ANNUAL
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
REPORT

NPDES STORMWATER PERMIT
NUMBER ALS000002
Chickasaw, Alabama
Volkert Job Number 230112.06

Prepared for:

The City of Chickasaw
Mayor Byron Pittman
224 North Craft Highway
Chickasaw, Alabama 36671

December 2012

Prepared by:

VOLKERT, INC.
3809 Moffett Road
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1.0 CERTIFICATION AND INTRODUCTION

1.1 Certification

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

The Honorable Byron Pittman
Mayor, City of Chickasaw

Signature

12-17-12

Date

1.2 List of Contacts

The following individuals may be contacted to address questions or concerns regarding this report:

The Honorable Byron Pittman
Mayor, City of Chickasaw
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Chickasaw, Alabama 36671
(251) 452-6450

Melissa O'Sullivan
Volkert, Inc.
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1.3 General Introduction

On November 16, 1990, the U.S. Environmental Protection Agency (EPA) promulgated regulations, under the Water Quality Act of 1987, setting forth application requirements for National Pollutant Discharge Elimination System (NPDES) storm water permits. The Alabama Department of Environmental Management (ADEM) administers the storm water program for the State of Alabama. Although the Federal regulations required municipalities with a population of 100,000 or more to participate in the Phase I permitting process, ADEM exercised the right to designate the City of Chickasaw as requiring a Phase I storm water discharge permit in lieu of the Phase II permit for smaller systems. The City of Chickasaw is submitting this report as part of a group permit annual requirement for the NPDES permit number ALS000002.

1.4 Overview and Summary

On November 16, 1990, the Environmental Protection Agency (EPA) ruled that municipalities and industry share the responsibility to improve the water quality of the "Waters of the United States". In accordance with this rule, the EPA created regulations for NPDES Storm Water Permits for municipalities and permits associated with industrial activity. These regulations are aimed at reducing the amount of non-point source pollution that is currently the leading cause of water pollution.

The Water Quality Act involves a two-phased municipal permitting program that requires municipalities of certain populations to establish discharge controls to the Maximum Extent Practicable (MEP), to effectively prohibit non-storm water discharges to the municipal separate storm sewer systems, and where necessary, to contain applicable water quality based controls. Compliance with the maximum extent practicable requirement can be attained by developing a storm water management plan that addresses the six minimum control measures described in the storm water regulations and detailed in fact sheets developed and provided by EPA.

Although the Phase I permitting program is designed for municipalities with populations of 100,000 or greater, municipalities of smaller populations can be designated as co-permittees by the local authority administering the program. The City of Chickasaw (City), with a 2011 population estimate of 6,100, according to the U.S. Census Bureau, is an example of such a municipality.

The City utilizes current personnel to assist with the storm water program elements. Additional assistance is provided by local engineering firms and Mobile County, as needed, during crises or emergencies such as floods, spills, or hazardous waste incidents.

Storm water is managed by several City departments and by community activities which involve volunteer work. The City does not have the financial resources to dedicate personnel solely to storm water quality; however these responsibilities are shared by employees and considered part of the effort to protect our streams and waterways from degradation.

2.0 PROGRAM EVALUATION

2.1 Objective of the Program

The City of Chickasaw, in conjunction with other municipalities in the Mobile and Baldwin Counties, were place under a National Pollutant Discharge Elimination System (NPDES) Permit for storm water discharges. The permit was effective on June 14, 1996 and assigned the permit number ALS000002. The permit was renewed for a second five-year period on September 24, 2001 and is currently under an administrative extension by ADEM while the permit is being modified. The intent of the NPDES permit is to reduce and eliminate pollutants in storm water that are discharged from municipal separate storm sewer systems (MS4s). In accordance with the issued NPDES, the reporting period for items contained in this report is October 2011 through September 2012.

Currently ADEM is working with permittees and EPA to modify the program requirements. The permit is divided into Phase I and Phase II permittees. The City of Chickasaw is currently included in a Phase I permit. ADEM issued the Phase II permit in February, 2011. Refer to Section 5.0 SUMMARY OF PROPOSED PROGRAM MODIFICATIONS for the City's future direction of this program.

The City of Chickasaw is dedicated to achieving the conditions of this permit, which will ultimately improve water quality by reducing pollutants in receiving waters. The City's goals are to educate the municipal employees and the general public on the storm water management program and focus on a unified approach to the identification and correction of problems areas. Additionally, the City has established the legal authority to manage and enforce the requirements of the program.

2.2 Major Findings

Dry weather screening was performed for the one major outfall and ten field screening locations. These sites are listed in Section 7.1 and detailed on maps included in Appendix A. The objective of the dry weather screening was to identify illicit discharges. No illicit discharges were noted for any of the sites. In addition a wet weather screening was performed on the major outfall in accordance with the permit. Inspection results are presented in Section 7.2 and 7.3 along with representative outfall data in Appendix B.

2.3 Overall Program Strengths and Weaknesses

The City has developed and implemented many programs to help minimize storm water related pollutant loads. City Ordinance 1540, passed in 1998, establishes procedures to control discharges from commercial and industrial facilities and construction sites. A Drainage Master Plan was established in 1999 that identified problem areas and prioritized construction projects to address these areas. The Director of Public Works responsibilities include maintaining this prioritized list of projects. The projects are evaluated to ensure the areas with the highest needs are properly identified and prioritized. The City is progressively addressing these projects as funds become available.

The City's Director of Public Works and Code Inspector are responsible for the majority of the various program elements. Employees in all City departments have received instruction on the program objectives and are provided with opportunities to attend educational programs.

The prediction of the long-range financial requirements needed to support the storm water program is difficult especially since forthcoming modifications to the program are unknown. Funding for expanding the storm water management program is currently unavailable. The City officials address the financial needs and make budget allocations on a year-to-year basis that are prioritized based on the needs of the entire City operations.

2.4 Future Direction of the Program

The City will continue to implement and enforce the current ordinances and other programs regarding storm water issues to the maximum extent practicable. The City will continue to monitor designated outfall points and field inspection sites. The City will encourage community activity through education and outreach programs.

The City of Chickasaw along with other smaller cities in Mobile and Baldwin County were included in a Phase I permit with the City of Mobile. In March, 2012 the City requested to be removed from the MS4 program or at a minimum be revised to a Phase II permitee. The request is based the following factors: population, land use, receiving stream water quality, and documented history of water quality monitoring of the major outfall. This request is still outstanding and is currently being reviewed by ADEM.

3.0 SUMMARY TABLE

3.1 Storm Water Management Plan Element Status/Compliance

CITY OF CHICKASAW

Program Element	Requirement	Activity Schedule			Comments
		Activities Required by SWMP	Complied With	Activities Accomplished During Calendar Year	
Structural Controls	Major Channels Inspections	7 Channels, once/month	Yes	7 Channels, once/month	Additionally, Before/After Heavy Rains
	Major Channels Maintenance	7 Channels, as needed	Yes	7 Channels, as needed	
	Storm Inlets Inspected	Approx. 1400 inlets, once/3 mths	Yes	Approx. 1400 inlets, once/3 mths	Additionally, Before/After Heavy Rains
	Detention Ponds Maintained	3 Ponds, once/year	Yes	3 Ponds, once/year	Or, more often as needed.
Monitoring	Representative	1 site, once/year	Yes	1 site, once/year	Summary, Section 7.0
	Wet Weather Screening	10 sites, once/year	N/A	10 sites, once/year	Not required this permit year
	Dry Weather Screening	10 sites, once/year	Yes	10 sites, once/year	Summary, Section 7.0
Illicits	SSO's	Record/report occurrences	Yes	4 violations	Reported to ADEM, and on MWPP.
	Investigations	Investigate reports/ complaints	Yes	None Reported	None reported
Construction	Site Inspections	Frequently during construction	Yes	None	No construction permits were issued
Industrial	Inspections	As Needed	N/A	As Needed	No permitting RCRA facilities
Education	Litter Campaign	Maintain Program	Yes	Keep Mobile Beautiful and Coastal Clean up	
	Public Information	Maintain Program	Yes	Maintained City's Website	

4.0 NARRATIVE REPORT

4.1 Educational Activities/ Public Participation and Involvement

As part of their public service education program, the City maintains their website which includes information on storm water pollution, its causes and how citizens can help prevent storm water pollution. The City also produces a newsletter every two months announcing upcoming City events which includes any stormwater related events. The newsletter is mailed to the City's residents and it available in City buildings.

To assist with controlling litter the City participates in the Keep Mobile Beautiful Program and the Coastal Clean Up Program. The City conducts an annual non-hazardous waste/garbage collection day called "Clean Sweep" for city residents at no extra charge. This year the Big Fall Clean Sweep was combined with the Coastal Clean-up. The City provided five drop off locations and encouraged their residents to clean up their waterways, garages, sheds, yards, and back alleys by bringing their old junk, scrap metal, appliances, tree limbs, yard debris and old tires to these drop locations. The City properly disposes of these items at a permitted landfill. The City notified their residents of the "Clean Sweep" event by the aforementioned newsletter. This year's event was held in September and the City collected 150 tires and approximately 8,000 lbs of trash. Coastal Clean-up encourages volunteers to bring their boat, canoe, kayak etc. and help clean up the waterways. The City provides the necessary supplies at registration. The Coastal Clean-up encouraged attendance by providing t-shirts to the first 100 registrants.

The City also provides educational opportunities to its employees. The City Code Inspector attends the monthly meetings of the Code Officials of Lower Alabama Association, annual meeting of the Code Officials of Alabama, annual COLA mid-winter conference, and the annual meeting of the Alabama Association of Plumbing, Gas, and Mechanical Inspectors. The Maintenance Superintendent has attended Emergency Management Agency-sponsored seminars on flood hazards and disaster mitigation. Public Safety officers have been trained in hazardous materials handling. The Utilities Supervisor attends various seminars related to water and wastewater management at events such as Alabama Water Environmental Association Conference. In addition, during this reporting period first responders for the City, which included police, firemen, code inspector and maintenance workers attended the National Incident Management System (NIMS) training through the Emergency Management Institute.

The City has encouraged a volunteer citizen group called the Chickasaw Community Patrol. The volunteers apply for membership through the City Council. The volunteers monitor the streets of Chickasaw day and night looking for any issues that the City needs to address. These issues include break-ins, burglars, flooded streets, street repairs, littered streets, overgrown vegetation etc. The volunteers report any items to the City docket and it is determined then if the police department should be involved immediately or a work order initiated.

4.2 Monitoring and Screening

Field screening locations and monitoring stations were selected based upon their proximity to major stream systems, drainage basins, and urban development. Field screening stations were examined during dry conditions to verify that flow exists only during rainfall events. Monitoring stations were located along water bodies that would receive runoff from overland flow and storm water outfalls. These stations were selected as representative of the regional drainage conditions within the City's boundaries. The major outfall and the ten field screening locations were reviewed for evidence of illicit discharges during the permit period. No illicit discharges were noted during these inspections. Results of the 2012 Monitoring are included in Section 7 of this report.

Additionally, NOAA installed a Tide Monitoring System at Brooks Park in the City of Chickasaw. The City has access to this station along with five others to monitor the levels at there locations.

4.3 Illicit Inspection/Investigation/Enforcement

The City of Chickasaw responds to illicit discharges and continues to inspect, investigate, and enforce violations. No problems were reported during the permit year.

Routine dry weather screening is handled by the City's Drainage Department. Suspected illicit discharges are investigated and handled immediately. There were no citations issued this year for illicit discharges.

4.4 Spills

The Chickasaw Police Department has developed and implemented a Procedural General Order (PGO) for the reporting and handling of hazardous and/or toxic materials spills and incidents. Public Service Officers are first responders trained in hazardous materials and their containment. The City has mutual aid agreements with the City of Mobile and the City of Saraland Fire Departments which includes their HazMat units. There were no spills reported during the permit period.

The Public Safety Department (PSD) of the City has made a concerted effort to insure that the PSD is ready to respond to manmade or natural disasters. The PSD strives to maintain a strong working relationship with Federal and State agency, local EMA, and surrounding municipalities.

4.5 Development Planning Procedures

Ordinance 1540 requires contractors with projects that include land-disturbing activities of two or more acres to submit a construction site storm water management plan to the City Building Inspector for review and approval. For those land-disturbing activities that involve two acres or less, a simplified storm water management plan must be developed and followed during construction. These plans require the approval of the City Building Inspector but not a professional certification. The City Building Inspector inspects for compliance with the storm water management plan during site visits. The City's Planning Board and Board of Adjustments advise the City on the acceptability of current and future development. See section 4.6 for additional information on this item and compliance with ADEM's NPDES permits.

4.6 Construction Planning Procedures

The City's ordinances require submission of all potential developments within the City jurisdiction for review with building code compliance. Included in the review is compliance with storm water management. In addition, for construction projects over one acre, the City will request a copy of the applicant's ADEM National Pollutant Discharge Elimination System (NPDES) permit before City approval is granted to the site's storm water management plan or before a construction permit is granted. Construction sites must follow the guidelines established in the storm water pollution prevention plan (SWPPP) in order to proceed.

During the permit reporting period, the City did not issue any permits for new residential construction nor permits for commercial construction.

4.7 Construction Inspections

The City Code Inspector is responsible for construction inspections to ensure that all City codes are followed. These codes include building, electrical, plumbing, mechanical, gas, fire standard, storm water management and other miscellaneous codes. The Code Administration also approves land disturbance permits for construction. Once a permit is obtained, the builder must request inspections during different stages of construction. Inspectors generally visit each site several times during the construction process. These multiple inspections allow a city inspector to ensure compliance with the city codes which includes storm water management. The City requires Best Management Practices (BMP's) for all construction projects per ADEM regulations.

During the permit reporting period, the City did not issue any permits for new residential construction which requires a minimum of five inspections. Also, they did not issue any permits for commercial construction which would require a minimum of seven inspections. When permits are issued, the City Code Inspector keeps a file for each permitted site in a file cabinet located in the Code Inspector's office.

4.8 Pesticides, Herbicides, and Fertilizers

The City has an Ordinance for regulation of unsightly growth on residential and commercial properties. This assists with maintaining proper storm water drainage throughout the City within natural lined ditches by reducing the excessive vegetation growth that impedes the flow of storm water through the ditches.

The City sprays rights-of-way and ditch shoulders on an as-needed basis utilizing an ADEM approved herbicide. The herbicide is sprayed by qualified Maintenance Personnel with training on acceptable types of approved chemicals and their applications and quantities. Typically the growing season is from Spring to Fall and the herbicides are sprayed approximately every six (6) to eight (8) weeks during this time.

4.9 Roadway Maintenance

To the fullest extent possible, the construction of public streets, roads and highways under the jurisdiction and control of the City are designed to follow natural ridgelines. By using this design, disruption of existing grades and natural drainage areas are minimized. Natural drainage ways are maintained, preserved, and utilized in road design. In order to minimize the possibility of potential pollutant releases, road repairs are performed to the extent practicable during the dry season.

The Chickasaw Public Works Department performs smaller roadway maintenance projects, while larger projects are designed by local engineering firms or accomplished through Mobile County "Pay As You Go" programs. $225,000 was spent under the "Pay As You Go" program for this permit period. Additionally, five street overlay projects were completed through a Community Development Block Grant (CDBG) at a cost to the City of $80,000.

The City has a street sweeper which is utilized on an as-needed basis. Typically this correlates to quarterly use for the traveled roadways in the City of Chickasaw. The City also cleans the major roadways before and after City events such as the Christmas parade and the Clean Sweep.

Additionally the street sweeper will be used when large construction trucks inadvertently lose materials such as dirt or following a large storm event.

The City does not currently have a deicing program since icing of roadways and bridges is not common in this area.

4.10 Structural Controls Maintenance

The City of Chickasaw cleans and removes debris from all drains as necessary in order to maintain proper drainage. The Public Works Department maintains a regular inspection and maintenance schedule. Storm inlets and detention ponds are inspected at least once every three months and all necessary maintenance is performed. Also, elements of the drainage system are inspected before and after heavy rains and repairs are performed as needed. The City cleans the debris that accumulates on the screens at the storm water pumps as needed to maintain proper operation. The City completed pump repairs, ditch cleaning, and miscellaneous repairs at a cost of $24,000. The Public Works Department maintains weekly progress logs that are filed in the Public Works Director's office.

4.11 Industrial Inspection

There are no facilities subject to regulations under the Resource Conversation and Recovery Act (RCRA) within the City's jurisdiction.

4.12 Flood Management

The ordinance 1540 adopted by the City of Chickasaw requires responsible parties to calculate the impact that their land disturbing activities will have on the City's drainage capacity and to implement controls should analysis show that the quantity of water generated during storm flows by the development will negatively impact the City's drainage capacity or downstream property. The City Building Inspector may then require the following:

- Water surface profiles plotted for the conditions of pre- and post-development for a 10-year design storm.
- Water surface profiles plotted for the conditions of pre- and post-development for the 100-year design storm.
- Elevations of all structures potentially damaged by 10- and 100-year flows.

Appropriate storm water management facilities are required by the City based on the findings of these profiles and evaluations. The City reviews any reported flood/drainage problems and takes appropriate action based on the severity of the problem.

Past projects associated with flood management have included the removal of debris, fallen trees, and other blockages to advance flow from wetland canals, streams, and creeks within the city.

The City completed a drainage repair on Idlewood Drive at a cost $7,000, drainage and parking lot repair for $6,500, and levee repairs at a cost of $5,000.

Future plans for improving flood management include a project at 12th Avenue from Kansas Street across Iroquois Street to Gum Tree Branch at an estimated cost of $450,000, a drainage ditch from Court Street to Hwy 43 at an estimated cost of $1,000,000, and a ditch enclosure from Lee Street to Court Street at an estimated cost of $650,000. This projects will be completed as funding becomes available.

4.13 Municipal Facilities

The City's Public Works Department conducts routine cleaning of drainage systems, including open ditches and closed pipe systems. The City also performs minor construction drainage projects as needed. The City utilizes an oil recovery tank for their vehicles.

The City cleans their parks after every sporting event, cookouts, and concerts by removing litter and inspecting the facilities, including site drainage, are in working condition. The City also does weekly cleaning of the parks during the active seasons for that park.

4.14 Oil and Household Hazardous Waste

The City of Chickasaw provides residents with a newsletter every two months which provides information on activities within the community. The City conducts an annual non hazardous waste/garbage collection day called "Clean Sweep" for city residents at no extra charge. Additionally, residents are provided information on the disposal of common household wastes and given drop-off locations for those materials not accepted by the City.

4.15 Sanitary Sewer Seepage

Through an ongoing review of the sanitary sewer system infrastructure, various pipe replacements and pump station repairs are completed as needed. Activities in these areas are in an effort to reduce sewer overflows and inflow/infiltration. During the permit period the City cleaned and television inspected approximately 1.5 miles of sanitary sewer mains at an approximate cost of $19,050. Additionally, the City performed repairs as needed throughout the collection system at a cost of $41,716.14.

A total of four (4) Sanitary Sewer Overflows (SSO's) were reported this year. The overflows were attributed to Inflow/Infiltration during heavy rain events. All SSO's were promptly addressed by the sewer department and reported in accordance with ADEM Guidelines.

5.0 SUMMARY OF PROPOSED PROGRAM MODIFICATIONS

The City of Chickasaw along with other smaller cities in Mobile and Baldwin County were included in a Phase I permit with the City of Mobile. In March, 2012 the City requested to be removed from the MS4 program or at a minimum be revised to a Phase II permitee. The request is based the following factors: population, land use, receiving stream water quality, and documented history of water quality monitoring of the major outfall. Currently the request is ongoing and being reviewed by ADEM. A copy of the submitted letter is located in the Appendix.

6.0 FISCAL ANALYSIS

6.1 Past Fiscal Year (Ending 9/2011)

Public Works Department	
Implementation	
Salaries/Wages(All Maintenance personnel)	$ 260,000
Equipment/Supplies/Services	$ 200,000
Education	$ 1,000
Widening of Mike Box Bridge	$ 375,000
Total Estimated Budget	$ 836,000

6.2 Current Fiscal Year (Ending 9/2012)

Public Works Department	
Implementation	
Salaries/Wages(All Maintenance personnel)	$ 260,000
Equipment/Supplies/Services	$ 200,000
Education	$ 1,000
Hurricane Isaac Repairs	$ 30,000
Pay As You Go projects	$ 225,000
CDBG Overlay projects	$ 80,000
Total Estimated Budget	$ 796,000

7.0 MONITORING RESULTS

7.1 Monitoring Locations

The following is a list of field screening locations and the major outfall site. Individual sampling sites are indicated on the map included in Appendix A.

Screening Sites	Location	GPS Coordinates
MO-1	Sam Rawls Gazebo @ Chickasabouge Creek loading dock near US 43 Bridge Crossing	30° 46' 54.839 N 88° 04' 24.787 W
FS-1	500 Viaduct Rd @ Arc Terminals @ Railroad Track	30° 45' 48.680 N 88° 03' 43.322 W
FS-2	South end of Howell Street near UOP Gate 3 sign located just pass the railroad and Southern St. next to 15 mph signage.	30° 45' 39.92 N 88° 04' 16.851 W
FS-3	Intersection of Thompson Dr. & Hopi Dr. (2nd drain, east side) A.O. Smith Water & Heater-Eddins Plumbing Inc.	30° 45' 48.374 N 88° 05' 18.634 W
FS-4	1002 Thompson Blvd at bridge crossing across from Central Electrical Substation	30° 45' 39.786 N 88° 05' 53.673 W
FS-5	Intersection of Fox Ave and 9th Avenue	30° 45' 33.709 N 88° 05' 34.805 W
FS-6	North end of Mauvilla Drive South, adjacent to I-65 bridge	30° 46' 20.398 N 88° 05' 41.933 W
FS-7	Hillsdale Drive across from 507 Hillsdale Drive	30° 46' 23.728 N 88° 05' 17.909 W
FS-8	Drop inlets at 220/222 Casche Circle	30° 46' 49.897 N 88° 05' 07.803 W
FS-9	Drop inlets at 312 Idlewood	30° 46' 40.039 N 88° 05' 13.657 W
FS-10	Across from 321 Grant Avenue just west of Craft Hwy	30° 46' 03.057 N 88° 04' 33.510 W

7.2 Wet Weather Data

Wet weather data included in this report consists of a representative sample collected at the designated major outfall as identified in this report. This sample data is included in Appendix B. Review of the results note the possibility that the receiving stream is backwashing into the storm water at the point of the sampling. The sampling results indicate low pollutant levels and loadings. There are no indications that the City is contributing to the elevated mercury levels of the receiving streams.

7.3 Dry Weather Data

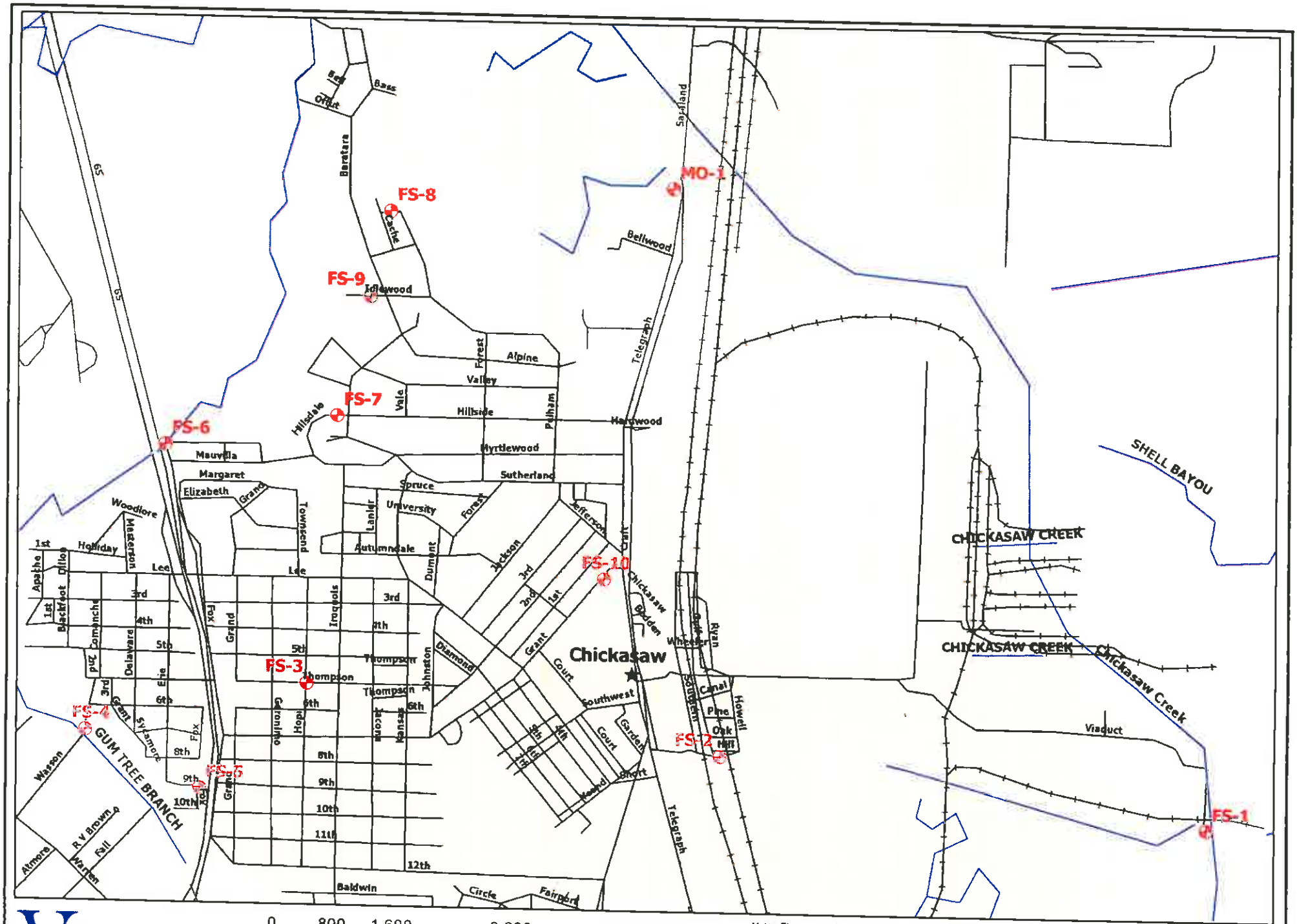
Dry weather field screenings were performed within the permit period. All sites appeared to be in operable condition. There were no illicit discharges at the time of the inspection.

8.0 SUMMARY

This report includes a history and overview of the City of Chickasaw's MS4 Program, monitoring results and locations and a review of the programs elements and activities. The City has implemented and performs the EPA recommended program elements as part of their ADEM MS4 Permit. The intent of the program is to reduce pollutants in storm water that is discharged from the storm water system and to prevent the degradation of receiving streams. The receiving stream for the City of Chickasaw is Chickasaw Creek which is listed on the 2010 Alabama §303(d) List for impaired waterways. The listed cause for the impairment is an elevated concentration of the metal Mercury from an unknown source. Monitoring results provided indicate low pollutant levels and loadings; there are no indications that the City is contributing to the elevated Mercury levels of the receiving stream.

The City of Chickasaw will continue to focus on storm water management and look for ways to enhance their current program.

Appendix A



VOLKERT & ASSOCIATES, INC.

0 800 1,600 3,200 Feet

1 inch equals 1,600 feet

Note This map is for presentation use only and not to be used for construction purposes

Map Document (V:\GIS\GIS_Projects\StormWater\GISMap_Documents\StormWater_Sampling.mxd)
9/16/2003 -- 8:55:31 AM

Chickasaw

Appendix B

ENVIROCHEM
Environmental Laboratories

4320 Midmost Drive Mobile, Alabama 36609
Phone (251) 344-9106 Fax (251) 341-9492

Volkert Environmental Group
P.O. Box 7434
Mobile, AL 36670

Attention: Melissa O'Sullivan

Project: Stormwater Sites

Project Number: Chickasaw -SiteMS-4 -2012

Report Date: 10/25/2012 1:28:49PM

ANALYTICAL REPORT

This report includes the results of analyses for the samples listed below that were received by the laboratory on 09/05/12 16:10. If you have any questions concerning this report, please feel free to call Ken Mohr at (251) 344-9106.

Sample Description	*Laboratory ID*	*Matrix*	*Sample Type*	*Date Sampled*	*Date Received*
Chickasaw Grab	12I0071-01	Surface Water	Grab	09/04/2012	09/05/2012
Chickasaw	12I0071-02	Surface Water	Composite	09/05/2012	09/05/2012

Ken Mohr Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

The test results in this report meet NELAP requirements for accredited parameters, unless otherwise noted, and relate only to the sample(s) received by this laboratory. This report must be reproduced in its entirety unless approved by the laboratory.

Results are reported on a "wet weight basis," unless otherwise noted.

ENVIROCHEM
Environmental Laboratories

4320 Midmost Drive Mobile, Alabama 36609
Phone (251) 344-9106 Fax (251) 341-9492

Volkert Environmental Group
P.O. Box 7434
Mobile, AL 36670

Attention: Melissa O'Sullivan

Project: Stormwater Sites

Project Number: Chickasaw -SiteMS-4 -2012

Report Date: 10/25/2012 1:28:49PM

Sample Name Chickasaw Grab
Sample Date. 09/04/12 22 00 Date Received 09/05/12 16 10 Sampled by Butch Nolin
Sample Type Grab
Matrix Surface Water

Analyte	Result	Units	Reporting Limit	Analyst	Prepared	Analyzed	Method	Batch	Lab Number	Qualifier
Classical Chemistry Parameters										
Oil & Grease	< 2	mg/L	2	DEF	09/07/12 09 00	09/07/12 09 00	EPA 1664	2I06005	12I0071-01	U
Field Parameters										
pH	**7.24**	su	0 01	CVN	09/04/12 22 00	09/04/12 22 00	SM 4500H-B	2I08001	12I0071-01	

Sample Name. Chickasaw
Sample Date 09/05/12 01 00 Date Received 09/05/12 16 10 Sampled by Butch Nolin
Sample Type Composite
Matrix Surface Water

Analyte	Result	Units	Reporting Limit	Analyst	Prepared	Analyzed	Method	Batch	Lab Number	Qualifier
Classical Chemistry Parameters										
Biochemical Oxygen Demand	**5**	mg/l	2	JMB	09/06/12 09 56	09/11/12 09 05	SM 5210B	2I06009	12I0071-02	
Phosphate, Total as P	**0.143**	mg/L	0 100	RJL	09/13/12 11 30	09/13/12 11 30	EPA 365 4	2I20017	12I0071-02	
Total Dissolved Solids	**385**	mg/L	5	AET	09/12/12 15 20	09/12/12 15 20	SM 2540C	2I12005	12I0071-02	
Total Kjeldahl Nitrogen	**1.8**	mg/L	0 5	RJL	09/17/12 11 30	09/17/12 12 46	EPA 351 2	2I17037	12I0071-02	
Total Suspended Solids	**10**	mg/L	5	JMB	09/06/12 14 36	09/07/12 09 25	SM 2540D	2I06030	12I0071-02	
Phosphorus-Total Dissolved	< 0 100	mg/L	0 100	RJL	09/13/12 11 30	09/13/12 11 30	EPA 365 4	2I20017	12I0071-02	U
Nitrate as N	< 0 1	mg/L	0 1	RJL	09/06/12 15 30	09/12/12 08 30	EPA 353 2	2I12010	12I0071-02	U
Nitrite as N	< 0 020	mg/L	0 020	DEF	09/06/12 15 30	09/06/12 15 30	SM 4500NO2-B	2I07006	12I0071-02	U

ENVIROCHEM
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Attention: Melissa O'Sullivan

Project: Stormwater Sites

Project Number: Chickasaw -SiteMS-4 -2012

Report Date: 10/25/2012 1:28:49PM

Classical Chemistry Parameters - Quality Control

Analyte	Reporting Limit	Units	Result	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (2106005-BLK1)				Prepared & Analyzed 09/06/12						
Oil & Grease	2	mg/L	ND							U
LCS (2106005-BS1)				Prepared & Analyzed 09/06/12						
Oil & Grease	2	mg/L	35 0	40 0		88	78-114			
Matrix Spike (2106005-MS1)		Source: 1210052-02		Prepared & Analyzed 09/06/12						
Oil & Grease	2	mg/L	36 0	40 0	ND	90	78-114			
Blank (2106009-BLK1)				Prepared 09/06/12 Analyzed 09/11/12						
Biochemical Oxygen Demand	2	mg/L	ND							U
LCS (2106009-BS1)				Prepared 09/06/12 Analyzed 09/11/12						
Biochemical Oxygen Demand		mg/L	212	198		107	84 6-115 4			
LCS Dup (2106009-BSD1)				Prepared 09/06/12 Analyzed 09/11/12						
Biochemical Oxygen Demand		mg/L	200	198		101	84 6-115 4	5	30	
Duplicate (2106009-DUP1)		Source: 1210077-02		Prepared 09/06/12 Analyzed 09/11/12						
Biochemical Oxygen Demand	2	mg/L	15000		15000			0 2	35	
Blank (2106030-BLK1)				Prepared 09/06/12 Analyzed 09/07/12						
Total Suspended Solids	5	mg/L	ND							U

ENVIROCHEM
Environmental Laboratories

4320 Midmost Drive Mobile, Alabama 36609
Phone (251) 344-9106 Fax (251) 341-9492

Volkert Environmental Group
P.O. Box 7434
Mobile, AL 36670

Attention: Melissa O'Sullivan

Project: Stormwater Sites

Project Number: Chickasaw -SiteMS-4 -2012

Report Date: 10/25/2012 1:28:49PM

Classical Chemistry Parameters - Quality Control

Analyte	Reporting Limit	Units	Result	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Duplicate (2I06030-DUP1)		**Source: 12I0091-02**		Prepared 09/06/12 Analyzed 09/07/12						
Total Suspended Solids	5	mg/L	70		67			4	26	
Duplicate (2I06030-DUP2)		**Source: 12I0071-02**		Prepared 09/06/12 Analyzed 09/07/12						
Total Suspended Solids	5	mg/L	10		10			0	26	
Reference (2I06030-SRM2)				Prepared 09/06/12 Analyzed 09/07/12						
Total Suspended Solids		mg/L	254	250		102	89 2-110 8			
Blank (2I07006-BLK1)				Prepared & Analyzed 09/06/12						
Nitrite as N	0 020	mg/L	ND							U
LCS (2I07006-BS1)				Prepared & Analyzed 09/06/12						
Nitrite as N	0 020	mg/L	0 0528	0 0500		106	89 1-117			
LCS Dup (2I07006-BSD1)				Prepared & Analyzed 09/06/12						
Nitrite as N	0 020	mg/L	0 0530	0 0500		106	89 1-117	0 4	15	
Matrix Spike (2I07006-MS1)		**Source: 12I0070-02**		Prepared & Analyzed 09/06/12						
Nitrite as N	0 020	mg/L	0 0608	0 0500	0 0120	98	73 9-126			
Matrix Spike Dup (2I07006-MSD1)		**Source: 12I0070-02**		Prepared & Analyzed 09/06/12						
Nitrite as N	0 020	mg/L	0 0628	0 0500	0 0120	102	73 9-126	3	20	
Blank (2I12005-BLK1)				Prepared & Analyzed 09/12/12						
Total Dissolved Solids	5	mg/L	ND							U

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Project Number: Chickasaw -SiteMS-4 -2012

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Classical Chemistry Parameters - Quality Control

Analyte	Reporting Limit	Units	Result	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Duplicate (2I12005-DUP1)		**Source: 12I0070-02**		Prepared & Analyzed 09/12/12						
Total Dissolved Solids	5	mg/L	91		92			1	10	
Reference (2I12005-SRM1)				Prepared & Analyzed 09/12/12						
Total Dissolved Solids		mg/L	148	146		101	91 1-108 9			
Blank (2I12010-BLK1)				Prepared & Analyzed 09/12/12						
Nitrate as N	0 1	mg/L	ND							U
LCS (2I12010-BS1)				Prepared & Analyzed 09/12/12						
Nitrate as N	0 1	mg/L	1 1	1 00		107	90-110			
LCS Dup (2I12010-BSD1)				Prepared & Analyzed 09/12/12						
Nitrate as N	0 1	mg/L	1 1	1 00		107	90-110	0	25	
Matrix Spike (2I12010-MS1)		**Source: 12I0107-01**		Prepared & Analyzed 09/12/12						
Nitrate as N	1 0	mg/L	3 0	1 00	2 1	96	90-110			
Matrix Spike Dup (2I12010-MSD1)		**Source: 12I0107-01**		Prepared & Analyzed 09/12/12						
Nitrate as N	1 0	mg/L	3 0	1 00	2 1	95	90-110	0 3	25	
Blank (2I17037-BLK3)				Prepared & Analyzed 09/17/12						
Total Kjeldahl Nitrogen	0 5	mg/L	ND							U

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Project: Stormwater Sites

Project Number. Chickasaw -SiteMS-4 -2012

Attention: Melissa O'Sullivan

Report Date: 10/25/2012 1:28:49PM

Classical Chemistry Parameters - Quality Control

Analyte	Reporting Limit	Units	Result	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Blank (2I17037-BLK4)				Prepared & Analyzed 09/17/12						
Total Kjeldahl Nitrogen	0 5	mg/L	ND							U
Matrix Spike (2I17037-MS3)	**Source: 12I0074-02**			Prepared & Analyzed 09/17/12						
Total Kjeldahl Nitrogen	5 0	mg/L	100	82 0	10	113	80-120			
Matrix Spike Dup (2I17037-MSD3)	**Source: 12I0074-02**			Prepared & Analyzed 09/17/12						
Total Kjeldahl Nitrogen	5 0	mg/L	100	82 0	10	112	80-120	0 9	20	
Calibration Check (2I17039-CCV1)				Prepared & Analyzed 09/17/12						
Total Kjeldahl Nitrogen		mg/L	10	10 0		105	85-115			
Calibration Check (2I17039-CCV2)				Prepared & Analyzed 09/17/12						
Total Kjeldahl Nitrogen		mg/L	10	10 0		111	85-115			
Calibration Check (2I17039-CCV3)				Prepared & Analyzed 09/17/12						
Total Kjeldahl Nitrogen		mg/L	10	10 0		109	85-115			
Calibration Check (2I17039-CCV4)				Prepared & Analyzed 09/17/12						
Total Kjeldahl Nitrogen		mg/L	10	10 0		108	85-115			
Calibration Check (2I17039-CCV5)				Prepared & Analyzed 09/17/12						
Total Kjeldahl Nitrogen		mg/L	10	10 0		107	85-115			
Calibration Check (2I19020-CCV1)				Prepared & Analyzed 09/19/12						
Nitrate as N		mg/L	1 1	1 00		107	90-110			

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Classical Chemistry Parameters - Quality Control

Analyte	Reporting Limit	Units	Result	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Calibration Check (2I19020-CCV2)				Prepared & Analyzed 09/19/12						
Nitrate as N		mg/L	1 1	1.00		110	90-110			
Blank (2I20017-BLK1)				Prepared & Analyzed 09/13/12						
Phosphate, Total as P	0 100	mg/L	ND							U
Phosphorus-Total Dissolved	0 100	"	ND							U
LCS (2I20017-BS1)				Prepared & Analyzed 09/13/12						
Phosphate, Total as P	0 100	mg/L	0 600	0 653		92	85-115			
LCS Dup (2I20017-BSD1)				Prepared & Analyzed 09/13/12						
Phosphate, Total as P	0 100	mg/L	0 577	0 653		88	85-115	4	25	
Matrix Spike (2I20017-MS1)		Source: 12I0074-02		Prepared & Analyzed 09/13/12						
Phosphate, Total as P	1 00	mg/L	8 10	6 53	1 66	99	75-125			
Matrix Spike Dup (2I20017-MSD1)		Source: 12I0074-02		Prepared & Analyzed 09/13/12						
Phosphate, Total as P	1 00	mg/L	8 06	6 53	1 66	98	75-125	0 5	25	
Calibration Check (2I20019-CCV1)				Prepared & Analyzed 09/13/12						
Phosphate, Total as P		mg/L	0 935	1 00		94	90-110			
Phosphorus-Total Dissolved		"	0 000	1 00			0-200			U

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Classical Chemistry Parameters - Quality Control

Analyte	Reporting Limit	Units	Result	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Calibration Check (2I20019-CCV2)				Prepared & Analyzed 09/13/12						
Phosphate, Total as P		mg/L	0 927	1 00		93	90-110			
Phosphorus-Total Dissolved		"	0 000	1 00			0-200			U
Calibration Check (2I20019-CCV3)				Prepared & Analyzed 09/13/12						
Phosphate, Total as P		mg/L	0 920	1 00		92	90-110			
Phosphorus-Total Dissolved		"	0 000	1 00			0-200			U
Calibration Check (2I20019-CCV4)				Prepared & Analyzed 09/13/12						
Phosphate Total as P		mg/L	0 951	1 00		95	90-110			
Phosphorus-Total Dissolved		"	0 000	1 00			0-200			U
Calibration Check (2I20019-CCV5)				Prepared & Analyzed 09/13/12						
Phosphate Total as P		mg/L	0 948	1 00		95	90-110			
Phosphorus-Total Dissolved		"	0 000	1 00			0-200			U

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Attention: Melissa O'Sullivan

Project: Stormwater Sites

Project Number: Chickasaw -SiteMS-4 -2012

Report Date: 10/25/2012 1:28:49PM

CASE NARRATIVE

The results presented in this report relate only to the sample(s) received on 9/5/2012 4 10 00 PM for Volkert Environmental Group - 1210071-01, 12I0071-02

Storm Event Data

Total Rainfall - 2 92 inches
Duration- 100 minutes
Total Storm Water Flow- 5 00 mgd
Velocity-Minimum - 0 27 fps Maximum- 1 93 fps Average - 1 42 fps

Sample Receipt
Sample receipt information, including documentation of any deviation(s) from sample receiving quality control acceptance criteria, is provided on attachments to the report including the Sample Receipt Checklist, Chain of Custody, and/or Field Data Sheet

Comments
No additional comments.

Explanation of qualified data in this report:

U The compound was analyzed for but not detected

ENVIROCHEM
Environmental Laboratories

4320 Midmost Drive Mobile, AL 36609
Tel: 251/344-9106 Fax: 251/341-9492

Chain of Custody Record
Agreement to Perform Services

LAB NO: 12I0071

CLIENT: Volkert
ADDRESS:
CITY/ST/ZIP:
CONTACT:
PHONE:
FAX:
EMAIL:

PROJECT: Chickasaw Sh
PO#:
METHOD OF DELIVERY: ☐ UPS ☐ FEDX ☐ ECI SAMPLED ☐ ECI PICK-UP ☐ USPS ☐ DROP OFF ☐ DROPBOX (LOCKED: Y N) ☐ BUS

*SPECIFY ANALYTE LIST AND/OR METHOD

TCLP: ☐ METALS ☐ VOLATILES ☐ SEMI-VOL ☐ HERB ☐ PEST ☐ FLASHPOINT ☐ HAZ pH

TAT: ROUTINE TAT IS 10+ WORKING DAYS. RUSH TAT REQUIRES APPROVAL AND MAY INCUR ADDITIONAL CHARGES
☐24 hrs ☐48 hrs ☐72 hrs ☐5 days ☐Routine
Approved by:

Matrix Codes: A=Air B=Bulk S=Soil GW=Groundwater SW=Stormwater SFW=Surface Water WW=Wastewater DW=Drinking Water P=Paint L=Liquid SLD= Solid

PRESERVATION/CONTAINERS FOR WATER SAMPLES
SHADED AREAS FOR LAB USE ONLY

F0301 01

LAB USE ONLY	FIELD ID	COMPOSITE	GRAB	MATRIX	SAMPLER	AUTOSAMPLER STARTED DATE/TIME	SAMPLE COLLECTION DATE/TIME	Flow, mgd	Cl_2, mg/l	pH, su	Temp, °C
	Chickasaw		1	EW	BN	09/04/12	22:00			7.24	
	Chickasaw	1		EW	BN	09/05/12	1:00				

Analyses (PLASTIC / NONE; PLASTIC / H_2SO_4; P/G / NaOH; GLASS / H_2SO_4; GLASS / NONE, HCl; STERILE / $Na_2S_2O_3$; HNO_3; MISC TEST):

FIELD ID	ALKALINITY	BOD 5-DAY	CBOD 5-DAY	CHLORIDE	NITRITE	O-PHOS	pH	SS	SULFATE	TDS	TSS	TURBIDITY	AMMONIA-N	COD	NITRATE	NO3+NO2	TKN	TOTAL PHOS
Chickasaw							/											
Chickasaw		/			/					/	/			/			/	/

FIELD ID	CN, AMENABLE	CN, TOTAL	OIL & GREASE	PHENOLS*	TOC	PAH	SEMI-VOL*	TPH*	BETX	BETXM	BETXN	VOLATILES*	COLIFORM, MF	COLIFORM, P/A	ENTERO	FECAL COLI	METALS*	ASBESTOS	Dis Phos
Chickasaw			/																
Chickasaw																			/

SUBMITTAL OF SAMPLE(S) INDICATES THE CLIENT'S RECOGNITION AND ACCEPTANCE OF ENVIROCHEM'S TERMS AND CONDITIONS (ON BACK), UNLESS OTHERWISE AGREED TO IN WRITING BY BOTH PARTIES.

1. RELINQUISHED BY: SAMPLER(S) SIGNATURE(S): [signature] DATE/TIME: 09/05/12 1610
PRINT NAME(S): [signature] COMPANY:

2. RECEIVED BY: SIGNATURE: Amy C Wheat DATE/TIME: 9/5/12 1610
PRINT NAME: COMPANY:

3. RELINQUISHED BY: SIGNATURE: DATE/TIME
PRINT NAME: COMPANY:

4. RECEIVED BY: SIGNATURE: DATE/TIME
PRINT NAME: COMPANY:

5. RELINQUISHED BY: SIGNATURE: DATE/TIME
PRINT NAME: COMPANY:

6. RECEIVED BY: SIGNATURE: DATE/TIME
PRINT NAME: COMPANY:

COOLER TEMP: 25.6 °C ICE PRESENT: Y (N)
AIR BUBBLES PRESENT IN VOA VIALS: Y N (N/A)
CUSTODY SEALS INTACT: Y N (N/A)
CORRECT CONTAINERS: (Y) N

DAMAGED CONTAINERS: Y (N)
HOLD TIME(S) EXCEEDED: Y (N)
ID DISCREPENCIES: Y (N)
pH CHECKED & ACCEPTABLE: (Y) N Bench pH N/A

CORRECTIVE ACTION TAKEN: Y N IF YES, EXPLAIN
PERSON CONTACTED: DATE/TIME:
CONTACTED BY: PROCEED WITH WORK ORDER: Y N

PAGE ___ OF ___

Appendix C

ORDINANCE NO. 1540

An ordinance to create a comprehensive
Stormwater Discharge Plan
An ordinance establishing procedures for regulation and control of precipitation and other liquid discharges from vehicles, commercial and industrial facilities, construction sites and individual residential sites; providing a penalty for violation.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF CHICKASAW, ALABAMA, AS FOLLOWS:

ARTICLE I

General Provisions

Section 1. The purpose of this ordinance is to provide for the protection of human health and the environment through the establishment of procedures to control discharges from commercial and industrial facilities, construction sites, and individual residences. This ordinance provides measures that will conserve water quality, and the application of this ordinance shall not be deemed a limitation or repeal of any State statute.

Section 2. DEFINITIONS: For the purpose of this ordinance, the following terms shall have the meaning given herein:

(a) Best management practices shall mean a wide range of management procedures, schedules of activities, prohibitions on practices and other management practices which have been demonstrated to effectively control the quality and/or quantity of storm water runoff and which are compatible with the planned land use.

(b) **Development** shall generally mean any of the following action undertaken by a public or private individual or entity:

-the division of a lot, tract or parcel of land into two or more lots, plots sites, tracts, parcels or other divisions by plat or deed,

-any land change, including, without limitation, clearing, tree removal, grubbing, stripping, dredging, grading, excavating, transporting and filling of land.

(c) **Develop land** shall mean to change the runoff characteristics of a parcel of land in conjunction with residential, commercial, industrial, or institutional constriction or alteration.

(d) **Hazardous substance or material** shall mean any substance or material defined as hazardous by the US Department of Transportation, the US Environmental Protection Agency, the Alabama Public Service Commission, the Alabama Department of Environmental Management or any other federal or state agency, including but not limited to the definitions and illustrations given in the Code of Federal Regulations. Title 40, Section 171.8, as may be amended from time to time.

(e) **Person** shall mean an individual, partnership, association, syndicate, company, firm, trust, corporation, business, government entity, or any entity recognized by law.

(f) **Illicit discharge** shall mean any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other the the NPDES permit for discharges for the municipal separate storm sewer) and discharges resulting from fire fighting activities.

(g) Pollutant shall mean those pollutants specified in Code of Alabama 1975, Section 22-22-1(b)(3) and any other effluent characteristics specified in a NPDES permit.

(h) Storm water management shall mean the collection, conveyance, storage, treatment and disposal of storm water runoff in a manner to minimize accelerated channel erosion, increased flood damage, and/or degradation of water quality and in a manner to enhance and ensure the public health, safety, and general welfare.

(i) Storm drain or storm sewer shall mean a drain or sewer for conveying precipitation from a storm event.

(j) Storm water runoff shall mean the direct response of a watershed to precipitation and includes the surface and subsurface runoff that enters a ditch, stream, storm drain or other concentrated flow during and following precipitation.

(k) Ten-year storm shall mean a storm that is capable of producing rainfall expected to be equaled or exceeded on the average of one in 10 years. It may also be expressed as an exceedance probability with a 10 percent chance of being equaled or exceeded in any given year.

(l) Twenty-five year storm shall mean a storm that is capable of producing rainfall expected to be equaled or exceeded on the average of one in 25 years. It may also be expressed as an exceedance probability with a 4 percent chance of being equaled or exceeded in any given year.

(m) Two-year storm shall mean a storm that is capable of producing rainfall expected to be equaled or exceeded on the average of one in 2 years. It may also be expressed as an exceedance probability with a 50 percent chance of being equaled or exceeded in any given year.

(n) Water quality shall mean those characteristics of storm water runoff that relate to the physical, chemical, biological, or radiological integrity of the water.

(o) Watershed shall mean the drainage area contributing storm water runoff to a single point.

ARTICLE II

Illicit Discharges

Section 1. It shall be unlawful for any person, firm, or corporation to allow water or any other liquid to run or flow continuously from a private premises in the City of Chickasaw, Alabama, into, on, or upon the streets or into the storm drain system, excepting however, rain, sleet or snow failing on said private premise by an Act of God.

Section 2. It shall be unlawful for any person, firm, or corporation to discharge a pollutant to the City's storm water system that will have a deleterious impact on the environment. Any pollutant, associated with an industrial or commercial activity that is covered by the National Pollutant Discharge Elimination System as dictated by 40 CFR 122.26, can be discharged to the City storm water system only if the discharge is covered by an NPDES permit for storm water.

Section 3. Where an illicit discharge is suspected by the City of originating from a facility, it shall be the right of the City to designate employees, bearing proper credentials and identification, to enter facility grounds for the purpose of inspection, observation, measurement, sampling and testing in accordance with this ordinance.

Section 4. Authority is hereby granted to the City to halt any discharge from a facility that is suspected by the City of being potentially harmful to human health or the environment.

Section 5. All costs incurred by the City in association with the ceasing of a potentially harmful discharge will be reimbursed by the discharging facility.

ARTICLE III

Releases from Hazardous Materials Transportation Vehicles

Section 1. The release or threatened release of hazard materials into the environment in violation of this ordinance shall be considered a nuisance. It shall be unlawful for any person to permit, cause, or maintain any such nuisance within the City.

Section 2. All persons, companies, other legal entities and all motor vehicles engaged in transportation operations for commercial purposes shall comply with all federal and state laws and regulations. These regulations shall include but are not limited to regulations enacted by the US Department of Transportation, Federal Highway Administration, the US Environmental Protection Agency, the Alabama Department of Environmental Management and the Alabama Public Service Commission, as fully set out and incorporated herein. Any violation of the above laws or regulations shall be a violation of this ordinance. The City police department is hereby authorized to stop and inspect any vehicles suspected of engaging in improper transportation operations which can potentially lead to a release in order to ensure compliance with this ordinance.

ARTICLE IV

Control of Runoff from construction Sites

Section 1. No person shall develop any land without having provided for appropriate storm water management measures that control or manage runoff, in compliance with this ordinance. Exceptions include the following:

Land disturbing activities on agricultural land for production of plants and animals useful to man, excluding the construction of an agricultural structure of one or more acres that require a building permit;

Land disturbing activities undertaken on forest land for the production and harvesting of timber and timber products;

Construction or improvement of single family residences or their accessory buildings which are separately built and not part of multiple construction of a subdivision development.

Section 2. (A) In developing plans for residential subdivisions, individual lots in a residential subdivision development shall not be considered to be separate land disturbing activities and shall not require development of a storm water management plan. Instead the residential subdivision development, as a whole, shall be considered to be a single land disturbing activity. Hydrologic parameters that reflect the ultimate subdivision development shall be used in all engineering calculations.

If individual lots or sections in a residential subdivision are being developed by different property owners, all land disturbing activities related to the residential subdivision shall be covered by the approved

jurisdictional boundaries, streams and rivers;

-The boundary lines of the site on which the work is to be performed; and

-All areas within the site which will be included in the land disturbing activities shall be identified and the total disturbed area calculated.

-A topographic map of site;

-Anticipated starting and completion dates of the various stages of land disturbing activities and the expected date the final stabilization will be complete.

-The location of temporary and permanent vegetative and structural storm water management control measures.

-Storm water management plans shall contain certification by the persons responsible for the land disturbing activity that the land disturbing activity will be accomplished pursuant to the plan.

-Storm water management plans shall contain certification by the person responsible for the land disturbing activity that the City Building Inspector has the right to conduct on-site inspections. Land disturbing activities more than two acres shall meet the requirements of Section 3-6.

Section 3. A storm water management plan shall be submitted to the City Building Inspector for review and approval. Should any plan involve any storm waster management facilities or land dedicated to public use, the same information shall also be submitted for review and approval to the department having jurisdiction over the land or other appropriate departments or agencies identified by the City Building Inspector for review and approval. This storm water

management plan shall serve as the basis for all subsequent construction. to public use, the same information shall also be submitted for review and approval to the department having jurisdiction over the land or other appropriate departments or agencies identified by the City Building Inspector for review and approval. This storm water management plan shall serve as the basis for all subsequent construction.

The City Building inspector shall review the plan within five working days from the receipt of the plan. Within ten working days from the receipt of the storm water management plan, the City Building Inspector shall issue a decision approving, rejecting or conditionally approving the plan with modification.

Storm water management plan requirements are found in Appendix A.

Section 4. A list of fees for plan review and other fees associated with this ordinance can be obtained from the City Building Inspector.

Section 5. Storm water management facilities may include both structural and nonstructual elements. Natural swales and other natural runoff conduits shall be retained where practicable.

Where additional storm water management facilities are required to satisfy the minimum control requirements, the following measures are examples of what may be used:

-Storm water detention structures (dry basins);

-Storm water retention structures (wet ponds);

-Facilities designed to encourage overland flow, slow velocities of flow, and flow through buffer zones; and

-Infiltration practices.

Where detention and retention structures are used, consolidation of these facilities into a limited number of large structures will be preferred over designs which utilize a large number of small structures. Storm water management plans can be rejected by the City Building Inspector if they incorporate structures and facilities that will demand considerable maintenance, will be difficult to maintain, or utilize numerous small structures if other alternatives are physically possible.

The drainage systems and all storm water management structures within the City will be designed in accordance with the technical criteria and standards established by the City Building Inspector.

Section 6. Storm water management plans shall be prepared, certified, and stamped/sealed by a qualified registered Professional Engineer, Land Surveyor or Landscape Architect, using acceptable engineering standards and practices.

ARTICLE V

Miscellaneous Provisions

Section 1. Variances. The City Building Inspector may grant a variance from the requirements of this ordinance if there are exceptional circumstances applicable to the site such that strict adherence to the site such that strict adherence to the provisions of the ordinance will result in unnecessary hardship and not fulfill the intent of the ordinance.

A written request for a variance shall be required and shall state the specific variance sought and the reasons, with supporting data, for their granting. The request shall include descriptions, drawings,

written notice of the violation and the time in which to correct the deficiencies.

Any person violating this ordinance or any part thereof shall be, upon conviction, fined not more than 500 hundred dollars or imprisoned not more than thirty days for each offense. Each separate interval of 24 hours, or every day, that such violations continue, are committed or exist, shall constitute a new and separate offense and shall be punished, as aforesaid, for each separate period of violation.

The City may institute injunctive, mandamus or other appropriate action or proceedings at law or equity for the enforcement of this ordinance or to correct violations of the ordinance, and any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus or other appropriate forms of remedy or relief.

Section 4. Whenever the provision of this ordinance imposes more restrictive standards than are required in or under any other ordinance, the regulation herein contained shall prevail. Whenever the provisions of any other ordinance require more strict standards than are required herein, the requirement of such shall prevail.

Section 5. If any section, sentence, clause, or phrase of this ordinance is for any reason held to be invalid or unconstitutional by declaration of any court of competent jurisdiction, such declaration shall not affect the validity of remaining portions of this ordinance. The City Council hereby declares that it would have adopted this ordinance and each section, sentence, clause, or phrase thereof irrespective of the fact that one or more articles, sections, sentences, clauses, or phrases be declared invalid or unconstitutional.

Section 6. This ordinance may be amended in the manner as prescribed by City procedure for ordinance amendment.

Section 7. Neither the approval of a plan under the provisions of this ordinance nor the compliance with the provisions of this ordinance shall relieve any person from the responsibility for damage to any person or property otherwise imposed by law nor shall it impose any liability upon the City for damage to any person or property.

Section 8. This ordinance shall take effect upon its due adoption and publication as required by law.

Adopted this 1st day of December 1998

Approved:

Mayor

Attest:

City Clerk

10. For all portions of the drainage system which are expected to carry 150 cfs or more for the 100-year storm, the 100-year plus one foot flood elevation analysis shall be done and flood limits shall be shown on the storm water management plans.

11. Storm water management plans shall include designation of all easements needed for inspection and maintenance of the drainage system and storm water management facilities. As a minimum, easements shall have the following characteristics:

    a. Provided adequate access to all portions of the drainage system and structures.

    b. Provide sufficient land area for maintenance equipment and personnel to adequately and efficiently maintain the system with a minimum of ten (10) feet along both sides of all drainage ways, streams, channels, etc., and around the perimeter of all detention and retention facilities, or sufficient land area for equipment access for maintenance of all storm water management facilities. This distance shall be measured from the top of the bank or toe of the facility, whichever is applicable.

    c. Restriction of easements shall include prohibiting all fences and structures which would interfere with access to the easement areas and/or the maintenance function of the drainage system.

12. To improve the aesthetic aspects of the drainage system, a landscape plan for all portions of the drainage system shall be part of the storm water management plan. This landscape plan shall address the following:

    a. Tree saving and planting plan;

    b. Types of vegetation that will be used for stream bank stabilization, erosion control, sediment control, aesthetics and water quality improvement;

    c. Any special requirements related to the landscaping of the drainage system and efforts necessary to preserve the natural aspects of the drainage system.

13. To improve the water quality aspects of the drainage system, the storm water management plan shall include best management practices to control the water quality of the runoff during the land disturbing activities and during the life of the development.

14. The Storm water management plan shall include all engineering calculations needed to design the system and associated structures including per- and post- development velocities, peak rates or discharge, and inflow and outflow hydrographs of storm water runoff at all existing and proposed points of discharge from the site.

15. Description of site conditions around points of all surface water discharge including vegetation and method of flow conveyance from the land disturbing activity.

16. Construction and design details from structural controls.

17. The expected timing of flood peaks through the downstream drainage system shall be assessed when planning the use of detention facilities.

18. In determining downstream effects from storm water management and the development, hydrologic-hydraulic engineering studies shall extend downstream to a point where the proposed represents less than ten (10) percent of the total watershed.

19. All storm water management facilities and all major portions of the conveyance system through the proposed development (i.e., channels, culverts) shall be analyzed, using the design and 100-year storms, for design conditions and operating conditions which can reasonably be expected during the life of the facility. The results of the analysis shall be included in the hydrologic-hydraulic study.

20. If the storm water management plan and/or design report indicates that there may be a drainage or flooding problem at the exit of the proposed development or at any location between the exit point and the 10 percent downstream point, the City Building Inspector may require:

    a. Water surface profiles plotted for the conditions of pre- and post- development for the 10-year design storm;

    b. Water surface profiles plotted for the conditions of pre- and post- development for the 100-year design storm;

    c. Elevations of all structures potentially damaged by 10- and/or 100-year flows.

21. All storm water management plans submitted for approval shall contain certification by the person responsible for the land disturbing activity that the land disturbing activity will be accomplished pursuant to the approved plan and that responsible personnel will be assigned to the project.

22. All storm water management plans shall contain certification, by the person responsible for the land disturbing activity, of the right of the City Building Inspector to conduct on-site inspections.

23. The storm water management plan shall not be considered approved without the inclusion of a signature and date on the plans by the City Building Inspector. The signature on the plans is solely an acknowledgment of satisfactory compliance with the requirements of these regulations. The signature does not constitute a

b. A storm water management plan will be required for the construction of all ponds, lakes or reservoirs not meeting the conditions in (a) above that otherwise meet the size requirements for storm water management plan approval.

2. When ponds are used for water quality protection, the ponds shall be designed as both quantity and quality control structures. Sediment storage volume shall be calculated considering the clean out and maintenance schedules specified by the designer during the land disturbing activity. Sediment storage volumes may be predicted by the Universal Soil Loss Equation or methods acceptable to the City Engineer.

3. Storm water runoff and drainage to a single outlet from land disturbing activities which disturb ten (10) acres or more shall be controlled during the land disturbing activity by the sediment basin where sufficient space and other factors allow these controls to be used until the final inspection. The sediment basin shall be designed and constructed to accommodate the anticipated sediment load from the land disturbing activity and meet a removal efficiency of 80 percent suspended solids or 0.5 ML/L peak settable solids concentration, whichever is less. The outfall device or system design shall take into account the total drainage area flowing through the disturbed area draining to the basin.

4. Other practices may be acceptable to the City Building Inspector if they achieve an equivalent removal efficiency of 80 percent for suspended solids or 0.5 ML/L peak settable solids concentration, whichever is less. The efficiency shall be calculated for disturbed conditions for the 10-year, 24-hour design storm event.

5. Permanent water quality ponds having a permanent pool shall be designed to store and release the first 1/2-inch of runoff from the site over a 24-hour period. The storage volume shall be designed to accommodate, at least, 1/2-inch of runoff from the entire site.

6. Permanent water quality ponds, not having a permanent pool, shall be designed to release the first inch of runoff from the site over a 24-hour period.

7. The use of measures other than ponds to achieve water quality improvement are recommended on sites containing less than ten (10) disturbed areas.

Infiltration Practice

1. Permanent infiltration practices, when used, shall be designed to accept, at a minimum, the first inch of runoff from all impervious areas.

2. Areas draining to infiltration practices must be established and vegetative filters established prior to runoff entering the

system. Infiltration practices shall not be used if a suspended solids filter system does not accompany the practice. If vegetation is the intended filter, there shall be at least a 20-foot width of vegetative filter prior to storm water runoff entering the infiltration practice.

3. The bottom of the infiltration practice shall be at least 2.0 feet above the seasonal high water table, whether perched or regional, determined by direct piezometer by direct piezometer measurements which can be demonstrated by to representative of the maximum height of the water table on an annual basis during years of normal precipitation, or by the depth in the soil at which mottling first occurs.

4. The infiltration practice shall be designed to completely drain water within 72 hours.

5. Soils must have adequate permeability to allow water to infiltrate. Infiltration practices are limited to soils having an infiltration rate of at least 0.30 inches per hour. Initial consideration will be based on a review of the appropriate soil survey, and the survey may serve as a basis for rejection. On-site soil borings and textural classifications must be accomplished to verify the actual site and seasonal high water table conditions when infiltration is to be utilized.

6. Infiltration practices greater than three feet deep shall be located at least 10 feet from subsurface walls.

7. Infiltration practices designed to handle runoff from impervious parking areas shall be a minimum of 150 feet from any public or private water supply well.

8. The design of infiltration practice shall incorporate an overflow system with measures to provide a non-erosive velocity of flow along its length and at the outfall.

9. The slope of the bottom of the infiltration practice shall not exceed five percent. Also, the practice shall not be installed in fill materials, as piping along the fill/natural ground interface may cause slope failure.

10. An infiltration practice shall not be installed on or atop a slope whose natural angle of incline exceeds 20 percent.

11. Clean outs will be provided, at a minimum, every 100 feet along the infiltration practice to allow for access and maintenance.

APPENDIX A

PLAN REQUIREMENTS

Storm water management plans shall include as a minimum the following:

1. A vicinity map indicating a north arrow, scale, boundary lines of the site, and other information necessary to locate the development site.

2. The existing and proposed topography of the development site except for individual lot grading plans in single family subdivisions.

3. Physical improvements on the site, including present development and proposed development.

4. Location, dimensions, elevations, and characteristics of all storm water management facilities.

5. All areas within the site which will be included in the land disturbing activities shall be identified and the total disturbed area calculated.

6. The location of temporary and permanent vegetative and structural storm water management control measures.

7. An anticipated starting and completion date of the various stages of land disturbing activities and the expected date the final stabilization will be completed.

8. A determination that no occupied first floor elevation of any structure is below the 100-year plus one foot flood elevation.

9. At the discretion of the City Building Inspector, for all portions of the drainage system which are expected to carry between 50 and 150 cfs for the 100-year storm, the 100-year plus one foot flood elevation analysis shall be required. To require the 100-year plus one foot flood elevation analysis, the City Building Inspector should determine that one of the following conditions may exist:

   a. The estimated runoff would create a hazard for adjacent property or residents.

   b. The flood limits would be of such magnitude that adjacent residents should be informed of these limits.

representation or warranty to the applicant or any other person concerning the safety, appropriateness or effectiveness of any provision, or omission from the storm water management plan.

24. Approved storm water management plans remain valid for five (5) years from the date of an approval. Extensions or renewals of the plan approval will be granted by the City Building Inspector upon written request by the person responsible for the land disturbing activity.

PLAN HYDROLOGIC CRITERIA

The hydrologic criteria to be used for the storm water management plans shall be as follows:

1. 25-year design storm for all cross-drain culverts and drainage designs.

2. 10-year design storm for all interior culverts and drainage designs.

3. 2- and 10-year design storms for all detention and retention basins using procedures approved by City Building Inspector.

4. All drainage designs shall be checked using the 100-year storm for analysis of local flooding, and possible flood hazards to adjacent structures and/or property.

5. All hydrologic analysis will be based on land use conditions.

6. For the design of storage facilities, a secondary outlet device or emergency spillway shall be provided to discharge the excess runoff in such a way that no danger of loss of life or facility failure is created. The size of the outlet device or emergency spillway shall be designed to pass the 100-year storm as a minimum requirement.

PLAN WATER QUALITY CRITERIA

Following are the criteria related to using storm water management facilities for water quality purposes.

<u>Ponds, Lakes and Reservoirs</u>

1. When the land disturbing activity consists of the construction of a pond, lake or reservoir which is singly built and not part of a permitted land disturbing activity, the following procedures will apply:

   a. A storm water management plan will not be required if the pond, lake or reservoir has received prior State approval. Best management practices should be used to minimize the impact of erosion and sediment.

calculations and any other information that is necessary to evaluate the proposed variance.

The City Building Inspection will conduct a review of the request for a variance within ten working days. Failure of the City Building Inspector to act by the end of the tenth working day will result in the automatic approval of the variance.

Section 2. Appeals. Any person aggrieved by a decision of the City Building Inspector (including any decision with reference to the granting or denial of a variance from the terms of this ordinance) may appeal by filing a written notice of appeal with the City Building within thirty calendar days of the issuance of the decision by the City Building Inspector. The City Building Inspector may reverse his/her decision or send this notice to the City Council. A notice of appeal shall state the specific reasons why the decision of the City Building Inspector is alleged to be in error and the City Building Inspector shall prepare and send to the City Council and the Appellant, within 15 days of the notice of appeal, a written response to said notice of appeal.

All such appeals shall be heard by the City Council at a regularly scheduled meeting, not to exceed thirty days after receipt of the notice of appeal or at such other time as may be mutually agreed upon in writing by the Appellant and the City Council. The City Council will then render a decision within fifteen days after the appeal has been heard.

Section 3. Penalties. Upon determination that a violation of this ordinance has occurred the City shall provide the violator

Appendix D

VOLKERT

Volkert, Inc.
3809 Moffett Road (36618)
P.O. Box 7434
Mobile, AL 36670-0434

Office 251.342.1070
Fax 251.342.7962
volkert@volkert.com

www.volkert.com

March 23, 2012

Contract No. 130110.10
NPDES Storm water Annual Report

Ms. Marla Smith
Water Division
Municipal/Industrial Facilities
Alabama Department of Environmental Management
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2059

RE: Request for the City of Chickasaw to be removed from the MS4 Permit
NPDES Permit Number ALS000002

Dear Ms. Smith:

As previously discussed and on behalf of the City of Chickasaw, we are requesting ADEM's consideration for removal of the City of Chickasaw from the MS4 Phase I NPDES Permit Number ALS000002. This request is being made based on several reasons which are outlined herein.

- According to the 2010 U.S. Census Bureau, the current City population is 6,106. The current City limits encompass approximately 4.5 square miles of land which equates to a density of 1,357 people per square mile. The City's current population does not meet the Phase I permit minimum population of 100,000.

- The City of Chickasaw is primarily a residential community. The current zoning land usage by acreage has the following approximate percentages: 63.5% residential/open space, 15.5% commercial/business, and 22% industrial. The industrials users are required to obtain the appropriate State permits when required. There are no SID permitted users within the City. The City also does not have any active landfills. Please see the enclosed map for the City's land use.

- The receiving stream for storm water within the City is Chickasaw Creek. This stream is not listed as a 303d stream. See the attached contour map.

- As stated in the annual MS4 permit reports, the City has established the necessary ordinance to continue to monitor and enforce BMPs at all construction sites. Ordinance 1540 establishes procedures to control storm water runoff from commercial and industrial facilities and construction sites. This ordinance is the key elements to the City's success in the quality of their storm water discharges. The City will continue to implement and enforce this ordinance.

- The City's storm water discharge does not adversely impact the receiving stream as noted in the City's past annual testing and field reviews provided in the annual reports submitted to ADEM.

Additionally, the advantages for being included in a consortium have not materialized between the cities involved as originally anticipated during the conception of the program.

Therefore, the City is respectively requesting to be removed from the MS4 NPDES permit. However, if this request cannot be granted then the City respectively requests to be modified to a Phase II permittee.

Please feel free to contact me if you have any questions or require any additional information.

Sincerely,

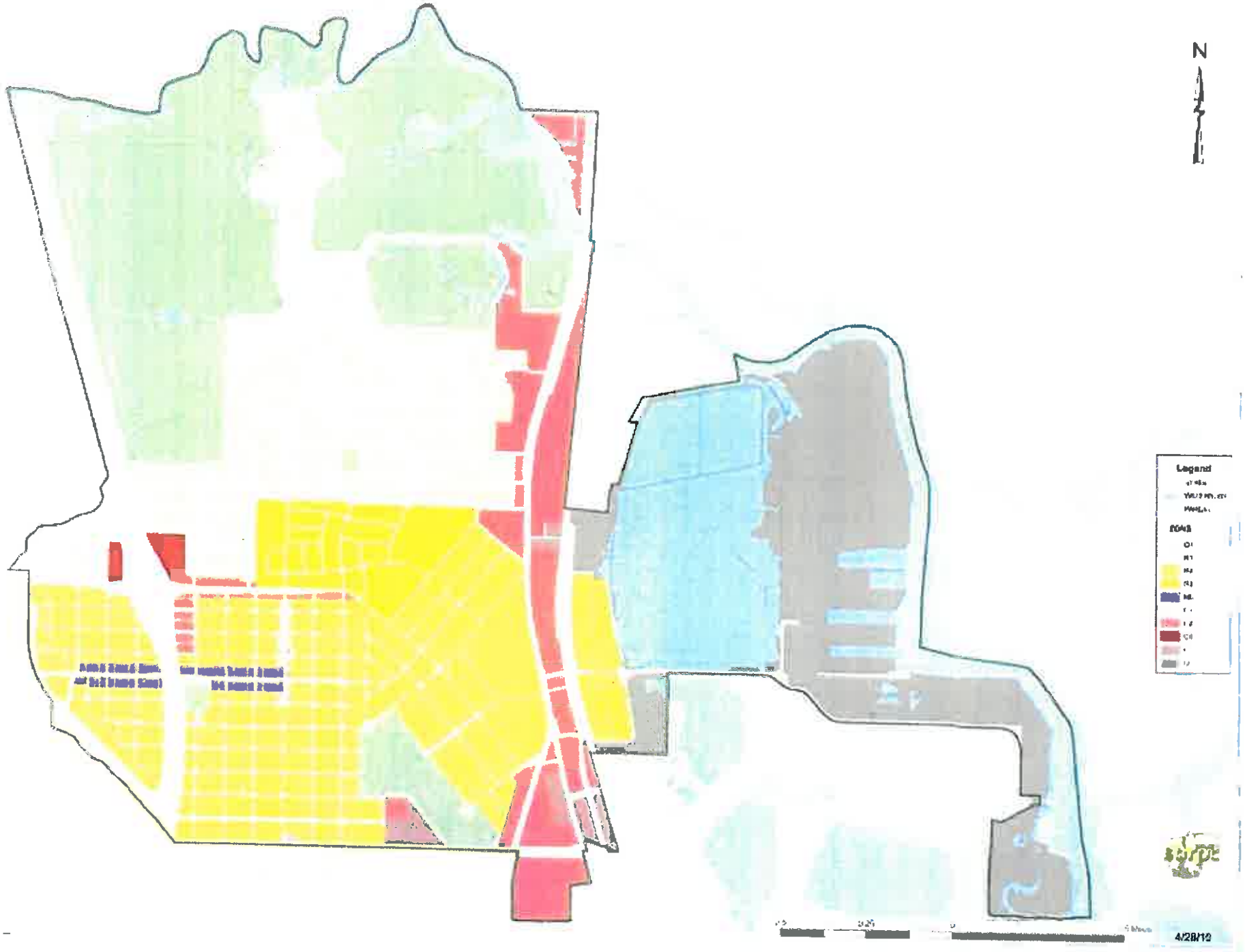
Melissa O'Sullivan, P.E.
Project Manager

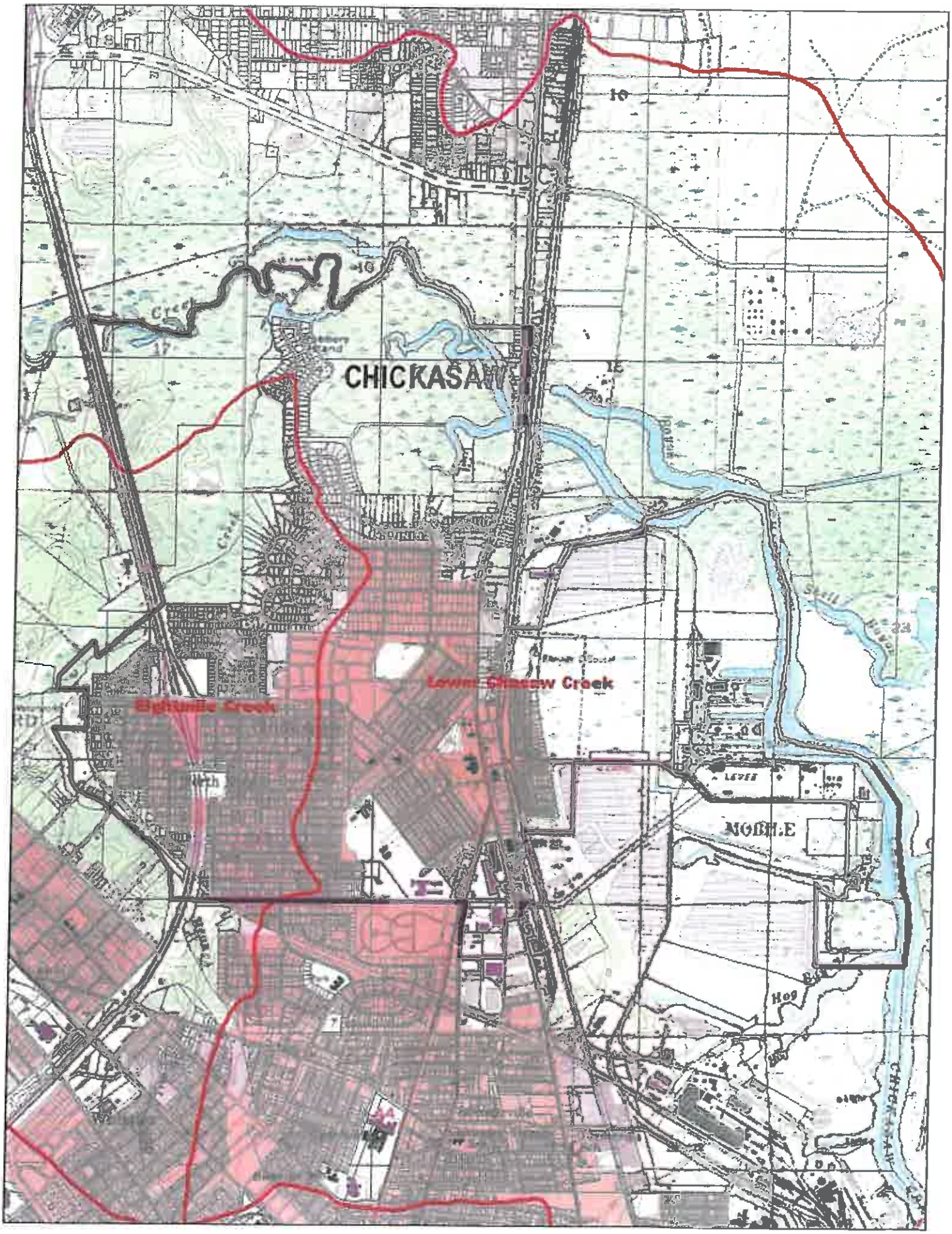
/kvd

Enclosures

c Mayor Byron Pittman (w/ enclosures)
Mr. Sam Rawls (w/ enclosures)
Mrs. Judi Smith (w/ enclosures)

CHICKASAW ZONING MAP




CHICKASAW
Eightmile Creek
Lower Chickasaw Creek
MOBILE