

Jefferson Parish's CDR Procedures

Jefferson Parish covers an extensive area around the City of New Orleans. Much of the Parish lies below the level of the Mississippi River and is protected by an extensive levee system. An effective drainage program is vital to the Parish and its residents. If the canals are clogged or the pumps don't work, even a small storm can cause widespread flooding.



Because of this, the Parish has always conducted a drainage maintenance program with frequent inspections. It even has separate Drainage and Drainage Pump Station Departments.

However, the Parish's program was not developed, formalized, or documented just to meet CRS credit. In 1998, formal procedures were prepared to meet the requirements of the National Pollutant Discharge Elimination System (NPDES). These procedures appear on pages 30–40.

The CRS does not require that new procedures be prepared that match the CRS credit criteria. What is needed are written procedures that cover the five items discussed on pages 3–10. Jefferson Parish's NPDES procedures cover most of them.

The remaining were clarified in a memo from the CRS Coordinator in response to questions from the ISO/CRS Specialist. It read as follows:

Question: The procedures note that special inspections are conducted after major events (Section 4.2.1). Does this include after heavy rains? If so, how soon after a storm is an inspection conducted?

Answer: Inspections actually begin during the event. Standby crews (if after hours) are deployed to inspect, clean catch basins and clean and flush drain lines. Other Drainage Department employees from Director, Asst Director, Engineers, Superintendents, Inspectors, etc., are deployed to inspect canals, neighborhoods, etc.. After storm events, when water levels recede, all canals in Jefferson Parish are reinspected within a day or two.

Question: Section 4.1.2 shows that inspections are made in response to citizen complaints. How soon after a complaint is an inspection conducted?

Answer: Our goal is to provide at least an interim response within 2 days of receipt of complaint.

Question: How soon after an inspection reveals a problem is a maintenance action taken?

Answer: This is highly dependent on the total number of complaints received and the nature of the complaint. At normal levels, most complaints are addressed within two weeks.

Question: Does your program identify specific problem sites that are inspected and maintained differently or more frequently than other parts of the drainage system? If so, please provide a couple of examples.

Answer: Areas where recent maintenance work has been performed are inspected to determine effectiveness of improvements. Areas of the parish known to be at lower elevations than surrounding areas and areas where complaints have been received are inspected. Also, areas of construction work in-progress are inspected to ensure drainage is not impeded by temporary dams, equipment, sedimentation, etc..

A separate (and very large) map of the drainage system was reviewed by the ISO/CRS Specialist, but is not included in this publication.

Records: On page 10, it is noted that records should cover

- ✓ Complaint or inquiry forms for recording reports of problems,
- ✓ Inspection forms that show everything that was checked,
- ✓ Work orders that task an office to clear debris or correct a problem, and
- ✓ Maintenance records that show the work that was done.

Because the Parish is a large organization, an automated record-keeping system has proven very helpful to keep track of complaints and follow-up work. On page 41 is a copy of a Service Request form that was completed in response to a citizen complaint. On the following page is the work order, which includes notes on when the work was accomplished.

On page 43 is the form used to record inspections. It was developed to organize weed control efforts. The staff members that check the spraying also inspect for debris and other problems. Their findings are noted in the "remarks" column.



SYSTEM MAINTENANCE PROGRAM
FOR
JEFFERSON PARISH
NPDES MS4 PERMIT

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NOTE: Page numbering has been changed from the original to correspond to the page numbers in this document.

SECTION 1

INTRODUCTION

This System Maintenance Program (SMP) has been prepared in accordance with the National Pollutant Discharge Elimination System (NPDES) Permit requirements. This SMP summarizes Jefferson Parish's operations and maintenance policies and procedures to reduce the discharge of pollutants to waters of the United States. This section provides background information on the regulatory aspects of controlling storm water pollution as well as general requirements on the SMP as determined by the final NPDES Permit issued to the Jefferson Parish Municipal Separate Storm Sewer System (MS4).

1.1 BACKGROUND

A final NPDES Permit, No. LAS000201, was issued to the Parish of Jefferson, Louisiana Department of Transportation and Development—District 02, City of Gretna, City of Harahan, City of Kenner, and City of Westwego to discharge from all portions of the Jefferson Parish MS4 to waters of the United States in accordance with the Storm Water Management Program (SWMP). The final NPDES Permit was issued by the United States Environmental Protection Agency (USEPA) on January 17, 1997, and became effective on March 1, 1997.

The NPDES MS4 Permit requires Jefferson Parish and the incorporated Cities of Gretna, Harahan, Kenner, and Westwego to develop, revise, and implement a comprehensive SWMP. The SWMP shall include administrative, non-structural, and structural practices to reduce the discharge of pollutants from the Municipal Separate Storm Sewer System to the Maximum Extent Practicable (MEP).

One of the requirements of the SWMP is the development and implementation of a System Maintenance Program by each permittee. This document outlines Jefferson Parish's policies and procedures to comply with the SMP portion of the NPDES permit.

Furthermore, Part II—Section A.1 “Structural Controls and Storm Water Collection System Operation” of the permit identifies the criteria for the development of the System Maintenance Program as follows:

“1. Structural Controls and Storm Water Collection System Operation: The Municipal Separate Storm Sewer System and any storm water structural controls shall be operated in a manner to reduce the discharge of pollutants to the Maximum Extent Practicable.”

1.2 PURPOSE

This SMP was prepared to summarize Jefferson Parish's operation and maintenance policies and procedures to reduce the discharge of pollutants into waters of the United States.

The practices included in this program include administrative actions such as reporting and ordinance control; non-structural controls such as inspection and open drainage canals maintenance; and structural alternatives such as pump stations bar screens.

1.3 JEFFERSON PARISH JURISDICTION

Jefferson Parish is responsible for the design, construction, and operation and maintenance of all storm water drainage canals and pump stations within the MS4 boundary. The City of Gretna is an exception to this, with the city being responsible for the operation and maintenance of all open drainage canals and ditches within its city limits. Jefferson Parish is not responsible for subsurface drainage lines within the city limits for the incorporated cities of Gretna, Harahan, Kenner, and Westwego.

SECTION 2

JEFFERSON PARISH'S DRAINAGE SYSTEM

2.1 STORM WATER DRAINAGE SYSTEM

Jefferson Parish's topographical characteristics, below sea level elevations, have necessitated unique facilities such as protective levees, open drainage canals, and pump stations to provide adequate drainage and flood protection. Over the years, Jefferson Parish's separate storm sewer system has evolved into a system of over 280 miles of open drainage canals and ditches for collection and conveyance of storm water runoff.

Jefferson Parish drainage system serves approximately 79,000 acres of industrial, commercial, residential, and unclassified areas. The storm water system's service area is bounded on the north by Lake Pontchartrain, on the west by St. Charles and Lafourche Parishes, on the south by the Gulf of Mexico, and on the east by Orleans and Plaquemines parishes. The system is subdivided into four main basins with boundaries provided by the Mississippi River, Harvey Canal, parish boundaries, and flood protection levees.

In addition to the 280 miles of open canals and ditches, Jefferson Parish maintains approximately 1,370 miles of subsurface drain lines providing local drainage to the urban life style. Storm water runoff from residential, commercial, and industrial land areas are drained via drop inlet. Subsurface drainage lines convey storm water

1. Who is responsible

2. Area covered

into open drainage canals. Finally, storm water is discharged into waters of the United States through several high capacity pump stations.

2.2 DRAINAGE PUMP STATIONS

Most of the land surface within Jefferson Parish is at or below sea level elevations. This topographical characteristic has created a “saucer” effect in the drainage basin. Therefore, Jefferson Parish has, over the years, designed and constructed several high capacity pump stations to convey collected storm water runoff within the storm water drainage system to waters of the United States.

Jefferson Parish currently owns and operates forty-seven pump stations to minimize local flooding. All pump stations combined have the capacity to pump storm water at a rate of approximately 23 billion gallons of rainfall per day. Thirty-five of these pump stations discharge into water of the United States, while twelve are internal pump stations to lift storm water from low drainage areas.

The Jefferson Parish Drainage Department currently maintains a constant water level in the canals to minimize fluctuating groundwater and to reduce regional subsidence and canal bank slope failures. The operation of the pump stations in this manner renders the open drainage canal system as very long, slender retention basin.

1. Who is responsible

SECTION 3

JEFFERSON PARISH DEPARTMENTS' RESPONSIBILITY

Operation and maintenance of the storm water drainage system is the primary responsibility of the Jefferson Parish Drainage Department. However, additional Jefferson Parish Departments assist the Drainage Department in the maintenance and operation of the storm water collection system.

The following departments are involved, either directly or indirectly, in the maintenance of Jefferson Parish's drainage system:

1. Drainage Department;
2. Drainage Pump Stations Department
3. Streets Department;
4. Parkways Department;
5. Environmental and Development Control Department; and
6. Supervisory Control and Data Acquisition Department.

3.1 DRAINAGE DEPARTMENT

The Jefferson Parish Drainage Department is the leading department for operation and maintenance of the storm water collection system. The Drainage Department's primary responsibility is to operate the drainage system properly throughout the Parish to prevent areas of flooding during rain events. In addition, standard operating and maintenance practices minimize the potential for contaminated storm water runoff to enter receiving water bodies.

3.2 DRAINAGE PUMP STATIONS DEPARTMENT

The Drainage Pump Stations Department's primary responsibility is to maintain and operate all drainage pump stations. The Drainage Pump Stations Department also works in coordination with the Drainage, Streets and Parkways Departments to inspect and clean pump station bar screens.

3.3 STREETS DEPARTMENT

The Streets Department assists Jefferson Parish Drainage Department in the maintenance of the storm water collection system. Such practices include periodic cleaning and flushing of smaller diameter (24-inch and less) subsurface drain lines. Additionally, the Streets Department provides inspection and cleaning of bar screens at selected pump stations during heavy rainfall events to improve storm water removal.

3.4 PARKWAYS DEPARTMENT

The Parkways Department assists the Drainage, Streets and Drainage Pump Stations Departments in the inspection and cleaning of selected pump station bar screens during heavy storm events and emergency situations. This practice serves to maintain the hydraulic capacity of the pump station and, in turn, reduces pollutant loading to the receiving waters.

3.5 ENVIRONMENTAL AND DEVELOPMENT CONTROL DEPARTMENT

The Environmental and Development Control Department (EDCD) is involved with a number of programs that directly and indirectly affect storm water runoff quality. EDCCD works with the Drainage Department to investigate illicit discharges to the storm water collection system.

EDCCD personnel also respond to incidents involving hazardous materials that pose an exposure risk to any drainage lines. The EDCCD works with the Department of Emergency Management and various fire departments to contain spills and protect the environment. Jefferson Parish has a contract with an Environmental Response Contractor to allow for immediate containment and cleanup of spilled material.

In the event a spilled material enters the underground storm water collection system, the Drainage Department assists the EDCD to locate the outfall location within the open drainage system for containment and cleanup. The design of the drainage system allows for spills to be contained and held in the canals when it is not raining; thereby, preventing the material from reaching the receiving waters. The pump stations operate independently of each other; thus, allowing a pump to be run at a different station, if one station is affected by a spill. These pumps can also be used to move the water to a location where it can easily be removed from the drainage system. Temporary earthen dams can also be constructed to contain the material.

3.6 SUPERVISORY CONTROL AND DATA ACQUISITION DEPARTMENT

The Supervisory Control and Data Acquisition (SCADA) Department works with the Drainage and Drainage Pump Stations Departments to monitor the water levels in canals, rainfall quantities throughout the Parish, and pump station operations for the purpose of optimizing the operation of the drainage system.

SECTION 4

MAINTENANCE PRACTICES AND PROCEDURES

This section addresses Jefferson Parish's operation and maintenance procedures to reduce the discharge of pollutants from the storm water collection system into receiving water bodies.

Jefferson Parish uses many programs to control discharges from its storm water collection system. These programs include structural controls and non-structural controls, such as source controls and controls through ordinance. Structural controls are used to increase the hydraulic capacity of the storm water drainage system. Non-structural controls are primarily through source control and elimination to reduce pollutants entering the storm water drainage system. Non-structural controls include periodic cleaning operations and monitoring programs.

4.1 ADMINISTRATIVE PROCEDURES

Administrative procedures presented herein include preventative actions through management and source control by implementing policies and ordinances that result in prevention of pollutant runoff. In addition, Jefferson Parish responds to citizens' complaints regarding trash, debris, or illicit discharges within the storm drainage system, by cleaning up the materials.

4.1.1 Jefferson Parish Ordinances

Jefferson Parish uses its legal power to create, adopt, and implement ordinances to control discharges into the storm water collection system. Many of the ordinances implemented by Jefferson Parish render it illegal and punishable by law to pollute the storm water collection system. More specifically, Section 16-10 of the Jefferson Parish Code of Ordinances prohibits littering and dumping of any debris, trash, or garbage into any drainage canals, ditches or drainage catch basins.

4.1.2 Citizens Complaints

Public involvement and participation is a critical key to the success of improving storm water runoff quality. The creation of education programs is vital to inform citizens about the impacts that storm water runoff and discharges have on the water quality of the receiving body.

Citizen complaints associated with the storm water collection system are investigated and corrected by the Drainage Department or EDCD. These investigations serve to identify problem areas and facilitate the expedient scheduling and implementation of corrective action.

4.1.3 Spill Prevention Plan

Each Drainage pump station that stores diesel fuel, above threshold quantities, has a Spill Prevention Control and Countermeasure (SPCC) Plan, which has been developed per the provisions of 40 *CFR* Part 112. These plans outline emergency contacts and procedures to follow should a spill occur at a drainage pump station. In addition to the SPCC, drainage pump stations have Storm Water Pollution Prevention Plans (SWPPP) describing Best Management Practices (BMPs) implemented at each pump station to prevent the runoff of pollutants into the drainage system.

4.2 NON-STRUCTURAL CONTROLS

Non-Structural controls are implemented through BMPs that reduce the discharge of pollutant runoff. Jefferson Parish's BMPs include visual inspections, litter control, drainage canal maintenance, and vegetative control.

4.2.1 Drainage Canals Inspections

Parish personnel visually inspect all major drainage canals every two weeks. In addition to the routine biweekly inspection, parish personnel inspect drainage canals following parades and special events (e.g., Mardi Gras, Saint Patrick's Day, etc.). During visual inspection, parish personnel identify canal bank failures due to erosion and nutria damage, accumulated litter, and undesirable vegetation.

4.2.2 Subsurface Drainage System Maintenance

The Drainage Department performs periodic, annually or as needed, cleaning activities at catch basins, drop inlets, and subsurface drainage lines by using vacuum trucks. The primary objective is the removal of accumulated sediment and unwanted litter, such as cans, bottles, and trash. The Streets Department assists the Drainage Department by cleaning and flushing of smaller diameter (24-inch and less) subsurface drain lines. The Drainage Department is responsible for maintenance of larger subsurface drainage lines.

Providing periodic removal of sediment, debris, and vegetation blocking catch basins and ditches improves the hydraulic capacity of the storm water drainage system. Also, this non-structural control reduces the discharge of pollutants (e.g., solids, floatables) to the receiving water body.

4.2.3 Canal Bank Stabilization

During biweekly inspections, parish personnel identify canal bank failures due to shoulder erosion. The Drainage Department normally maintains a 2:1 slope in all canal banks to prevent bank failure. Parish personnel repair collapsed banks with limestone and/or toe retention bulkhead. In addition, canal banks and rights-of-way are seeded to prevent erosion.

4.2.4 Drainage Canals Dredging

Earthen drainage canals are dredged to remove accumulated sediments and to improve the hydraulic flow through the canals. Dredging activities are normally performed with long reach excavators. A private contractor conducts dredging operations at drainage canals exceeding 80 feet in width. As a normal operating procedure, sediment and silt removed from canal bottoms are properly placed within canal shoulders and properly compacted. The private contractor seeds the canal bank and shoulder to control erosion. Any excess material is properly reused or disposed of.

4.2.5 Litter Control

Litter and trash accumulated within the storm water collection system is removed and properly disposed of by parish personnel during standard biweekly inspections.

4.2.6 Vegetation Control

Vegetative cover reduces erosion and serves as a filter for potential pollutants that may otherwise enter the drainage system.

Vegetation control on canal banks is performed through a combination of mowing and herbicide application. The vegetative control method selected for use at a site

is dependent upon the site accessibility, the amount of vegetation to be controlled,
the

length of the growing season, and available resources and personnel. The Drainage Department uses in-house personnel and private contractors to maintain canal banks within Jefferson Parish. Jefferson Parish selects a private herbicide application contractor to assist the Drainage Department to control vegetation for intervals of two years. The private contractor properly disposes of all collected debris and litter.

4.2.7 Herbicide Management

Jefferson Parish has developed a Pesticide, Herbicide, and Fertilizer Program. Herbicide application is conducted in areas not accessible by mechanical equipment. Jefferson Parish's departments that use herbicides follow all applicable state and federal regulations. Each department has personnel certified in the commercial application of pesticides by the Louisiana Department of Agriculture and Forestry to coordinate all herbicide applications in his/her department.

4.2.8 Drainage Pump Stations Bar Screens Maintenance

The Drainage Department also works in conjunction with the Streets, Parkways, and Drainage Pump Station Departments to inspect and clean pump station bar screens so that the proper hydraulic capacity of the pump stations is maintained. These operation and maintenance practices of the Drainage Department serve to reduce pollutant loading to the receiving waters in addition to their primary purpose of maintaining proper water flow through the drainage system. All material and debris removed is properly disposed of at a permitted solid waste disposal facility.

4.2.9 Storm Water Drain Stenciling

A program where volunteers stencil warnings, such as, "DUMP NO WASTE, DRAIN TO LAKE" for the East Bank drains or "DUMP NO WASTE, DRAIN TO BAYOUS" for the West Bank drains has been implemented. Jefferson Parish provides kits containing stencils, paint, wire brush, and directions to local civic organizations, schools, and youth groups. In addition, EDCD personnel stencil all drains where reports of illicit discharges have occurred. This program increases public awareness of how households contribute to storm water pollution.

4.3 STRUCTURAL CONTROLS

Jefferson Parish's structural controls include catch basin covers and vegetative areas to reduce the discharge of pollutant runoffs.

4.3.1 Drainage Canals

Jefferson Parish Drainage Department currently maintains a constant water level in the canals to stabilize fluctuating groundwater and to reduce regional subsidence and canal bank slope failures. The operation of the storm water collection system in this manner renders the open drainage canal system as very long, slender retention basins. This system enhances settlement of sediment and solids, which are later removed during dredging operations.

Because of protective levees for flood protection, Jefferson Parish utilizes several pump stations to remove storm water from its collection system into waters of the United States. Storm water can be contained within the drainage canals, during emergency situations (e.g., spills), to prevent contaminants from reaching waters of the United States by utilizing spill containment measures described in Section 3.5.

4.3.2 Drainage Pump Stations Bar Screens

Jefferson Parish has, over the years, designed and constructed several high capacity pump stations to convey collected storm water runoff within the storm water drainage system to waters of the United States. Bar screens have been installed at all drainage pump stations to remove floatables and to protect downstream operations and equipment from damage. Bar screens are designed to prevent heavy debris from entering the receiving water body.

JEFFERSON PARISH PUBLIC WORKS
DRAINAGE DEPARTMENT
SERVICE REQUEST

SERVICE REQUEST NO.

SR00-45078

EAST
XXXX

WEST

DATE REQUESTED

13-NOV-00

LOCATION

817 MARGUERITE RD
near EDDY
METAIRIE - Council District #5

TIME REQUESTED

NATURE of REQUEST

4A4 - CLEAN & FLUSH - COMPLAINTS

TAKEN B

D MENA

SOURCE

CITIZEN

REQUESTED BY

MR. MCGRAW
817 MARGUERITE RD

REMARKS

STORM DRAIN STOPPED UP DM
NIGHT DISPATCHER

INVESTIGATION REPORT: _____

RECOMMENDED ACTION: _____

INSPECTOR: _____

DATE: _____

JEFFERSON PARISH PUBLIC WORKS
DRAINAGE DEPARTMENT
WORKORDER

Workorder No.

W000-37741

Generated By

SR00-45078

LOCATION 817 MARGUERITE RD near EDDY

AREA METAIRIE - COUNCIL DISTRICT 5

REQUESTED BY MR. MCGRAW

Foreman

Issue Dat

Start Date

End Date

K. CARSTENS

11/13/2000

11-15-00

11-15-00

Work Completed YES NO

Close Workorder YES NO

Work to be Performed

Id.

Description

4A4

CLEAN & FLUSH - COMPLAINTS

CL/FL AS NEEDED.

JOB TIME

10 - 7

10 - 8

ENTERED

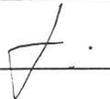
WORK COMPLETED

CLEANED (2 1/2" 150' 12, 15")

REMARKS

Referred to Maint.

Superintendents:



Date:

11-15-00

INSPECTED BY:
CHRIS DUNN SUPT. I

Oct. 16 - 31 2000

K = CONTRACT

CANAL/DITCH	DATE SCHEDULED/SPRAYED	DATE OF INSPECTION	TOP COND.	SLOPE COND.	BOTTOM COND.	DATE OF CUT	REMARKS	VISUAL INSPECTION FROM . TO
L# 1 (PAGE)	10/14/00							ENTIRE LENGTH - 10/19/00
L# 2 (T ESPLANADE)							10/20/00 - PILES UP TRASH AND DEBRIS ALONG CANAL BANK BY HAND 10/25-26/00 - CUT EXPOSED BY HAND ALONG CANAL BANK	ENTIRE LENGTH - 10/19/00
L# 3 (T ERANS)	10/13/00	10/25/00			IRREGULAR WELL		10/17/00 - CLEARED UP TRASH + DEBRIS ALONG BANK OF CANAL	ENTIRE LENGTH - 10/25/00
L# 4 (T NAPOLEON)						10/27/00 K	10/17/00 - MOVED 6" RICE PLANT TOP OF CANAL W/BUCKET BY HAND 10/23/00 - CLEARED UP TRASH ALONG CANAL BY HAND 10/30-31/00 - PAVED BANK IN A.O. W/GRASS	ENTIRE LENGTH - 10/25/00
L# 5 (T METAIRIE)	10/14/00	10/25/00			IRREGULAR WELL		10/26/00 - PILES UP TRASH ALONG CANAL BANK BY HAND 10/27/00 - 10/30/00 -	ENTIRE LENGTH - 10/25/00
L# 6 (T JIVE DR.)								ENTIRE LENGTH - 10/25/00
L# 7 (T SET BLVD.)								ENTIRE LENGTH - 10/18/00