation Department generally uses low phosphate or phosphate-free fertilizer. In addition, the City routinely targets invasive species during herbicide spraying. A wetting agent is typically used to limit runoff into nearby water bodies. PHF applications by City staff and contractors shall be tracked on the Daily Pesticide Application Summary Form. An example of the Daily Pesticide Application Summary Form is provided in Appendix J.

10.3.8. Soil Testing

The City may collect soil samples to determine the optimum fertilizer and application rate for a particular facility. If results of the soil sample indicate that phosphorus is not needed, the City will use a non-phosphorous fertilizer.

10.3.9. High Application Areas

High Application Areas shall be defined as:

1. Areas where application rates significantly exceed the manufacturer's written recommendations; or,

2. Areas where application of PHF results in an adverse condition(s) in receiving streams adjacent to application areas.

Currently, the City does not have any high application areas.

10.4. Program Goals and Evaluation

The City has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing the Pesticides, Herbicides and Fertilizers Program. Program goals are summarized in Table 10-2.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City

will evaluate the program goals and overall effectiveness of the Pesticide, Herbicide and Fertilizers Program. Results of the program evaluation will be summarized in the Annual Report.

Table 10-2 Pesticides, Herbicides and Fertilizers – Program Goals

Program Component	BMP Description	Frequency	Responsible Department
SOPs	PHF Storage, Application and Spill Procedures	Update as needed	Parks and Recreation
	Storage and Disposal of Chemicals and Waste Materials	Update as needed	
Facility Inventory	Inventory of areas where PHF is applied	Track	Parks and Recreation
	PHF storage facility inventory	Track	
	Facility Map	Annually	Engineering & GIS
PHF Storage Facilities	Inventory	Annually	Engineering
	Inspections	Annually	
Certification and Licensing	Employee Training	Track	Parks and Recreation
Chemical Inventory	Update PHF inventory at each location	Annually	Parks and Recreation
	Update MSDS at each location	Update as needed	
Chemical Use	Summary by Chemical	Annually	Parks and Recreation
Soil Testing	Golf Courses	Track	Parks and Recreation
	City Parks	Track	
Program Evaluation	Evaluate Program Effectiveness	Annually	Engineering
All Components	Evaluate Annexed Areas	Update as needed	Engineering

SECTION 11

Oils, Toxics and Household Hazardous Waste

11. Oils, Toxics and Household Hazardous Waste

11.1. Introduction

The MS4 NPDES permit requires the City to develop a program that prohibits to the MEP the discharge or disposal of used motor vehicle fluids and household hazardous waste into the MS4. The sources of potential discharges to be addressed by this program element are the public and the City's fleet maintenance facilities.

The City's Oils, Toxics, and Household Hazardous Waste Program shall include the activities included in Part II.B.9 of the NPDES Permit.

11.2. Program Administration

The Engineering Department shall be responsible for maintaining the website to include materials that help educate the public and shall be responsible for inspecting maintenance facilities and training facility personnel.

11.3. Program Components

Discharge of used motor vehicle fluids and household hazardous waste can be a significant contributor of pollutants to storm water. The City has implemented a spill prevention and response program to actively prevent and/or control these types of discharges at City facilities.

11.3.1. Public Education

To help minimize used motor vehicle fluids and household hazardous waste from being discharged into the MS4, the City shall provide materials and information to help educate the public on the proper methods of disposal. The City's website shall be the primary mechanism to distribute materials and information to the public. This allows the City to reach a larger audience more cost effectively. Information that may be provided on the website includes but is not limited to the following:

- Brochures describing the impacts of these types of discharges; and,
- If these types of discharges are observed, how to report it to the City.

Information and materials available on the City's website shall be provided in the City's annual report.

11.3.2. Mobile 311

The City has implemented a hotline for the general public to report incidents that may potentially impact the City's MS4 as well as obtain information about the City by calling 311 or 208-5311.

11.3.3. City Facilities

As part of the Spill Prevention and Response Program, the City maintains an inventory of City facilities that require a SPCC Plan. Facility operations and maintenance are performed in accordance with the SPCC plans.

11.3.4. Employee Training

City staff associated with vehicle and equipment maintenance shall receive annual training on the proper management and disposal of used motor vehicle fluids.

11.4. Program Goals and Evaluation

The City has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing an Oils, Toxics, and Household Hazardous Waste Program. Program goals are summarized in Table 11-1.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness of Oils, Toxics and Household Hazardous Waste Program. Results of the program evaluation will be summarized in the Annual Report.

Table 11-1 Oils, Toxics and Household Hazardous Waste – Program Goals

Program Component	BMP Description	Frequency	Responsible Department
Public Education	Website – Educational materials	Update as needed	Engineering
	Mobile 311	Track	Mobile 311
City Facilities	Facility inventory	Annual	Engineering
	SPCC plans	Update as needed	Engineering
Training	Training Modules	Annual	Engineering
Program Evaluation	Evaluate Program Effectiveness	Annual	Engineering
All Components	Evaluate Annexed Areas	Update as needed	Engineering

SECTION 12

Industrial Storm Water Runoff

12. Industrial Storm Water Runoff

12.1. Introduction

The City has developed an Industrial Storm Water Runoff Program to monitor and control pollutants in storm water discharges to the MS4 from industrial facilities. Due to the physical size and population of the City, there is a variety of industrial, institutional, and commercial support facilities located throughout the City. A summary of the area occupied by industrial and commercial uses is provided in Table 12-1.

Table 12-1 Industrial / Commercial Land Use

Land Use	MS4 Area	
	Area (mi^2)	Area (%)
Commercial	16.85	12.44
Industrial	29.21	21.57

This Industrial Storm Water Runoff Program has been developed using the following guidance materials:

- Developing Your Storm Water Pollution Prevention Plan, A Guide for Industrial Operators, EPA 833-B-09-002, February 2009;
- Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92-006, September 1992; and
- Guidance Manual for the Preparation of NPDES Permit Applications for Storm Water Discharges Associated with Industrial Activity, EPA 505/8-91-002, April 1991.

These documents are incorporated into the Industrial Storm Water Runoff Program by reference and are available in the office of the City Engineer.

The City's Industrial Storm Water Runoff Program shall include the activities included in Part II.B.10 of the NPDES Permit.

12.2. Program Administration

The Engineering Department shall be responsible for implementing the Industrial Storm Water Runoff Program. The GIS Department provides support with data management.

12.3. Facility Inventory

The City shall maintain an inventory of industrial, high-risk commercial, and municipal facilities that have a potential to discharge pollutants into the City's MS4. The inventory shall include the following types of facilities:

- Facilities that have a National Pollutant Discharge Elimination Systems (NPDES) permit as required by 40 CFR 122.26(b)(14);
- Facilities that are subject to Emergency Planning and Community Right to Know Act (EPCRA) Title III, Section 313;
- Municipal facilities; and,
- High risk commercial facilities.

12.3.1. NPDES Facilities

The City has developed an inventory of industrial facilities that have either obtained a General or Individual NPDES permit for industrial activities. As of 30 September 2024, the City has 142 NPDES permitted facilities. The types of facilities that have a NPDES permit, and the number of facilities located within the City are shown in Figure 12-1 and summarized in Table 12-2. A detailed list of NPDES permitted facilities is provided in Appendix L.

The inventory of NPDES facilities shall be updated on an annual basis. Specific information regarding each facility may either be obtained from ADEM, EPA, and/or the facility.

NORTHEASTERN SECTION OF CITY OF MOBILE

NPDES PERMITTED FACILITIES

- Mining
- Asphalt
- Boat/Ship
- Chemicals
- Concrete
- Electric, Gas and Sanitary Services
- Other
- Wood & Paper
- MS4
- Metals
- Petroleum
- Salvage/Recycling
- Stone/Glass/Clay
- Transportation

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MS4 NPDES FACILITY INVENTORY

MS4 Boundary — Roads — Interstate — Stream — Industrial Landuse
State/Federal Hwy — Tunnel — Water

N

FIGURE 12-1

0.75 0.38 0 0.75
Miles

PRINT DATE: 12/19/2024

Table 12-2 NPDES Permitted Facilities

Facility Type	No.	Facility Type	No.
Asphalt	4	Paint	1
Boat/Ship	14	Paper & Allied Products	1
Chemicals & Allied Products	8	Pesticides	1
Concrete	6	Petroleum	11
Electric, Gas, Sanitary	3	POTW	3
Food	2	Salvage/Recycling	21
Lumber/Wood	3	Small Mining	1
Metals	15	Stone/Glass/Clay	7
Mining	2	Transportation	34
MS4	1	Wholesale Trade	2
Nonclassifiable	2		

12.3.2. Toxic Release Inventory (TRI) Facilities

Facilities regulated under the Emergency Planning and Community Right to Know Act (EPCRA) Title III, Section 313 (TRI Facilities) that manufacture, process, or otherwise use listed chemicals are required to submit detailed inventory reports by 1 July for each preceding year. These facilities must report both routine and accidental chemical releases, off-site transfers, and other waste management activities to both the EPA and the Alabama Emergency Response Commission (AERC).

Currently, the City has 12 TRI Facilities that provide this information. All 12 TRI Facilities have an NPDES permit. An updated inventory of TRI Facilities is provided in provided in Appendix L.

12.3.3. Municipal Facilities

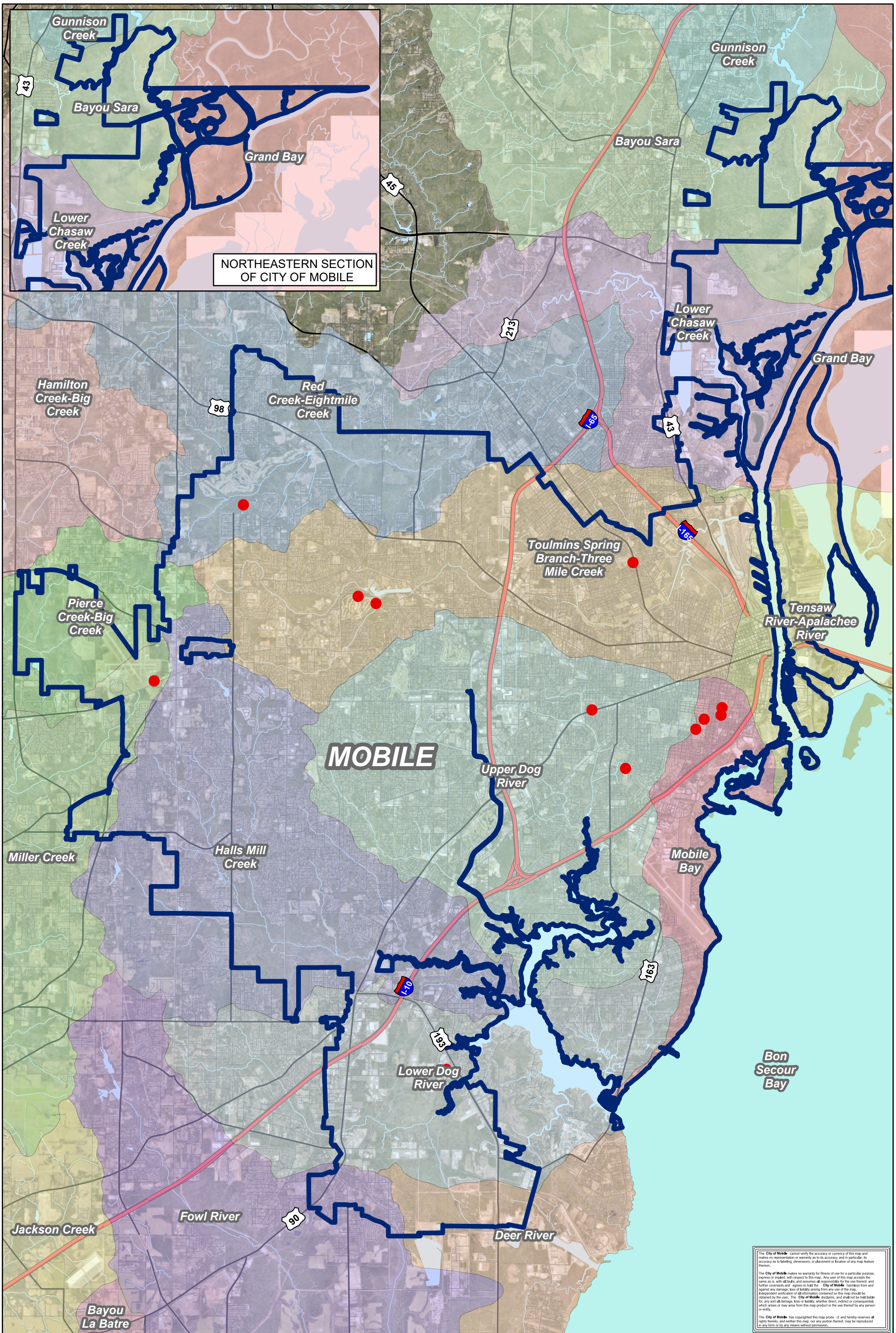
The City provides a wide range of services to its citizens by various City Departments and facilities located throughout the City. The City has developed an inventory of facilities used for PHF storage, municipal shops, and equipment yards where operations may have a potential to contribute pollutants to storm water runoff. The municipal facility inventory is summarized in Table 12-3 and shown in Figure 12-2. An example of the Municipal Facility Inspection Form is provided in Appendix L.

Table 12-3 Municipal Facilities

Facility Name	Department
Parks Administration Facility	Parks and Recreation
Parks Mowing Division	Parks and Recreation
Langan Park Fueling Station and PHF Storage	Fleet/Motor Pool
Public Safety Complex/Police 4th Precinct	Mobile Fire-Rescue & Police Departments
Police 3rd Precinct	Mobile Police Department
Fire Station No. 7	Mobile Fire-Rescue Department
Public Services Facility	Public Services Fleet/Motor Pool
Azalea City Golf Course	Parks and Recreation
Paint and Body Shop	Fleet/Motor Pool
Hurtel Sanitation Facility	Public Services
Myland Avenue Stockpile Yard	Public Services

12.3.4. Commercial Facilities

There are a variety of commercial facilities located within the City. The City will maintain an inventory of complaints regarding commercial facilities with a potential to contribute pollutants in storm water runoff. If a significant number of complaints are received for either an individual commercial facility or a specific type of commercial facility, the City shall evaluate the complaints and determine if an individual commercial facility or a specific type of commercial facility should be designated as a high-risk commercial facility. Currently, the City has not identified or designated any high-risk commercial facilities.



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MS4 MUNICIPAL HIGH RISK FACILITY

Municipal High Risk Facility
MS4 Boundary
Roads
State/Federal Hwy
Interstate
Tunnel
Stream
Water

N

FIGURE: 12-2

1 0.5 0 1
Miles

PRINT DATE: 12/18/2024

12.4. Facility Inspections

Part II.B.10.2 of the NPDES Permit requires the City to inspect industrial facilities that do not have a NPDES permit issued by ADEM. Inspections associated with the Industrial Storm Water Runoff Program are summarized in the following sections:

12.4.1. NPDES Facilities

For NPDES permitted facilities, Part II.B.10.a.3 of NPDES Permit allows the City to use data collected by a NPDES permitted facility to satisfy the monitoring requirements of an NPDES or State discharge permit.

The City shall review the information available on ADEM's e-file and/or EPA's Enforcement and Compliance History Online to determine if any NPDES permitted facility is or has been non-compliant with its NPDES Permit. The City may elect to conduct an inspection of a NPDES facility that has exceeded its discharge limitations and discharges into the City's MS4. Site inspections of any non-compliant facility will be documented on a Site Evaluation Form and summarized in an Industrial Facility Inspections Form. Copies of both forms are included in Appendix L.

12.4.2. TRI Facilities

The Engineering Department shall annually inspect all TRI facilities that do not have an NPDES Permit or are regulated by the PSC. These inspections shall focus on the discharge point(s) from the TRI facility into the City's MS4. If the City determines that a TRI facility has no potential to contribute pollutants in stormwater runoff, the facility shall be identified as a "No Exposure Facility". After a facility is designated as a "No Exposure Facility", no additional inspections will be performed. An example of the inspection report is provided in Appendix L.

12.4.3. Municipal Facilities

Municipal facilities listed in Table 12-3 are used for PHF storage, municipal shops, and/or equipment yards. These facilities shall be inspected on an annual basis. An example of the Municipal Facility Inspection Form is provided in Appendix L.

12.4.4. Commercial Facilities

Due to the variety of commercial facilities located throughout the City, inspections of commercial facilities shall be complaint driven. If the City receives a complaint

that a non-storm water discharge is occurring from a commercial facility, the City shall conduct an inspection to investigate the non-storm water discharge. Depending upon the findings of the City's inspection, the City may identify an inspection frequency for follow up inspections at the facility. Inspections of high-risk commercial facilities are tracked in a High-Risk Commercial Inspection Summary Form and an example of this form is provided in Appendix L.

12.5. Staff Training

The Engineering Department has been tasked with the responsibility of implementing the Industrial Storm Water Runoff Program. City staff have extensive professional experience in working with industrial facilities. Based on this professional experience, employee training is not needed. City staff performing the inspections are working under the direction of a Professional Engineer with extensive professional experience. City staff may receive supplemental training and/or instruction on the following topics:

- Federal and State storm water regulations;
- Industrial storm water permit requirements;
- ADEM general NPDES permits for industrial activity;
- Storm Water Pollution Prevention Plan requirements;
- Significant materials;
- Best Management Practices (BMPs);
- Non storm water discharges and evaluations;
- Site inspection and documentation protocols; and,
- Enforcement procedures.

12.6. Program Goals and Evaluation

The City has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing the Industrial Storm Water Runoff Program. Program goals are summarized in Table 12-4.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness of the Industrial Storm Water Runoff Program. Results of the program evaluation will be summarized in the Annual Report.

Table 12-4 Industrial Storm Water Runoff – Program Goals

Program Component	BMP Description	Frequency	Responsible Department
Legal Authority	Stormwater Management and Flood Control Ordinance	Update as needed	Engineering
Facility Inventory	NPDES Permitted Facilities	Annually	Engineering & GIS
	TRI Facilities	Annually	
	Municipal High-Risk Facilities	Annually	
	Commercial High-Risk Facilities	Annually	
Facility Inspections	Facility Inspection Forms	Update as needed	Engineering
	NPDES Permitted Facilities	As needed based on DMR review	
	TRI Facilities	Annually	Fire Department
	Municipal High-Risk Facilities	Annually	Engineering
	Commercial Facilities	As needed based on complaint	
Training	Training	Update / 2 Years	Engineering
Program Evaluation	Evaluate Program Effectiveness	Annually	Engineering
All Components	Evaluate Annexed Areas	Update as needed	Engineering

SECTION 13

Monitoring

13. Monitoring

13.1. Introduction

A principal objective of the SWMP Plan is to implement BMPs to minimize and/or eliminate the potential of pollutants from entering receiving waters. As a result, the City is required to implement a monitoring program that will provide data to assess the effectiveness and adequacy of BMPs implemented as part of the SWMP Plan.

13.2. Program Administration

The Engineering Department shall be responsible for the monitoring program.

13.3. Representative Monitoring

Representative monitoring provides water quality data collected during a storm event that is used to evaluate the storm water quality from various land use categories that are representative of the municipality. As noted in Section 2 of the SWMP Plan, the primary land use categories within the City are residential, commercial, and industrial.

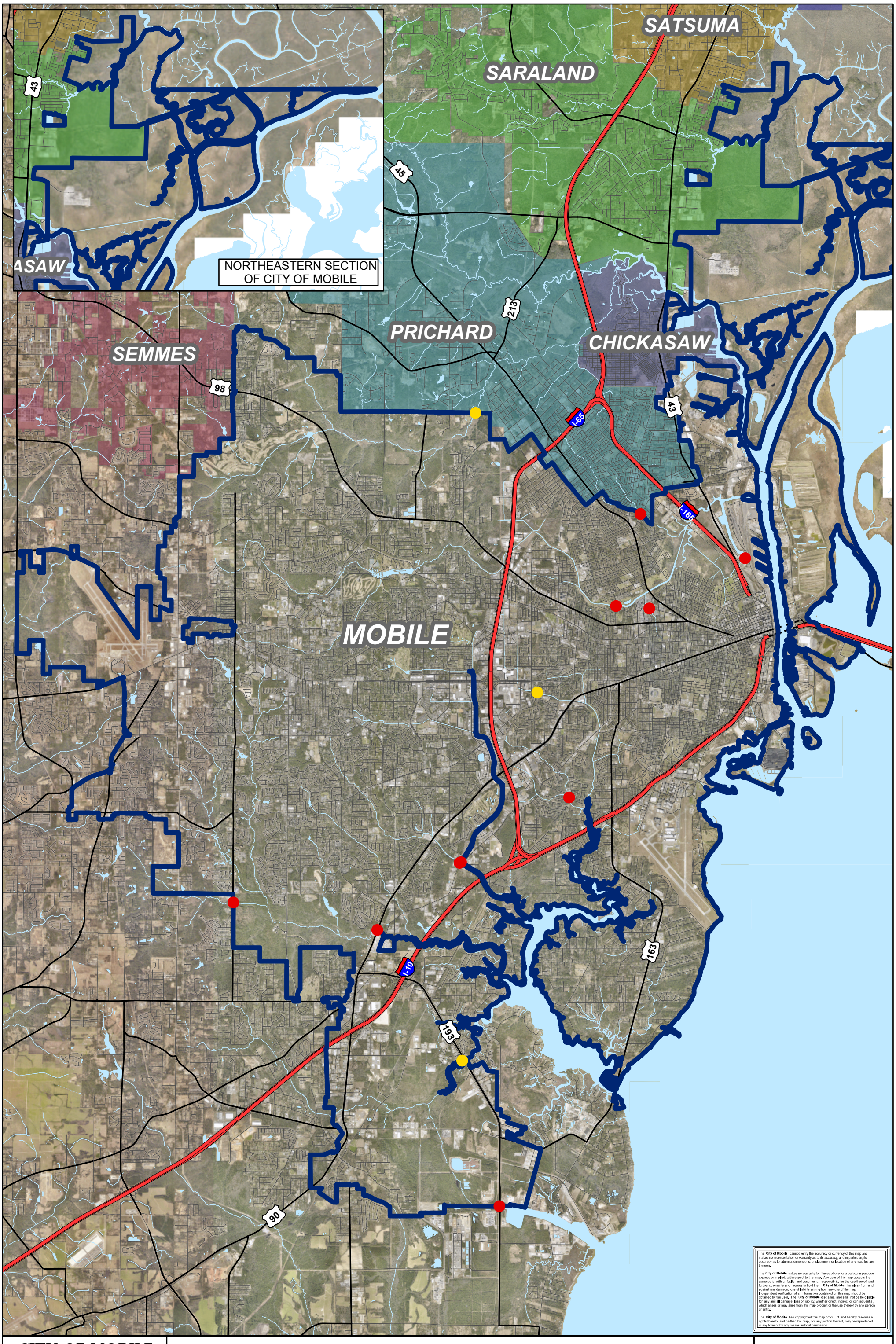
13.3.1. Monitoring Locations

Part III.A of the NPDES Permit requires the City to establish a minimum of one (1) monitoring location in each of the watersheds listed in Table 13-1.

Table 13-1 Representative Monitoring Locations

Waterbody	Representative Watershed	Land Use	Latitude	Longitude
Rabbit Creek	Dog River	Industrial	30.5735	-88.1352
Eslava Creek (East)	Dog River	Commercial	30.6731	-88.1122
Eightmile Creek	Chickasaw	Residential	30.7489	-88.1326

Representative monitoring locations are shown in Figure 13-1.



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MS4 MONITORING LOCATIONS

MS4 Boundary
Roads
State/Federal Hwy
Interstate
Tunnel
Water
Stream
Impaired Stream Sample
Representative Sample

N

FIGURE 13-1

0.75 0.38 0 0.75
Miles

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13.3.2. Monitoring Parameters

Part III.B.1 of the NPDES Permit identifies the parameters for representative monitoring and includes the parameters presented in Table 13-2.

Table 13-2 Representative Monitoring Sample Parameters

Parameter	Symbol	Units
Ammonia Nitrogen	NH_3-N	mg/l
Biochemical Oxygen Demand	BOD	mg/l
Cadmium	Cd	mg/l
Chemical Oxygen Demand	COD	mg/l
Conductivity	-	µS/cm
Copper	Cu	mg/l
Dissolved Oxygen	DO	mg/l
E.Coli	-	MPN / 100 ml
Fecal Coliform	-	CFU / 100 ml
Hardness as CaCO3	-	mg/l
Lead	Pb	mg/l
Nitrate plus Nitrite Nitrogen	NO3+NO2-N	mg/l
Oil and Grease	-	mg/l
pH / ORP	-	s.u.
Temperature	-	°C
Total Dissolved Solids	TDS	mg/l
Total Kjeldahl Nitrogen	TKN	mg/l
Total Nitrogen	TN	mg/l
Total Phosphorus	TP	mg/l
Total Suspended Solids	TSS	mg/l
Turbidity	NTU	NTU
Zinc	Zn	mg/l

Analysis and sample collection shall be done in accordance with the methods specified at 40 CFR Part 136.

13.3.3. Sample Type and Frequency

Representative monitoring shall be performed by collecting grab samples semi-annually at each instream monitoring location. Criteria for collecting the grab samples shall include:

- Utilize a variety of grab sample collection methods (i.e., manual, automatic sampling equipment).
- If the City is unable to collect grab samples due to adverse conditions, the City shall provide a description of why samples could not be collected, including available documentation of the event, in the annual report. An adverse climatic condition which may prohibit the collection of samples includes weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

13.4. Impaired Stream Monitoring

In addition to representative monitoring, the City is required to conduct monitoring on waterbodies within the City's MS4 that have been identified by ADEM and EPA as impaired. A detailed summary of impaired waterbodies located within the City's MS4 are described in Section 2.2 of the SWMP Plan. In general, an impaired waterbody is a waterbody listed on the latest final 303(d) list, designated impaired by ADEM or has an approved EPA TMDL.

Based on a review of the EPA approved TMDLs, the primary source of pollution contributing to impaired waterbodies is attributed to municipal collection system failure or onsite wastewater treatment systems. A review of the sanitary sewer overflows (SSOs) reported by the Mobile Area Water and Sewer System (MAWSS) revealed a significant number of SSOs discharging a significant volume of wastewater into impaired waterbodies.

Due to the number and frequency of SSOs, the City cannot confidently determine if it is a significant contributor to impaired waterbodies. Therefore, the City has developed an impaired waterbody monitoring strategy to validate its observations over previous permit years.

13.4.1. Monitoring Locations

Based on the review of 303(d) and TMDL waterbodies, the City has identified monitoring locations where samples have been previously collected to evaluate an impaired waterbody. Impaired stream monitoring locations are summarized in Table 13-3 and shown in Figure 13-1.

Table 13-3 Impaired Stream Monitoring Locations

Waterbody	Latitude	Longitude
Three Mile Creek	30.6966	-88.0880
Toulmins Spring Branch	30.7217	-88.0806
UT to Three Mile Creek	30.6962	-88.0776
Bolton Branch (East)	30.6449	-88.1025
Bolton Branch (West)	30.6271	-88.1363
Moore Creek	30.6269	-88.1367
Halls Mill Creek #1 Halls Mill Creek #2	30.6159 30.6085	-88.2076 -88.1624

13.4.2. Monitoring Parameters and Frequency

Monitoring parameters have been selected based on the pollutants of concern for which a waterbody is listed as impaired and which contributes to the listed impairment. Monitoring parameters for each impaired waterbody is presented in Table 13-4.

Table 13-4 Impaired Stream Monitoring Parameters

Waterbody	Pollutants of Concern	Parameter
Three Mile Creek	Pathogens Organic Enrichment Low Dissolved Oxygen	Enterococci CBOD NBOD
Toulmins Spring Branch	Nutrients Pathogens	Total Phosphorus E. Coli Fecal Coliform
UT to Three Mile Creek	Nutrients Pathogens	Total Phosphorus E. Coli Fecal Coliform
Bolton Branch (East)	Pathogens	E. Coli Fecal Coliform
Bolton Branch (West)	Pathogens	E. Coli Fecal Coliform
Moore Creek	Pathogens	E. Coli Fecal Coliform
Halls Mill Creek #1 Halls Mill Creek #2	Siltation Pathogens	Total Suspended Solids E. Coli Fecal Coliform

Analysis and sample collection shall be done in accordance with the methods specified at 40 CFR Part 136.

13.4.3. Sample Type and Frequency

Since the primary source of pollution contributing to impaired waterbodies is attributed to municipal collection system failure or on-site wastewater treatment systems, pathogens and/or organic enrichment are the pollutants of concern. Water quality criteria for these pollutants are more restrictive from June through September. Criteria for sampling shall be based on the following:

- Collect grab samples;
- Conduct sampling during the months of June through September; and,
- Collect no less than five (5) grab samples over a 30-day period at intervals not less than 24 hours.

Since sampling shall occur within a 30-day period, varying types of weather conditions may be encountered and provide more insight on the cause of waterbody impairments. This sampling protocol shall provide data to evaluate single sample and geometric mean water quality criteria. Additionally, the City shall request and review information for SSOs that may have occurred before or during the sampling event.

13.5. Sample Handling

To minimize the chance of sample contamination and unreliable analytical results, special measures must be taken during the collection, treatment, and handling of samples prior to analysis. For example, samples shall be collected properly, stored in the appropriate containers, and preserved immediately. Samples shall be analyzed within established holding times to ensure reliability of the results. Chain-of-custody procedures shall be followed for sample handling and transportation to the laboratory. Each of these measures is discussed in more detail below.

13.5.1. Sample Collection Protocols

Water quality sampling shall employ "clean" sampling techniques to minimize potential sources of sample contamination – particularly from trace pollutants. Experience has shown that when clean sampling techniques are used, detected concentrations of constituents tend to be lower.

Clean sample collection techniques that should be followed during the collection of water samples are described below. Care must be taken during sampling to minimize exposure of the samples to human, atmospheric, and other potential sources of contamination. Care must also be taken to avoid contamination whenever handling containers and lids. To reduce potential contamination, monitoring personnel shall adhere to the following rules while collecting water samples:

- Do not eat, drink, or smoke during sample collection;
- Never sample near a running vehicle;
- Do not park vehicles in immediate sample collection area (even non-running vehicles);
- Always wear clean, powder-free nitrile gloves when handling sample containers and lids;

- Never touch the inside surface of a sample container or lid, even with gloved hands;
- Never allow the inner surface of a sample container or lid to be contacted by any material other than the sample water;
- Do not overfill sample containers (preservative may be lost);
- Never allow any object or material to fall into or contact the collected sample water;
- Avoid allowing rainwater to drip from rain gear or other surfaces into sample containers; and,
- Replace and tighten sample container lids immediately after sample collection.

Sampling sites should be approached from downstream whenever possible to minimize any streambed disturbance that could influence water quality. Be careful that the flow is not concentrated to the point the channel starts to erode and increases the amount of sediment in the water. Samples shall be collected while facing upstream. When filling a sample bottle, lower the bottle slowly into the water to avoid hitting the streambed, disturbing the bottom, and stirring up sediment.

13.5.2. Manual Grab Sample Technique

A manual grab sample will define water quality at a distinct point in time. Grab samples are easily collected and are favored when the anticipated water quality of the discharge is homogeneous, or unchanging, in nature. A manual grab sample is an individual sample of at least 100 milliliters usually collected by direct submersion of each individual sample bottle into the water to be sampled. To collect samples, the water depth will need to be at least 0.5 inch. Filling a sample bottle is difficult when the water is shallow and the bottles cannot be completely submerged. Thus, an intermediate container may be used. For example, one clean, unpreserved sample bottle can be designated as the intermediate container and used to collect multiple grab samples to fill the remaining sample bottles. Fill the bottles as full as possible without overfilling.

13.5.3. Sample Preservation

Chemical preservatives are added to the samples for certain analyses to prolong the stability of the parameters during transport and storage. Table 13-5 lists the required sample preservatives for the analytical parameters. If manual grab sampling procedures are used (i.e., monitoring personnel directly fill the containers required for each analysis), the monitoring personnel shall add the appropriate

preservative to each sample container immediately. All samples shall be iced immediately after collection.

13.5.4. Holding Times

The holding time starts when sample collection is complete and is counted until extraction/preparation or analysis of the sample at the laboratory. If a sample is not analyzed within the designated holding time, the analytical results may be suspect. Thus, it is important that the monitoring personnel meet all specified holding times and the laboratory make every effort to prepare and analyze the samples as soon as possible after they are received. Prompt analysis also allows the laboratory time to review the data and if analytical problems are found, re-analyze the affected samples.

Some holding times are short and will require the laboratory to analyze the sample promptly after receipt. For example, E. coli analyses shall be performed within 8 hours after sample collection. Holding times may be a factor affecting allowable sampling times if the laboratory has not agreed to work evenings or weekends. To minimize the risk of exceeding the holding times, storm water samples shall be transferred to the analytical laboratory as soon as possible after sampling is complete. Moreover, the laboratory should be notified before the sampling begins so that it can prepare to analyze the samples immediately upon receipt.

The shortest holding time for this monitoring program is 8 hours from sample collection for E. coli. All samples will have to be to the laboratory within 8 hours of collection.

Table 13-5 Sample Preservation and Holding Times

Parameter	Bottle Type[1]	Preservative	Holding Time
Ammonia Nitrogen	P, FP	Cool to 6°C H_2SO_4 to pH<2	28 days
Biochemical Oxygen Demand	P, FP, G	Cool to 6°C	48 hours
Cadmium	P, FP, G	HNO_3 to pH<2	6 months
Chemical Oxygen Demand	P, FP, G	Cool to 6°C H_2SO_4 to pH<2	28 days
Conductivity	P, FP, G	None	Analyze Immediately
Copper	P, FP, G	HNO_3 to pH<2	6 months
Dissolved Oxygen	G	None	Analyze Immediately
E.Coli	PA, G	0.0008% $Na_2S_2O_3$ Cool to 10°C	8 hours
Fecal Coliform	PA, G	0.0008% $Na_2S_2O_3$ Cool to 10°C	8 hours
Hardness as CaCO3	P, FP, G	H_2SO_4 or HNO_3 to pH<2	6 months
Lead	P, FP, G	HNO_3 to pH<2	6 months
Nitrate plus Nitrite Nitrogen	P, FP, G	Cool to 6°C H_2SO_4 to pH<2	28 days
Oil and Grease	G	Cool to 6°C H_2SO_4 or HCL to pH<2	28 days
pH / ORP	P, FP, G	None	Analyze Immediately
Temperature	P, FP, G	None	Analyze Immediately
Total Dissolved Solids	P, FP, G	Cool to 6°C	7 days
Total Kjeldahl Nitrogen	P, FP, G	Cool to 6°C H_2SO_4 to pH<2	28 days
Total Nitrogen	P, FP	Cool to 6°C H_2SO_4 to pH<2	28 days
Total Phosphorus	P, FP, G	Cool to 6°C H_2SO_4 to pH<2	28 days
Total Suspended Solids	P, FP, G	Cool to 6°C	7 days
Turbidity	P, FP, G	Cool to 6°C	48 hours
Zinc	P, FP, G	HNO_3 to pH<2	6 months

[1] "FP" is for fluoropolymer (polytetrafluoroethylene); "PA" is any plastic that is made of sterilizable material; "P" is for polyethylene; and "G" is for Glass.

13.5.5. Chain of Custody

Chain-of-custody (COC) forms are provided by the laboratory. They are to be filled out by monitoring personnel for all samples submitted to the analytical laboratory. The purpose of COC forms is to keep a record of the sample submittal information and to document the transfer of sample custody. Sample date, sample location, and analyses requested are noted on the COC form. Any special instructions for the laboratory shall also be noted on the COC form such as specifications of quality control requirements (e.g., duplicate samples). The COC form shall be signed by both the person relinquishing the samples and the person receiving the samples every time the samples change hands, thus documenting the chain of custody.

Custody seals are used to detect unauthorized tampering with the samples. Seals are printed on strips of adhesive-backed paper and affixed over the lid of a filled sample bottle in such a way that the sample bottle cannot be opened without breaking the seal. Custody seals must be completed and affixed to all sample bottles before the samples leave the custody of the monitoring personnel. Custody seals may also be used on each cooler.

13.5.6. Sample Analysis

Analysis of samples taken for the purpose of monitoring shall be conducted according to test procedures approved by EPA under 40 CFR Part 136.

13.6. Data Evaluation

The City shall review water quality data collected and present a summary of the data in the Annual Report. Graphical representations of the data shall be included in the Annual Report.

13.7. Program Goals and Evaluation

The City has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing the Monitoring Program. Program goals are summarized in Table 13-6.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness of the monitoring activities. Results of the program evaluation will be summarized in the annual report.

Table 13-6 Monitoring – Program Goals

Program Component	BMP Description	Frequency	Responsible Department
Representative Monitoring	Rabbit Creek	Semi-annually	Engineering
	Eslava Creek	Semi-annually	
	Eightmile Creek	Semi-annually	
Impaired Stream Monitoring	Rabbit Creek	Annually	Engineering
	Eslava Creek	Annually	
	Three Mile Creek	Annually	
	Toulmins Spring Branch	Annually	
	UT to Three Mile Creek	Annually	
	Bolton Branch (East)	Annually	
	Bolton Branch (West)	Annually	
	Moore Creek	Annually	
	Halls Mill Creek	Annually	
Program Evaluation	Evaluate Program Effectiveness	Annually	Engineering
All Components	Evaluate Annexed Areas	Update as needed	Engineering