The background of the cover is a dark collage of images related to stormwater management. At the top left, there is a circular inset showing a group of people in a meeting. Below this, the main title is centered. At the bottom, there are two circular insets: one on the left showing a large, white, dome-shaped structure, and one on the right showing a large, textured, white, dome-shaped structure. The word "WAT" is visible on the side of the dome in the bottom-left inset.

CLAY COUNTY PHASE II STORMWATER MANAGEMENT PLAN

THIRD
TERM
PERMIT
2013 - 2018



**CLAY COUNTY PHASE II STORMWATER
MANAGEMENT PLAN**

PREPARED FOR

THE CLAY COUNTY COMMISSION

Pamela S. Mason
Presiding Commissioner

Gene Owen
Western Commissioner

Luann Ridgeway
Eastern Commissioner

BY
**THE PLANNING AND ZONING COMMISSION /
STORMWATER MANAGEMENT PANEL**

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AND
THE PLANNING AND ZONING DEPARTMENT STAFF

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Executive Summary:

Pursuant to the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress), under the authority granted to the State of Missouri and in compliance with the Missouri Clean Water Law (Chapter 644 R.S. Mo as amended, hereafter, the "Law"), Clay County, Missouri was issued its first National Pollutant Discharge and Elimination System (NPDES) Phase II Municipal Separate Storm Sewer Systems (MS4) General State Operating permit (MO-R040047) in 2003, issued by the Department of Natural Resources (MDNR) Water Pollution Control Program for a period of five (5) years. The second MS4 permit for Clay County was issued in 2008 and is set to expire in June, 2013. In anticipation of this termination, the third MS4 permit is due May 14, 2013 and will be go through June, 2018 (herein "third term permit"). This document represents the Clay County Phase II Stormwater Management Plan, and is intended to embody the third term permit.

The MS4 requirements are to be implemented and enforced in the six (6) minimum control measures (MCM's) as described in this application.

Public education activities addressing water quality in stormwater runoff under Minimum Control Measure (MCM) 1 has been implemented, including various methods such as printed materials, videos, internet, and presentations. During the first two permit terms, Clay County through a collaborative effort with MARC and other partnering municipalities developed printed materials and copies were distributed. In addition, television infomercials were aired on cable TV, radio public service announcements, and internet information about stormwater pollution prevention were employed during the first and second term permits. Finally, numerous public appearances and presentations were given by MARC and its partners to educate the public over the two permit terms. Public involvement and participation activities under MCM 2 have progressed under all the programs in the first and second term permits. Under MCM 3, URS Corporation through the 2011 *Stormwater Inspection and Sampling* study surveyed the full stream stretches to identify illegal discharges, walking the complete length of each Plan Area (A-1 and A-2) of the Plan.

Clay County has reported achieving the program development goals under the first and second term plans that were requirements under the MCMs 4 through 6. Under MCM 4, the permittee has reported having a Phase II land disturbance program to control construction site runoff. Structural and non-structural BMPs are required throughout the Plan Areas (A-1 and A-2) for all new development and redevelopment in accordance with the 2011 Clay County Land Development Code (LDC).

This revision of the Stormwater Management Plan for the third term permit incorporates the implementation of the first two Plans, and discusses ongoing and new goals for improving the effectiveness of the activities. The 2003 and 2008 Plans will be maintained as resources, and will not be entirely duplicated. The Phase II Stormwater Program is a regulatory issue that is conducive to forming partnerships to achieve a common goal. Therefore, the emphasis in this third Plan will continue to focus on education with the goal of improving partnerships and communication.

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CHAPTER 1

Phase II Plan Coordination

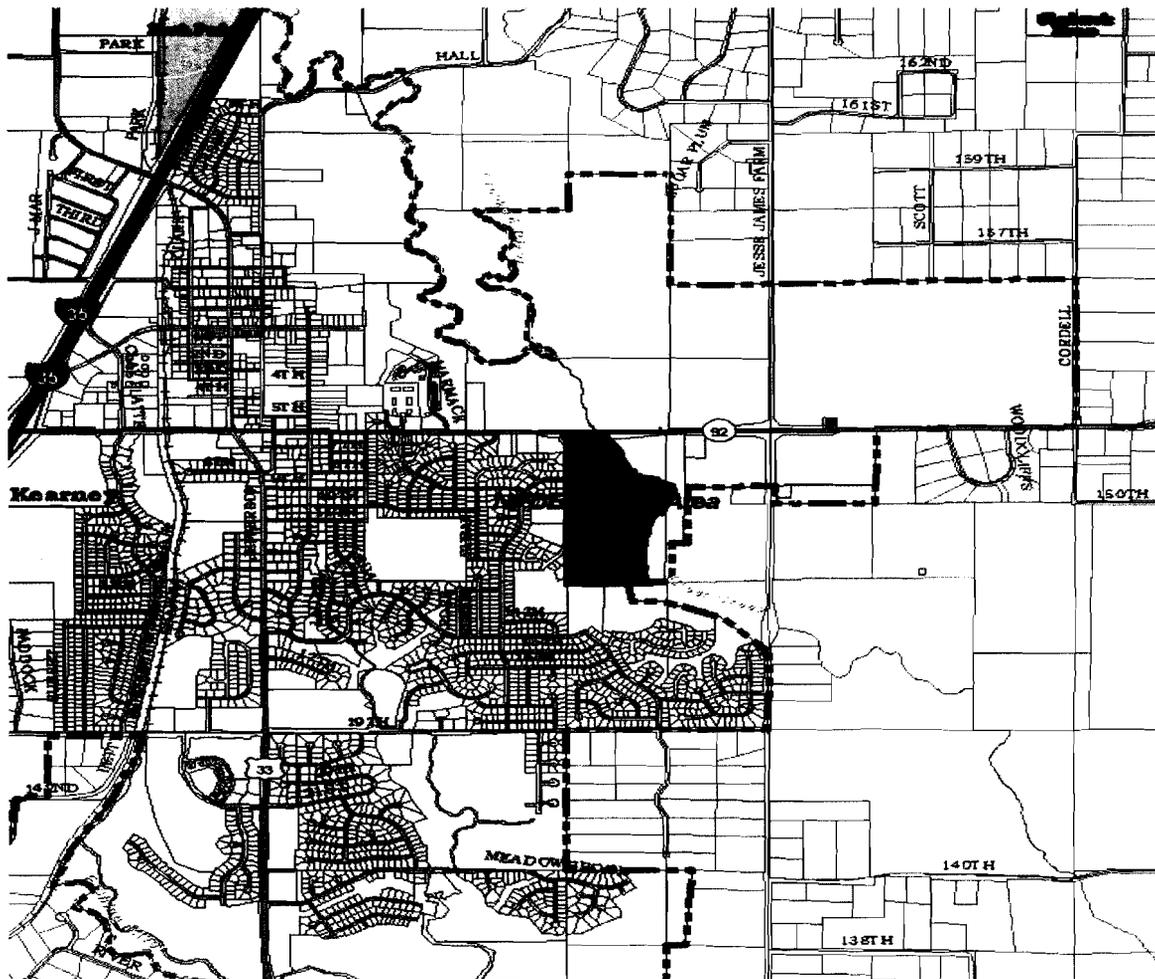
A. Plan Coverage

Clay County is located north of the Missouri River in the northeast portion of the Kansas City metropolitan area. The two approved National Pollutant Discharge and Elimination System (NPDES) Phase II MS4 Clay County outfall areas included in the *Clay County Phase II Stormwater Management Plan* are Clear Creek, A-1, and Fishing River and Tributary, A-2.

The Clear Creek Outfall Area (A-1) is located east of downtown Kearney, Missouri and southwest of intersection of Highway 92 and Jesses James Farm Road. Clear Creek flows generally north to south in this area. The Clear Creek outfall area is shown below on **Figure 1**.

Figure 1

Clear Creek Outfall Area (A-1)

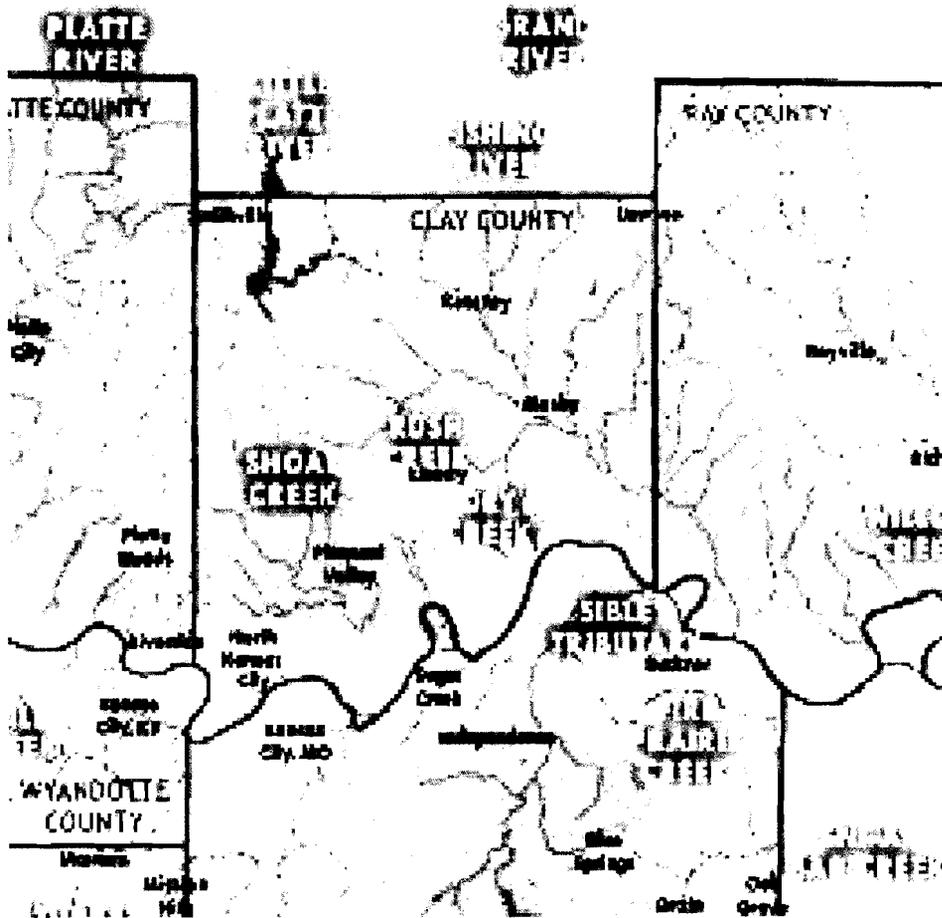


B. Watersheds

Clay County stormwater drains into three major watersheds: the Fishing River, the Little Platte River; and the Shoal Creek, also the Rush and Dry Creek watersheds are as illustrated below in **Figure 3**. All stormwater from the Plan Coverage area ultimately enters the Missouri River on the southernmost boundary of Clay County.

Figure 3

Clay County Watersheds



C. Critical Areas

Endangered Species:

County	Species	Status	Habitat
Clay	Pallid Sturgeon (Scaphirhynchus Albus)	Endangered	Mississippi and Missouri Rivers
Clay	Harrier, Nothern (Circus Cyaneus)	Endangered	Inhabit open fields, prairies, native grass plantings and shallow marshes. Herbaceous vegetation should be dense; with nearly 100% canopy cover, and reach height of 10" by mid-May.
Clay	Skunk, Plains spotted (Spilogale Putorius)	Endangered	Inhabit fencerows, vegetated gullies and brushy borders with logs, brush piles, snags, rocky outcrops, open prairies, and riparian woodland areas.
Clay	Turtle, Yellow Mud (Kinosternon Flavescens Flavescens)	Endangered	Occur in sloughs, marshes, ditches, streams, swamps, ponds, lakes and reservoirs with mud or sand bottom, little or no current, and submerged and floating aquatic vegetation.

Historic Properties:

Name	Address	Owner	County Year Added	US National Park Service Year Added
Mount Gilead	Plattsburg Road	County	Unknown	Not applicable
Pharis Farm	E Highway	County	2002	Not applicable
New Hope Baptist Church	NE 188 th Street	Private	Unknown	Not applicable
Jesse James Farm	21216 Jesse James Farm Rd	County	Not applicable	03/16/1972
Watkins Mill	6 miles NW of Excelsior Springs	State	Not applicable	11/13/1966
Aker Cemetery	NE of Smithville off W Highway	Federal	Not applicable	11/13/1974
Claybrook House site	NE of Kearney	County	Not applicable	12/21/1981
Nebo Hill Archeological Site	Location restricted	Private	Not applicable	03/04/1971

D. Permitting

The State's Phase II Stormwater Regulations for Small MS4s are contained in the Missouri Clean Water Law (10 CSR 20-6.200). The regulated Small MS4s must seek coverage under a general permit or under a site-specific permit.

Clay County is applying for its third term (Five Year) general permit for the years 2013 through 2018.

The Planning and Zoning Commission has been acting since the fall of 2009 as an interim Stormwater Management Panel, until at such time a Stormwater Commission is appointed. The Planning and Zoning Commission/Stormwater Management Panel, is represented by five (5) citizens of unincorporated Clay County and the Clay County Highway Administrator. Membership of the committee is identified at the beginning of this Plan (on page 1). Regularly monthly meeting are scheduled and public noticed.

Since 2003, Mid-America Regional Council (MARC) has convened a committee (*Water Quality Education Committee*) of representatives from local governments and environmental organizations that developed a regional watershed public education program. During the past nine years Clay County has been a part of the committee and the program has addressed several top non-point source (NPS) issues facing our region. The efforts of the committee have provided a firm foundation for its goal of educating the general public about actions that can take to reduce NPS.

E. Demographics

Clay County is a large, mostly suburban county in the northern part of the metro area. About 37,000 acres or nearly 20 percent of unincorporated Clay County meets the soil requirements for prime farmland. The urbanizing areas of unincorporated Clay County have experienced conversion of farmland to residential and other urban uses. Clay County had a 2010 population of 221,939. The county added 37,933 new residents between 2000 and 2010, a growth rate of 21 percent.

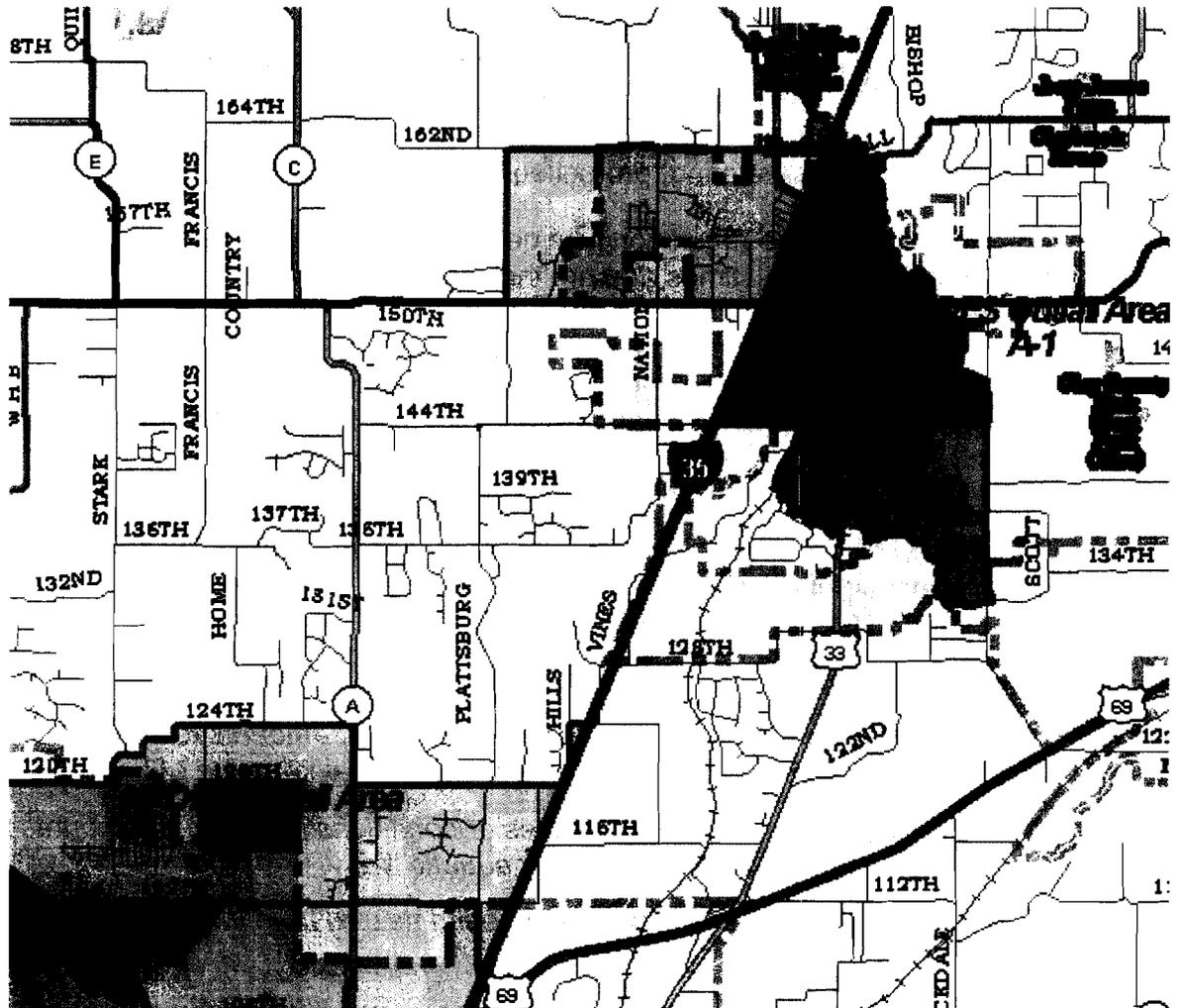
GROWTH AREAS OF CLAY COUNTY

AREA	CENSUS		2000 – 2010 CHANGE
	2000	2010	% OF GROWTH
KANSAS CITY	83,972	113,415	35.1%
SMITHVILLE	5,547	8,425	51.9%
LIBERTY	26,316	29,149	10.8%
KEARNEY	6,112	8,381	37.1%
UNINCORPORATED	12,444	14,442	16.1%

Figure 4 below shows the 2010 census growth areas in relationship to the National Pollutant Discharge and Elimination System (NPDES) Phase II Outfall Area A1 located on the east side of the City of Kearney and NPDES Outfall Area A-2 located on the north side of the City of Kansas City.

Figure 4

2010 Census Block Groups & NPDES Outfall Areas (A-1/A-2)



CHAPTER 2

Water Quality in Clay County Streams

A. Missouri Water Quality Standards

The water quality standards for Missouri waters are set forth in Missouri Clean Water Law (10 CSR 20-7.031). This regulation identifies various general categories of waters; establishes classifications and designates beneficial uses for some waters; establishes general water quality standards that must be met for all waters; and establishes specific water quality criteria that must be met for classified waters. The two outfalls designated in the Phase II Stormwater Plan are the A-1 Clear Creek (*Clear Creek*) and A-2 Fishing River and Tributary (*Fishing River*). The Missouri Water Quality Standards have classified the use designation for both of these streams as wildlife and livestock watering, protection of aquatic life and body contact streams.

Sections (3) and (4) of the regulation lists general and specific criteria, which apply to all waters of the state at all times and are included in the permit:

The following general water criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:

- *Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;*
- *Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;*
- *Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;*
- *Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;*
- *There shall be no significant human health hazard from incidental contact with the water;*
- *There shall be no acute toxicity to livestock or wildlife watering;*
- *Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community; and*
- *Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.*

The following chapters of this Plan will describe how Clay County will protect the quality of stormwater runoff within the Plan Areas (A-1 and A-2).

B. Impaired Waters

Section 303(d) of the Federal Clean Water Act requires states to identify water bodies that do not meet water quality standards after applying the existing regulations. For waters on this list (impaired waters), a plan must be developed to fix the problem.

At the time this Plan was developed, the 2012 EPA 303(d) approved list did not include any streams in Clay County.

C. Water Quality Monitoring

Stream monitoring is useful for a variety of purposes, one of which is to evaluate efforts under the Phase II Stormwater Regulations. The analytical data collected on streams and rivers allows current stream conditions to be defined, the development of program practices for reducing sources of pollutants, and measuring water quality improvements. Data from water quality monitoring is used to understand the streams as a whole and to educate the region's residents about water quality. As monitoring continues into the future, changes in water quality over time will be tracked. The data will show the overall condition of stream water quality so that future plans for the region may be made based on sound scientific information.

Described below is a summary of the Stormwater Inspection and Sampling study conducted by URS Corporation in 2011.

Upstream and downstream surface water samples were collected from Clear Creek Outfall Area (A-1) and Fishing River (A-2) during a wet weather and dry weather event. Key findings included:

- Upstream sample concentrations during the wet sample event were generally elevated compared to downstream concentrations at Clear Creek. The reverse was observed at Fishing River where downstream sample concentrations were generally elevated compared to upstream concentrations.
- The observed trends for the dry sample event were generally opposite those reported during the wet sample event for both stream segments.
- No detections were reported for pesticides, herbicides, oil and grease, SVOCs, or PCBs from samples collected from Clear Creek or Fishing River during the wet or dry sample events.
- Detections reported for nitrogen, phosphorus, COD, TSS, and fecal coliforms from samples collected from Clear Creek and Fishing River during the wet and dry sample events were below Missouri WQS.
- Detections of *E. coli* were reported for all samples. Only the upstream Clear Creek sample was above Missouri WQS.

Figure 5

Clear Creek Outfall Area (A-1) Field Inspections Map

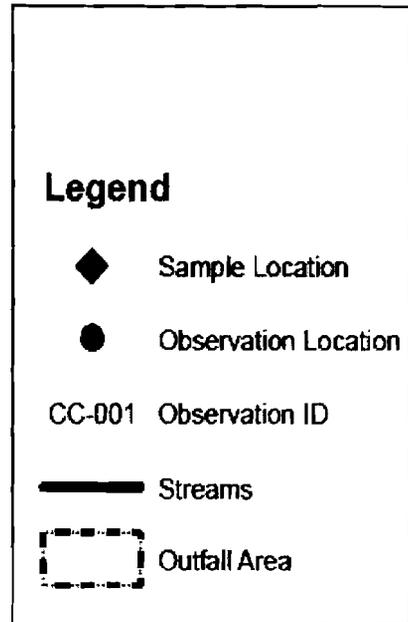
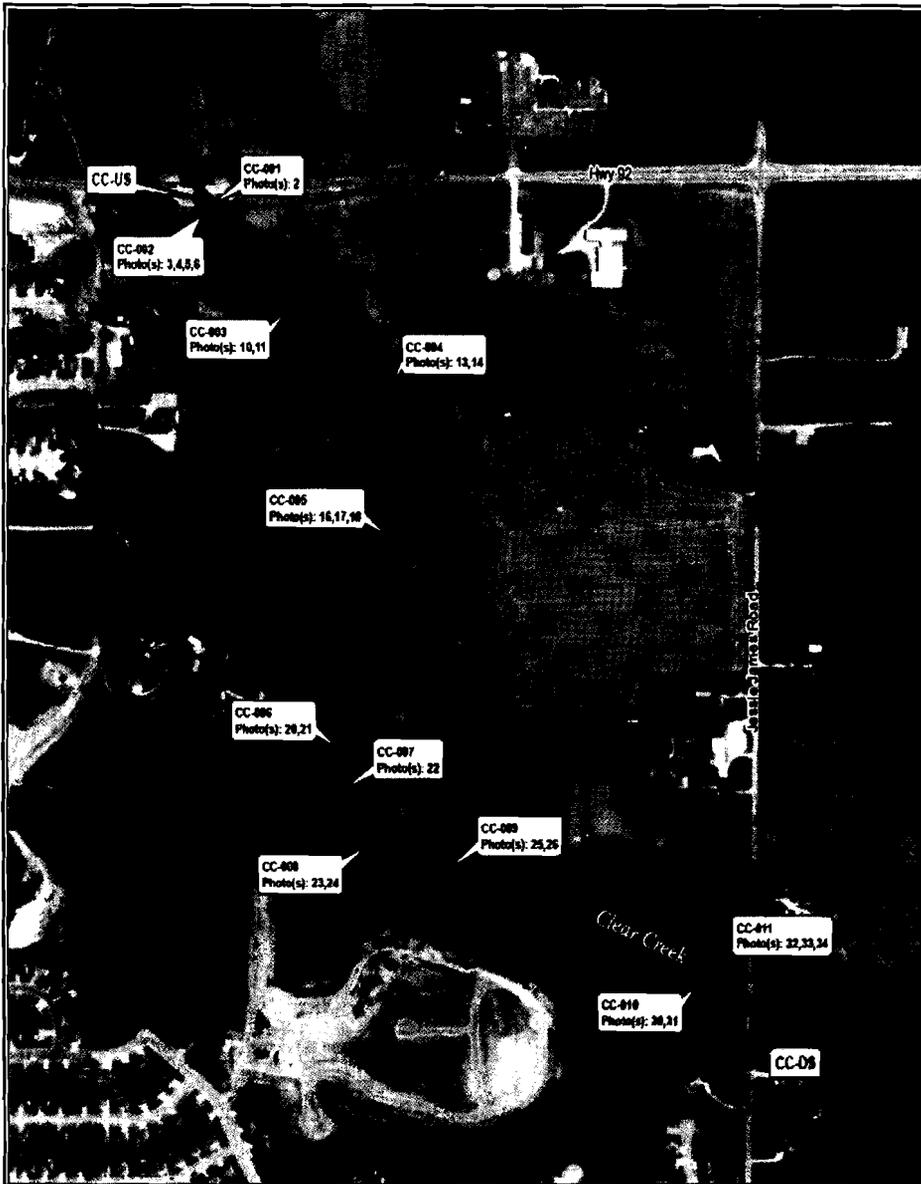
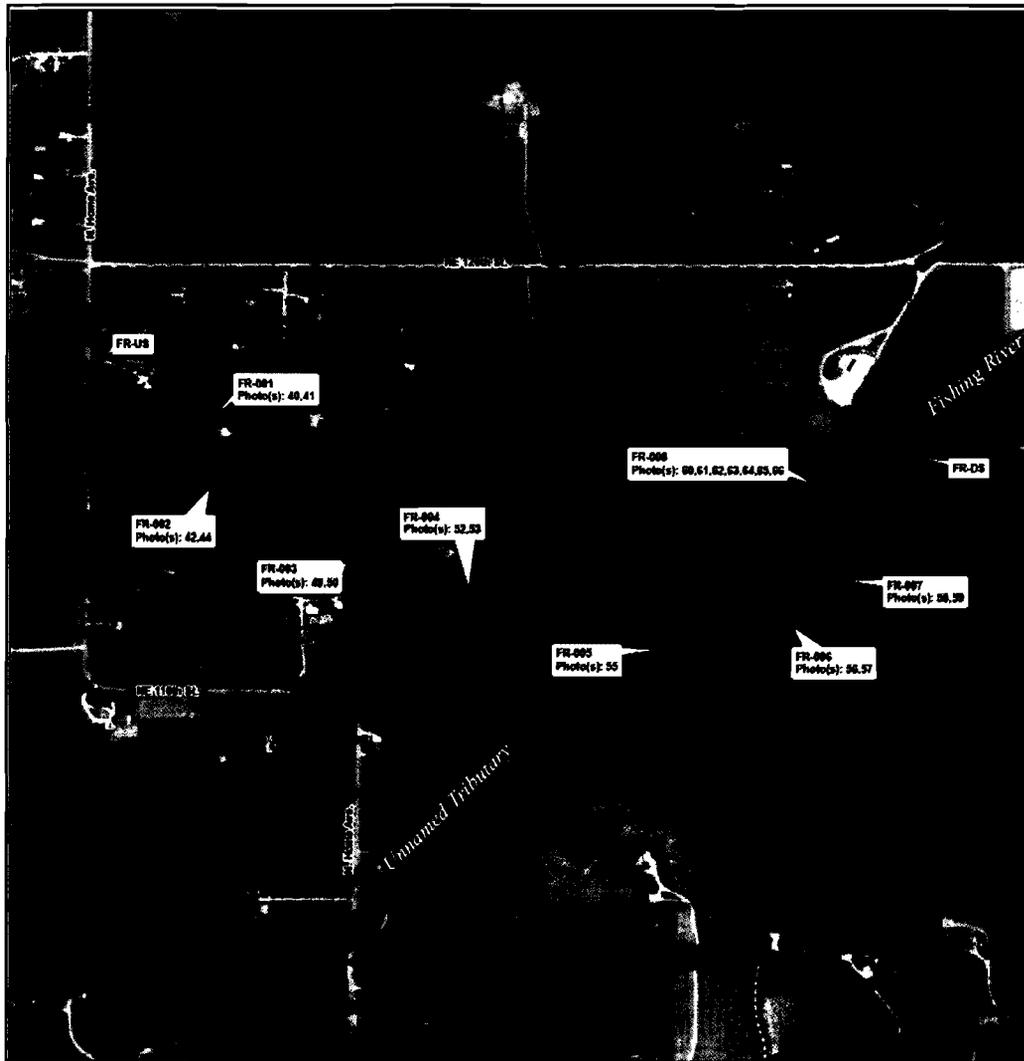


Figure 6

Fishing River and Tributary Outfall Area (A-2) Sampling Locations



Clay County based its steps for reduction of pollutants in the Minimum Control Measures (MCM) from the analytical results shown in *Figures 7 thru 10*.

Figure 7

Clear Creek Wet Sampling Event Analytical Results

		Clear Creek Wet Sampling Event		MDNR Water Quality Standards		
		Clear Creek Upstream	Clear Creek Downstream	Livestock & Wildlife Watering (LWW)	Aquatic Life & Human Health-Fish Consumption (AQL)	Whole Body Contact Recreation (WBC-B)
Analyte	Units	6/28/2011	6/28/2011			
COD	mg/L	30.3	19.2	---	---	---
Fecal Coliforms	CFU/100mL	12,000	7,000	---	---	---
Herbicides	mg/L	ND	ND	---	---	---
Nitrogen, NO2 plus NO3	mg/L	1.1	1.1	---	10	---
Oil & Grease	mg/L	ND	ND	---	---	---
PCBs	mg/L	ND	ND	---	---	---
Pesticides	mg/L	ND	ND	---	---	---
pH	---	7.9	8.1	6.5 - 9.0		
Phosphorus, Total	mg/L	0.25	0.22	---	---	---
SVOCs	mg/L	ND	ND	---	---	---
TSS	mg/L	149	128	A	A	A

Notes:

mg/L = milligrams per Liter or parts per million (PPM).

CFU/100mL = colony forming units per 100 milliliters.

ND = not detected above laboratory reporting limits.

--- = no units, not sampled, or no current standards set for the particular analyte.

A = 10 CSR 20-7.031(3)(C) waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor, or prevent full maintenance of beneficial uses.

No water quality standards provided for analytes with no detections above reporting limits.

Figure 8

Clear Creek Dry Sampling Event Analytical Results

Analyte	Units	Clear Creek Dry Sampling Event				MDNR Water Quality Standards		
		Clear Creek Upstream		Clear Creek Downstream		Livestock & Wildlife Watering (LWW)	Aquatic Life & Human Health-Fish Consumption (AQL)	Whole Body Contact Recreation (WBC-B)
		8/29/2011	*3/9/2004	8/29/2011	*3/9/2004			
COD	mg/L	10.7	ND	11	ND	--	--	--
<i>Escherichia coli</i> (<i>E.coli</i>)	CFU/100mL	341	--	20	--	--	--	206
Fecal Coliforms	CFU/100mL	1,700	--	600	--	--	--	--
Herbicides	mg/L	ND	ND	ND	ND	--	--	--
Nitrogen, NO2 plus NO3	mg/L	0.21	1.8	0.33	1.8	--	10	--
Oil & Grease	mg/L	ND	ND	ND	ND	--	--	--
PCBs	mg/L	ND	0.0015	ND	ND	--	--	--
Pesticides	mg/L	ND	ND	ND	ND	--	--	--
pH	--	8.2	8.0	8.2	8.1	6.5 - 9.0		
Phosphorus, Total	mg/L	ND	0.1	0.11	0.16	--	--	--
SVOCs	mg/L	ND	ND	ND	ND	--	--	--
TSS	mg/L	ND	24	6	30	A	A	A

Notes:

mg/L = milligrams per Liter or parts per million (PPM).

CFU/100mL = colony forming units per 100 milliliters.

ND = not detected above laboratory reporting limits.

-- = no units, not sampled, or no current standards set for the particular analyte.

A = 10 CSR 20-7.031(3)(C) waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor, or prevent full maintenance of beneficial uses.

No water quality standards provided for analytes with no detections above reporting limits.

*Analytical results from samples collected on March 9, 2004, by SKW during normal, dry weather conditions.

Figure 9

Fishing River Wet Sampling Event Analytical Results

Analyte	Units	Fishing River Dry Sampling Event				MDNR Water Quality Standards		
		Fishing River Upstream		Fishing River Downstream		Livestock & Wildlife Watering (LWW)	Aquatic Life & Human Health-Fish Consumption (AQL)	Whole Body Contact Recreation (WBC-B)
		8/29/2011	*3/9/2004	8/29/2011	*3/9/2004			
COD	mg/L	31.2	ND	10.2	ND	--	--	--
<i>Escherichia coli (E.coli)</i>	CFU/100mL	63	--	107	--	--	--	206
Fecal Coliforms	CFU/100mL	6,300	--	3,300	--	--	--	--
Herbicides	mg/L	ND	ND	ND	ND	--	--	--
Nitrogen, NO2 plus NO3	mg/L	ND	1.1	0.24	1.5	--	10	--
Oil & Grease	mg/L	ND	ND	ND	ND	--	--	--
PCBs	mg/L	ND	0.0017	ND	0.0018	--	--	--
Pesticides	mg/L	ND	ND	ND	ND	--	--	--
pH	--	8.0	7.9	8.5	8.1	6.5 - 9.0		
Phosphorus, Total	mg/L	0.14	0.1	0.14	0.16	--	--	--
SVOCs	mg/L	ND	ND	ND	ND	--	--	--
TSS	mg/L	30	3.8	13	12	A	A	A

Notes:

mg/L = milligrams per Liter or parts per million (PPM).

CFU/100mL = colony forming units per 100 milliliters.

ND = not detected above laboratory reporting limits.

-- = no units, not sampled, or no current standards set for the particular analyte.

A = 10 CSR 20-7.031(3)(C) waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor, or prevent full maintenance of beneficial uses.

No water quality standards provided for analytes with no detections above reporting limits.

*Analytical results from samples collected on March 9, 2004, by SKW during normal, dry weather conditions.

Figure 10

Fishing River Dry Sampling Event Analytical Results

		Fishing River Dry Sampling Event				MDNR Water Quality Standards		
		Fishing River Upstream		Fishing River Downstream		Livestock & Wildlife Watering (LWW)	Aquatic Life & Human Health-Fish Consumption (AQL)	Whole Body Contact Recreation (WBC-B)
Analyte	Units	8/29/2011	*3/9/2004	8/29/2011	*3/9/2004			
COD	mg/L	31.2	ND	10.2	ND	--	--	--
<i>Escherichia coli (E.coli)</i>	CFU/100mL	63	---	107	---	--	--	206
Fecal Coliforms	CFU/100mL	6,300	---	3,300	---	--	--	---
Herbicides	mg/L	ND	ND	ND	ND	--	--	---
Nitrogen, NO2 plus NO3	mg/L	ND	1.1	0.24	1.5	--	10	---
Oil & Grease	mg/L	ND	ND	ND	ND	--	--	---
PCBs	mg/L	ND	0.0017	ND	0.0018	--	--	---
Pesticides	mg/L	ND	ND	ND	ND	--	--	---
pH	--	8.0	7.9	8.5	8.1	6.5 - 9.0		
Phosphorus, Total	mg/L	0.14	0.1	0.14	0.16	--	--	---
SVOCs	mg/L	ND	ND	ND	ND	--	--	---
TSS	mg/L	30	3.8	13	12	A	A	A

Notes:

mg/L = milligrams per Liter or parts per million (PPM).

CFU/100mL = colony forming units per 100 milliliters.

ND = not detected above laboratory reporting limits.

--- = no units, not sampled, or no current standards set for the particular analyte.

A = 10 CSR 20-7.031(3)(C) waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor, or prevent full maintenance of beneficial uses.

No water quality standards provided for analytes with no detections above reporting limits.

*Analytical results from samples collected on March 9, 2004, by SKW during normal, dry weather conditions.

CHAPTER 3 Public Education and Outreach (MCM 1)

A. MS4 Permit Requirements

Section 4.2.1.1 of the general MS4 permit requires the permittee to implement a public education program by distributing educational materials to the community and conducting outreach activities about the impacts of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in stormwater runoff.

The permit requires inclusion of the following elements in this program:

- ***Identification of the target pollutant sources the permittee's public education program is designed to address;***
- ***Identification of target audiences for the permittee's education program who are likely to have significant storm water impacts (including commercial, industrial, and institutional entities);***
- ***Plans to inform individuals and households about the steps they can take to reduce storm water pollution;***
- ***Plans to inform individuals and groups on how to become involved in the SWMP (with activities such as local stream and lake restoration activities);***
- ***An outreach strategy, including the mechanisms (e.g., printed brochures, newspapers, media, workshops, etc.) that will be used to reach the target audiences and the number of people this strategy is expected to reach;***
- ***Plans to evaluate the success of this minimum control measure.***

B. General Pollution Prevention Compliance Activities

Since, 2003, Clay County has coordinated with the Mid-America Regional Council (MARC) and other representatives from local governments and environmental organizations and have developed a regional watershed public education and outreach program. Programs will be implemented throughout the area using a variety of approaches in order to consider the various needs of the region. The program has addressed several top non-point source (NPS) issues facing our region. The efforts of the committee have provided a firm foundation for its goal of educating the general public about actions that can take to reduce NPS.

C. Compliance Activities using Printed Materials, Presentations and Other Media

The Plan's distribution process will utilize several approaches to reach target audiences in the community about the steps they can take to reduce stormwater pollution by some of the following strategies:

Printed Materials, Presentations and Other Media
Post Information on Website
Maintain a Library of Stormwater Educational Materials
Distribute Recreational Guides for Outdoor Sportsmen and Recreational Facility Users
Lawn and Garden Activities
Hazardous Waste Disposal
Pet Waste Management
Trash Management
Vehicle Maintenance and Washing
Illicit Discharges
Display Educational Materials at Community Events

*The topics for the brochures will be dependent on the topics in Mid-America Regional Council (MARC) Water Quality Education Committee seasonal campaign for public education. Additional topics will be included in the program, depending on the immediate needs of the surrounding communities.

Public Awareness
Waterway Advisory Signage
Issue Press Release Regarding Local Storm Water Issues
Informational Bulletin Boards at County sites
Developer/Builder/Homeowner Association Mailings
Developer/Builder/Homeowner Association Info. Session

D. Rationale for New Goals

The MARC education outreach is a comprehensive approach to raising public awareness about water quality issues in the region. Some of the methods that have been applied a media campaign, a mini-grant program, training, an education and outreach materials. There was an approximately 8% percent increase in the public awareness of water quality in the Kansas City region from the 2007 to the 2012 public attitude survey. A new stormwater education brochure tied to the *If it's on the ground, it's in our water* outreach campaign was released. About 150 Native plant seed packets were distributed to unincorporated citizens. The education outreach strategy is to continue to implement this variety of methods to reach a number of different target audiences, but mainly focusing on residents and homeowners, multiple times. To change behavior, repetition is important.

The strategy has been and will continue to be partnering with other governmental and non-governmental entities to execute MCM 1, public education and outreach. The idea is to share information and resources so as to avoid unnecessary duplication.

Annually

Each year, funding is given to organizations in the Kansas City area that sponsor educational and outreach events related to non-point source (NPS) pollution through a grant program.

Distribution of brochures and educational materials for proper maintenance of lawn and garden activities, vehicle maintenance and washing, hazardous waste disposal and pet waste and trash management.

During strategic time of the year air TV commercials on network and cable television, and then accompanying online and print ads. Videos online via MARC's YouTube channel.

Promote rain gardens and native landscapes by building on the success of previous initiatives.

Year 1

No new goals planned.

Year 2

An increase in the amount of stormwater educational information posted on the Clay County website. A work group will be formed to look at NPS pollution education being done in the area public schools. MARC will initiate a public water quality survey for the region.

Year 3

Water advisory signs placed on county road right of way adjacent to streams. The Water Quality Education Committee (WQEC) in collaboration with MARC and the Academy for Sustainable Communities plan to conduct more Best Management Practices (BMP) and Native Landscape workshops.

Year 4

Contract with the Blue River Watershed Association (BRWA) to do wet and dry weather stream testing.

Year 5

Informational bulletin board water quality messages posted on County website.

CHAPTER 4 Public Involvement and Participation (MCM 2)

A. MS4 Permit Requirements

Section 4.2.2.1 of the general MS4 permit requires the permittee to implement a public involvement/participation program that complies with State and local public notice requirements and involve the public in the development and oversight of the plan, policies and procedures.

The permit requires inclusion of the following elements in this program:

- ***Involvement of the public in the development and submittal of the permit application and storm water management program;***
- ***Plans to actively involve the public in the development and implementation of the public involvement/participation program;***
- ***Identification of the target audiences, including the types of ethnic and economic groups engaged;***
- ***Identification of the types of public involvement activities to be included with the following mandatory (where appropriate):***
 - ***Citizen representatives on a storm water management panel***
 - ***Public hearings***
 - ***Working with citizen volunteers willing to educate others about the program***
 - ***Volunteer monitoring or stream/beach clean-up activities***

B. Public Involvement

MARC coordinates the majority of the public participation and involvement activities described in the Plan. The Kansas City area benefits from a number of environmental groups, stream teams, and other organizations such as watershed coalitions and partnerships concerned with various aspects of environmental protection.

The Planning and Zoning Commission is serving as the Storm Water Management panel, which is represented by five (5) citizens of unincorporated Clay County and the Clay County Highway Administrator. Public meetings have been conducted on the first Tuesday evening of the month, which have been open for public comments.

C. Public Participation Programs

Citizens are encouraged to attend the Planning and Zoning Commission / Stormwater Management panel meetings and also are encouraged to participate. Community organizations were granted funding for education and outreach events related to reducing stormwater runoff and improving water quality in the following activities initiated by the MARC Water Quality Education Committee:

Green Works of Kansas City (\$3,000 awarded)

Supported the fall Urban Water Session, which took place between September and November 2012. During this 12-week educational session, 22 high school students completed 60 program hours covering green solutions and native plants, created water systems models and learned about non-point source pollution and healthy ecosystems. Students also took a guided ride on the Missouri River, participated in local park rain garden improvements, and learned about Kansas City's storm and sewer system during a tour of water and wastewater treatment facilities.

South Grand River Watershed Alliance (\$3,128 awarded)

Supported a partnership of Peculiar Lions Club International, the Cass County Sustainability Committee, Missouri Stream Team Amarrugia Ridge Runners, Missouri Master Naturalists, the Peculiar Farmers & Artisans Market, the City of Peculiar, and the Missouri Department of Conservation. These partners hosted the Peculiar Know Your Watershed Festival in July 2012. More than 100 adults, 30 children and more than 31 volunteers participated. The educational event provided workshops and information to attendees about the adverse impacts of excessive stormwater runoff and nonpoint source (NPS) pollution and actions individuals, local governments, and businesses can take to minimize these impacts.

Missouri River Relief (\$5,000 awarded)

Allowed Missouri River Relief to expand existing educational opportunities by increasing its work with a pilot program of classroom presentations for younger students and adults, a watershed festival for grade-school and middle-school students, and a "Day on the River" program for high-school students. The educational events finished with a Big Muddy River Clean-up in October. Over 129 students participated and 303 volunteers, to make a "Day on the River" and the KC Big Muddy Clean-Up events a success.

Roanoke Park Conservancy (\$2,300 awarded)

Provided community education about using native species and best management practices to minimize erosion and improve stormwater absorption and water quality. Approximately 30 community members and volunteers helped construct a vegetated swale of approximately 1,200 square feet in Roanoke Park in Kansas City, Mo. The swale addresses erosion and stormwater absorption issues, improves upland water quality and beautifies the park.

D. Rationale for New Goals

The MARC Water Quality Education Committee (WQEC) strategy has been and will continue to be partnering with other governmental and non-governmental entities to execute more public participation and involvement. The idea is to share information and resources so as to avoid unnecessary duplication.

Annually

Each year, funding is given to organizations in the Kansas City area that are involved in public involvement and participation events related to non-point source (NPS) pollution through a grant program.

Clay County will report on the amount of household hazardous waste collected.

Year 1

No new goals planned.

Year 2

MARC will initiate a public water quality survey for the region.

Year 3

WQEC in collaboration with MARC and the Academy for Sustainable Communities plan to conduct more Best Management Practices (BMP) and Native Landscape workshops and involve the public in these trainings.

Year 4

Formation of a citizen represented Clay County Storm Water Commission separate from the Planning & Zoning Commission.

Year 5

Clay County will organize with partner organizations on one or more annual stream or neighborhood clean-up events to cover the Plan Areas (A-1 and A-2).

CHAPTER 5 Illicit Discharge Detection and Elimination (MCM 3)

A. MS4 Permit Requirements

Section 4.2.3.1 of the general MS4 permit requires the permittee to develop, implement, and enforce a program to detect and eliminate illicit discharges (as defined in 10 CSR 20-6.200) into the permittee's small MS4. 10 CSR 20-6.200(1)(C)7 defines an illicit discharge as:

"any discharge to a municipal separate storm sewer that is not composed entirely of storm water, except discharges pursuant to a state operating permit, other than storm water discharge permits and discharges from firefighting activities."

The program must include development and implementation of, at a minimum:

- ***A storm sewer system map showing the locations of all outfalls and the names and location of all waters of the State that receive discharges from those outfalls;***
- ***An ordinance or other regulatory mechanism to effectively prohibit non-storm water discharges into the permittee's storm sewer system, with appropriate enforcement procedures and actions;***
- ***A plan to detect and address non-storm water discharges, including illegal dumping, to the permittee's system. The plan shall also address on-site sewage disposal systems that flow into the permittee's storm drainage system;***
- ***Plans to address the thirteen categories of non-storm water discharges or flows, identified in Section 4.2.3.1.4 of the permit, only if the permittee identifies any of them as significant contributors of pollutants to the permittee's small MS4;***
- ***A list, subject to the conditions in Section 4.2.3.1.5 of the permit, of other similar occasional incidental non-storm water discharges that the permittee has determined will not be addressed as illicit discharges; and***
- ***Inventory, inspect and have enforcement authority for industries and commercial enterprises within their boundary that may contribute pollutants via storm water to the MS4***

Clay County has not identified any listed category of non-stormwater discharge (i.e. illicit discharges) as significant contributors of pollutants that significantly contributes pollutants to water bodies within the Plan Areas (A-1 and A-2). Should any of the listed categories or other similar occasional non-stormwater discharges be found to contribute significant pollutants, action will be initiated to effectively prohibit or control such discharges using existing ordinance provisions and enforcement actions. Clay

County does not believe there is a need to develop a list of allowable incidental non-stormwater discharges at this time. Under the existing program implementation, any incidental non-stormwater discharge that is identified as a potential source of significant pollutants, appropriate local controls or conditions will be placed on such discharges.

B. Identification of Storm System Components

Clay County utilizes a GIS (Geographic Information System) mapping system which illustrates the location, type, and hyperlinks to pertinent documents such as inspection forms and pictures of all the identified outfalls and observation points. These maps are used by staff and others to identify and review stormwater outfall information on a map.

Originally these maps were only available in hard-copy format from the original outfall study document. For the most recent study completed in 2011 by URS Corporation (*Stormwater Inspection and Sampling*), Clay County received digital GIS data for all the identified outfalls and other observation points during their field inspections. As a result, County staff now has access to a dynamic and interactive point GIS data layer that includes pertinent tabular attributes, made available on the Planning & Zoning Department's internal ESRI ArcGIS ArcReader viewer application.

A map detailing the field inspection points from the 2011 URS study for the Clear Creek Outfall Area (A-1) can be seen on **Figure 5** above, and **Figure 6** for the Fishing River and Tributary Outfall Area (A-2).

In addition, Clay County staff went back and digitized the field inspection points from the 2004 Shafer, Klein, & Warren (SKW) Outfall Study. So now staff also has access to digital GIS data for historic outfall study information as well which aids in comparison efforts.

The coordinate system used in the ESRI ArcGIS at Clay County is NAD 1983 State Plane Missouri West (Feet).

URS Corporation through the 2011 *Stormwater Inspection and Sampling* study did not identify any new illicit discharge points or other potential water quality impacts compared to those identified in the 2004 study. When the number of outfall conveyances increase from new construction in undeveloped areas, or when changes are made to existing systems, Clay County's maps are updated. Because of Clay County's GIS mapping capabilities, updating the outfalls and observation points data is a continuing and routine task.

C. Illicit Discharge Enforcement Mechanism

Clay County has utilized provisions in the Clay County Health Department's regulations to prohibit illicit discharges into the storm sewer system and watercourses.

The County will effectively prohibit non-stormwater discharges into the stormwater system via the following ordinances and regulations. Each ordinance/regulation is enforceable by Clay County with appropriate procedures and consequential actions.

Clay County Land Development Code (LDC) Section 151-11.4 specifically prohibits the existence of junk and debris as well as derelict vehicles throughout unincorporated county. More specifically, it states:

"The regulations of this section are intended to prohibit the accumulation of junk, debris, building materials, used furniture, or other waste items or the repair, restoration, assembly, disassembly, storage or standing of any inoperable vehicle where it is visible and uncovered from surrounding property or roads."

Section 151-11.4 goes on to state in § (C) that "Junk Vehicles and/or Trash/Debris are not "grandfathered" and all violations are "effective as of June 23, 2003".

Appropriate enforcement procedures and actions are contained in the ordinance to deal with violators and to mitigate the effects of junk, debris, and derelict vehicles. Section 151-11.4 (D) lists various enforcement actions that can be initiated against a violator:

"Any owner, occupant, person, corporation, partnership, or association in control of any lot or parcel of land that meet Section 151-11.4 who shall fail to comply with any of the provisions of this code shall upon conviction thereof be fined in any such instance not exceeding one hundred dollars (\$100.00). Each day of violation shall constitute a separate offense."

Clay County has the necessary legal authority already in place to enforce provisions of the Phase II Regulations at the local level. However, more specific and targeted legal authority code is necessary in order to further advance Illicit Discharge Detection and Elimination (IDDE) efforts for unincorporated Clay County and the Plan Areas (A-1 and A-2).

D. Publicizing Hazards Associated with Illicit Discharges

Pollutants from point and nonpoint sources that impact stream water quality are usually conveyed to the stream by stormwater runoff. As such, each individual is personally responsible for the pollutants in the runoff from their land and actions. The public education measures of this Plan have addressed this issue from the public's perspective by informing individuals and households on the proper application of lawn fertilizers and pesticides, pet waste control, car washing, waste management, and automotive fluid changing, in addition to others. The educational programs developed for illicit discharge hazards will continue to be promoted with brochures and public service announcements under MCM 1.

E. Rationale for New Goals

Clay County survey of the Plan Areas (A-1 and A-2) stream corridors will continue with open channel inspection reported during the permit term. Reports will include stream miles inspected, the findings of the inspections, and the actions taken within the Plan Areas by Clay County. Although Clay County will continue to enforce its codes and regulations pertaining to IDDE, the County will use the findings to enforce IDDE by improper management of land disturbance activities, yard waste, and solid waste, particularly trash and litter. Clay County will address waste findings by organizing a clean-up event to meet the MCM 2 goals.

Clay County as a whole lacks a comprehensive geospatial inventory of individual sewage disposal systems. To assist with developing a comprehensive inventory and GIS point data layer, a new goal to identify sources that are tracking individual sewage disposal system data, including but not limited to installations, repairs, and enforcement actions will be implemented.

Clay County will develop and distribute a brochure to address individual sewage disposal systems modeled after MARC and other trusted sources such as the East-West Gateway Council of Government's Homeowner's Guide to Septic System Maintenance. The brochure will describe the elements of an individual sewage disposal system, how it operates, homeowner maintenance responsibilities, signs of a malfunctioning systems, enforcement, and resource information. Distribution of the brochure will be implemented through the assistance of partners and other MS4 communities by posting it on websites and as a specific message under MCM 1.

Annually

Survey stream corridors of Plan Areas (A-1 and A-2) for illicit discharge over permit term. Clay County will report stream lengths inspected, the findings of the inspections, and any actions taken.

Year 1

No new goals planned.

Year 2

Planning & Zoning Department staff will work with the Clay County Health Department on developing a comprehensive individual sewage disposal systems inventory and GIS point data layer, including but not limited to installations, repairs, and enforcement actions.

Year 3

Clay County will develop a brochure to address individual sewage disposal systems. The brochure will describe the elements of an individual sewage disposal system, how it operates, homeowner maintenance responsibilities, signs of a malfunctioning systems, enforcement, and resource information.

Year 4

Clay County and partners will distribute the brochure to address individual sewage disposal systems. Distribution may include website posting.

Year 5

Clay County will develop and adopt more specific and targeted legal authority code in order to further advance Illicit Discharge Detection and Elimination (IDDE) efforts for unincorporated Clay County and the Plan Areas (A-1 and A-2).

CHAPTER 6 Construction Site Stormwater Runoff Control (MCM 4)

A. MS4 Permit Requirements

Section 4.2.4.1 of the general MS4 permit requires the permittee to develop, implement, and enforce a program to reduce pollutants in stormwater runoff from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre shall be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

The program must include the development and implementation of, at a minimum:

- ***An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law;***
- ***Requirements for construction site operators to control construction – site waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;***
- ***Procedures for site plan review which incorporate consideration of potential water quality impacts;***
- ***Procedures for receipt and consideration of information submitted by the public; and***
- ***Procedures for site inspection and enforcement of control measures.***

B. Land Disturbance Requirements

Within the Plan Areas (A-1 and A-2), construction and land disturbance activities are performed by private entities, as well as Clay County. These activities fall under the land disturbance permitting requirements of the MDNR's Water Protection Program for projects disturbing one acre or more of land.

Clay County developed a new land disturbance program during the second term, which included adoption of appropriate Phase II compliant policies, procedures, and ordinances to reduce pollutants from construction activities resulting from land disturbance equal to or greater than 1 acre in size. Activities conducted by private entities are subject to the land disturbance permitting requirements of the permittee. In addition to any local approvals, every construction site operator must also obtain a separate state permit for any land disturbance activities affecting an area of one acre or more. Regardless of the status of local approvals, land disturbance activities on such sites may not commence prior to the issuance of a state land disturbance permit.

C. MDNR Land Disturbance Permit Requirements

The Missouri Department of Natural Resources (MDNR) has two general land disturbance NPDES permits to cover varying situations throughout the state:

- General permit MO-R100 covers land disturbance activities conducted by a city, county or other governmental jurisdiction.
- General permit MO-RA00000 covers land disturbance activities conducted by any entity. Each of these general land disturbance permits apply specifically to land disturbance conducted by or under contract by the permittee, and contain additional requirements not specifically identified within the MS4 permit requirements.

Since Clay County currently utilizes these general permits and since any permittees may utilize them, the additional requirements of these permits are addressed in this Plan. The MDNR conditions contained in the requirements section of these permits are:

- Site operators must develop Stormwater Pollution Prevention Plans (SWPPP) specific to each site and must amend the plans whenever certain conditions occur. The required contents of a SWPPP and the conditions which would trigger SWPPP amendments are identified in the permit Requirements section;
- Good housekeeping practices shall be maintained to keep waste from entering waters of the state;
- Construction Site Stormwater Runoff Control
- All fueling facilities on site must adhere to applicable federal and state regulations concerning storage (underground and above ground) and dispensers;
- Hazardous wastes that are transported, stored or used on site must be managed according to the provisions of the Missouri Hazardous Waste Laws and Regulations;
- Site operators must designate individuals with overall responsibility for environmental matters;
- Paint, solvents, petroleum products and petroleum waste products and the containers for these materials must be stored according to BMPs and be inspected for leaks and spills weekly;
- Quarterly reporting of the list of active land disturbance sites to MDNR;
- Site operators must inspect outfalls and any structures or BMPs at the site provided to prevent pollution of stormwater or to remove pollutants from stormwater to ensure all BMPs are continually implemented and are effective.

- Inspections must be scheduled at least weekly and within 48 hours after a rainfall, that causes runoff, has ceased during a normal workday and within 72 hours if the rain event ceases during a non-workday such as a weekend or holiday, and the observed conditions noted in weekly reports. Deficiencies must be corrected within seven days of the report;
- Site operators must post a copy of a public notification sign, as required by MDNR.

D. Land Disturbance Program

As required by the Phase II permit, Clay County has implemented a program that requires erosion and sediment controls for construction site operators. Activities conducted by private entities are also subject to these land disturbance permitting requirements.

Clay County Ordinance #2010-ORD-08 amended the Clay County Land Development Code (LDC) to establish an "Erosion Sediment Control" (ESC) ordinance in March of 2010. This was accomplished under Clay County Land Development Code (LDC) Section 151-8.19. Clay County enforces the LDC in unincorporated Clay County and the Plan Areas (A-1 and A-2).

The ESC ordinance separates land disturbances into two basic categories: major land disturbances for land disturbance activities involving 1 acre or more of land or a site involving less than 1 acre as part of a proposed development that will ultimately disturb 1 acre or more; and smaller land disturbance activities involving less than 1 acre of land. The County currently issues approximately 2-3 major land disturbance permits annually.

The County's system of maintenance and inspection is outlined in the LDC, under Section 151-8.19 (E). For major land disturbances, this involves the following primary elements:

- Requires all permit holders to maintain all erosion and sediment control measures in good order at all times during and after construction as set forth in the approved SWPPP, Erosion and Sediment Control Plan, and Engineering/Construction Plans.
- Assignment of a professional inspector who is supplied by the land disturbance permit holder and approved by Clay County. The professional inspector is required to inspect the site weekly, after heavy rains and inspect related to complaints. This Inspector is required to report on each inspection to the Department of Public Works.
- A professional inspector is considered a licensed Professional Engineer or Landscape Architect in the State of Missouri or by a Qualified Erosion Control Specialist (CCIS through Stormwater USA, LLC; CISEC through CISEC, Inc; or CESSWI through EnviroCert International, Inc. or equivalent qualifications).

- Inspections by the professional inspector must be at least once each week and within twenty-four (24) hours following each rainfall event of one-half (1/2) an inch or more within any twenty-four (24) hour period. A log of all inspections shall be kept during land disturbing activities.
- Any deficiencies identified during an inspection are noted in a report and the permit holder must correct them within a reasonable time not to exceed three (3) days unless extended by County staff for good cause shown.
- A land disturbance permit is not closed until perennial vegetation, pavement, buildings, or structures using permanent materials cover a minimum 70% of the disturbed area.

An enforcement aspect of the County's program is outlined under Section 151-8.19 (N) of the LDC and includes possible criminal prosecution. For major land disturbances, this involves the following primary elements:

- Clay County has developed and implemented an enforcement portion that includes a fine structure of not less than 10 dollars nor more than one thousand 1,000 dollars for each violation to the EDC ordinance. Each day constitutes a separate violation and result in a separate fine.
- The ESC also requires remedial action by a permit holder when failed or absent erosion and sediment control has resulted in mud, silt, gravel, dust or other debris entering into any street right-of-way, drainage easement, stream setback easement, or adjoining property.
- Remedial action must be taken within a minimum of 3 days after notice of violation has been received.
- In addition to the enforcement provisions, the ESC ordinance also allows staff to issue a Stop Work Order if it is determined that work authorized by a LD permit is in violation

In addition to the above local entities, the Missouri Department of Transportation also engages in land disturbance activities within the Plan Areas (A-1 and A-2). As previously noted, MoDOT's activities will be covered under a separate statewide MS4 permit issued by MDNR to MoDOT, and the applicable stormwater land disturbance permit.

E. Rationale for New Goals

With the continued implementation of Phase II compliant land disturbance programs throughout the Plan Areas (A-1 and A-2) for all public and private construction projects, goals will continue to focus on ensuring effective implementation of the programs through training and education.

Public education and outreach are critical to the success of a construction site stormwater runoff control program. Clay County will further build off of the

foundational information that is currently available on their website and expand to include pertinent information about stormwater management Best Management Practices (BMPs), as well as information on inspections.

A key element of an effective land disturbance program is the inspection process. To assure the proper functioning of stormwater control measures during permitted land disturbance activities, Clay County will develop and conduct a staged land disturbance inspection training workshop for professional inspectors and municipalities.

Specific goals for each year of the permit are presented as follows:

Annually

Clay County will report permits issued by name and area disturbed. This information is necessary for coordination with MDNR to ensure land disturbance program compliance.

Clay County will report the number of formal written notices of violation and further enforcement actions taken, and the companies they were taken against.

Year 1

No new goals planned

Year 2

Clay County will conduct a workshop for developers and construction company employees, engineers, contractors, and local inspectors detailing the land disturbance code regulations as well as the program, and evaluate workshop effectiveness.

Year 3

Clay County will develop and implement an online land disturbance toolbox containing several resources, including links to erosion and sediment control BMPs, certification programs and organizations that can help solve problems, and information on managing runoff from smaller sites of less than 1 acre.

Year 4

Clay County will provide educational program or training for developers and construction company employees, engineers, contractors, and local inspectors on sediment and erosion control BMPs, and evaluate training effectiveness.

Year 5

Clay County will develop and conduct at least 1 staged inspection training workshop for professional inspectors and municipalities to improve implementation of Phase II land disturbance programs.

CHAPTER 7

Post-Construction Stormwater Management in New Development and Redevelopment (MCM 5)

A. MS4 Permit Requirements

Section 4.2.5.1 of the general MS4 permit requires the permittee to develop, implement and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the permittee's regulated small MS4. The program must ensure that controls are in place that will prevent or minimize water quality impacts by reasonably mimicking pre-construction runoff conditions on all affected new development projects and by effectively utilizing water quality strategies and technologies on all affected redevelopment projects, to the maximum extent practicable.

The permit requires that this program include the following:

- ***A strategy to minimize water quality impacts, by reasonably mimicking pre-construction runoff conditions in affected new development and incorporating water quality protection in affected redevelopment projects to the maximum extent practicable, and include a combination of structural and/or non-structural BMPs appropriate for the permittee's community;***
- ***Use of an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law;***
- ***Means to ensure adequate long-term operation and maintenance of BMPs;***
- ***Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation;***
- ***Policies or ordinances that encourage infill development in higher density urban areas and areas with existing storm sewer infrastructure;***
- ***Education programs for developers and the public about project designs that minimize water quality impacts; and***
- ***Other measures such as minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, site designs that provide for integration of a variety of infiltration practices, and source control measures often thought of as good housekeeping, preventive maintenance and spill prevention.***

B. Program Intent

In 40 CSR 122.34 one of the regulatory requirements of the Phase II Rule states that the NPDES permit will require the operator of a regulated MS4 to:

- (1) **develop and implement strategies** which include a combination of structural and/or non-structural BMPs appropriate for the community,
- (2) **use an ordinance** or other regulatory mechanism to address post-construction runoff,
- (3) **make sure controls are in place** that will minimize water quality impacts, and
- (4) **ensure adequate long-term operation and maintenance of BMPs.**

EPA went on to say that the post-construction BMPs chosen should (1) be appropriate for the local community, (2) minimize water quality impacts, and (3) attempt to maintain pre-development runoff conditions.

Additionally, in 4.2.5.1 of the Missouri Small MS4 General Permit requires the permittee assess site characteristics at the beginning of the construction phase to ensure adequate planning for stormwater program compliance. The permit states that the purpose of this planning effort is “to arrive at designs and practices that provide for the most effective water quality treatment through infiltration, flow rates, and similar site-design opportunities”.

The foundation of the Phase II regulation is to allow the MS4 to craft a program that meets these requirements, without dictating in what way these requirements will be achieved. Our Plan for this is outlined, and detailed through the operating procedures, ordinances, and rules that the MS4 follows. An outline of the efforts that Clay County will take to comply with the Missouri Small MS4 General Permit follows.

1. Develop and implement strategies appropriate for the community

The Clear Creek (A-1) and Fishing River and tributary (A-2) outfall areas as described in Figures 5 and 6 eventually flow into the Missouri and Mississippi Rivers. The drainage features predominately in these two areas are erosion gullies, drainage ditches and a few small diameter pipes. The origin of the drainage features is primarily from agricultural croplands or pastures and some roadside drainage.

Both the Clear Creek and Fishing River areas are affected by large upstream drainage areas outside the limits of the outfall areas (A-1) and (A-2). Consequently, water quality within these areas is affected by many issues and land use management practices that are outside the immediate outfall areas.

Neither of these streams within the Plan areas are currently listed on the 303(d) list of impaired waters. The main constituent of pollutant concern for these stream segments is E. coli, a type of fecal coliform bacteria found in the intestines of animals and humans. The presence of E. coli in water is an indicator of sewage or animal waste contamination. The most likely source is runoff of livestock waste from pastures. Other sources may include on-site sewage treatment systems, suburban runoff, geese at the upstream golf course, or wastewater treatment plant discharges.

As compared to the 2004 stormwater inspection report additional drainage ditches and gullies have formed with increased stream bank and ditch erosion. The land use associated within the upstream municipalities in these stream areas has become more urbanized with the development of urbanized residential homes and subdivisions. Practices, such as stream buffers, stormwater management codes, Low Impact Development (LID) and Stormwater Best Management Practices (BMP's), will help to control the stormwater runoff. Some of these practices are presently in practice for several of the surrounding municipalities.

Both structural and non-structural BMPs will have a role in successfully tackling the stream impairment and water quality, but both of these streams receive runoff from large areas covering many miles upstream. Protecting these streams will require collaboration across municipal and county boundaries and cooperation with multiple entities. A Stormwater Commission and development plans through the region for common sewer districts should be considered to promote regional collaboration.

2. Use of ordinances or other regulatory mechanism to address post-construction runoff

Clay County has adopted within the Land Development Code (LDC) zoning ordinances to establish requirements that are specific to the area, as required. There are many planning and zoning strategies that can be utilized to encourage growth in areas that can best support the type of growth desired while maintaining overall integrity of the watershed.

The Land Development Code (LDC) identifies the following non-structural BMPs that can be used to protect water quality:

- Stream Buffer Setbacks – Adopted 6/23/2003
- Planned Unit Development (PUD) performance criteria - Adopted 11/13/2000
- Overlay zoning - Preservation Overlay Districts (POD), which include Agricultural Land Preservation (ALP) and Shadow Plat (SP) - Adopted 2/27/2012
- Conservation Overlay District (CD) – Adopted 12/21/2001
- Flood Plain Management – Adopted 11/13/2000

Of the five strategies above, all would meet criteria for the non-structural BMPs: planned urban development (PUD) ordinances with water quality based criteria standards for stream buffers, and open space, POD overlay zoning requiring better site designs to protect environmentally sensitive areas like streams, wetlands, forests, farmland and flood plains, and stream buffer setbacks, that includes vegetated buffers, and the CD Overlay District which preserves environmentally sensitive areas through better site design and more efficient use of public services and improvements. The unincorporated portion of Clay County does not have any infill development.

The Land Development Code (LDC) identifies the following as post-construction BMP planning that can be used to protect water quality:

- KC-APWA Section 5600, 5100, 2100, 2150, 2400 and the MARC/APWA Manual for Best Management Practices for Stormwater Quality – Adopted 8/13/2007, updated 2/27/2012
- Low Impact Development (LID) Design Standards – Adopted 8/13/2007
- Land Disturbance Permit requirements – Adopted 3/8/2010
- Land Disturbance Maintenance and Inspections - Adopted 3/8/2010
- Land Disturbances Less than One (1) Acre – Adopted 3/8/2010
- Enforcement (Stop Work Order or Fines) – Adopted 3/8/2010

Of the above post-construction BMPs, the KC-APWA 5600 (*Storm-Drainage Systems and Facilities*), 5100 (*Erosion and Sediment Control-Design Criteria*), 2100 (*Grading and Site Preparation*), 2150 (*Erosion and Sediment Control Specifications*), 2400 (*Seeding and Sodding*), the MARC/APWA Manual for Best Management Practices for Stormwater Quality that includes guidelines for structural and non-structural BMPs, the Land Disturbance and Enforcement portion of the LDC section applies to all building permit submittals, preliminary plats, and Land Disturbance permit applications. The Land Disturbances Less than One (1) Acre apply to any building construction activity, and refers to maintenance and continued stabilization of BMPs. The “*Erosion and Sediment Control Standards for Building Construction that Disturbs Less Than One Acre*” was assembled as an eight (8) page booklet and has been distributed to county residents and developers since March 8, 2010.

3. Ensuring controls are in place that minimize water quality impacts

Clay County will continue to approve development plans within the Plan areas only after ensuring the development meets all applicable requirements, and will continue to enforce ordinances related to the BMPs. The County has implemented procedures to ensure that all applicable private and public development projects have design requirements mandating structural and non-structural post-construction BMPs.

4. Ensuring adequate long-term operation and maintenance of BMPs

All BMPs located on private property are to be maintained by the property owner(s). A small portion of the property owner(s) are enforced or maintained by a Home Owners Association (HOA). Violations that are reported by property owners or inspected by the County could be subject to penalties and enforcement actions should the situation not be corrected.

An executed development agreement or recorded plat is required for projects that will have proposed interior streets with the BMPs required complying with the permit, and the County not performing BMP maintenance, but the developer or property owner. Clay County maintains responsibility under the Plan to ensure BMPs are maintained and will continue to inspect BMPs to ensure adequate operation.

BMP owner and developer education is the key to ensuring proper operation and maintenance of BMPs. The third term Plan will address owner education with the goal of gaining acceptance of BMPs in the community, and to explain owners' responsibilities concerning maintenance requirements.

Missouri Department of Transportation

The Missouri Department of Transportation (MODOT) is subject to a MS4 General Operating Permit issued by the Missouri Department of Natural Resources, Water Pollution Control Program. Because MODOT's stormwater discharges are covered under another permit, projects performed by MDOT and its contractors projects will not be subject to the Clay County Phase II Stormwater Management Plan.

C. Flood Plain Management

Clay County has managed floodplain requirements because it is closely related to zoning and land use restrictions. The County has ordinances that fulfill the requirements of the National Flood Insurance Program administered by FEMA. The Floodplain Management Regulations require the lowest floor of any structure to be at least one foot above the 100-year flood elevation. Floodplain filling is subject to state or local government restrictions, and thus Clay County has no requirements for compensatory storage when development takes place in the floodway fringe.

D. Rationale for New Goals

In the third term five year Plan Clay County will address several goals related to education, a key element for maintaining an effective post-construction BMP program. In the development community, educational efforts will continue to promote the use of structural and non-structural BMPs and the benefits of stormwater management planning prior to land disturbance. Clay County and MARC will distribute educational material to additional target audiences, including home owner associations, school districts and fire districts. To improve the design, selection and performance of BMPs with regard to local water quality impairments, especially bacteria.

Clay County will explore the feasibility of creating a Sewer District for at least the unincorporated portions of the County so as to provide a regional organizational mechanism to assist in the establishment of new enclosed sewer systems. In addition, a Sewer District will also help promote regional collaboration across jurisdictional boundaries with the intent to provide enclosed sewer service to areas in need, thereby improving water quality.

To ensure the proper operation and maintenance of BMPs, education of the public will focus on the responsibilities of homeowners and Homeowner Associations regarding the required maintenance of BMPs. The public understanding of the important role BMPs perform to protect water quality, as well as the expectations of how they perform in managing stormwater, will be key to ensuring the public acceptance of BMPs and ensuring they are well maintained and continue to function properly.

Specific goals for each year of the permit are presented as follows:

Annually

Clay County will concentrate on public education and outreach which are critical to the success of a successful stormwater program. Clay County will further build off of the foundational information that is currently available on their website and expand to include pertinent information about stormwater management Best Management Practices (BMPs), collaboration with municipalities, and additional educational materials.

Year 1

Clay County will collaborate with the municipalities of the Kearney and Kansas City to protect the bacteria flow of Fishing River and Clear Creek streams.

Year 2

Clay County will produce development plans for common sewer districts and a Stormwater Commission.

Clay County will collaborate with MARC to develop or update educational materials for public works officials, developers, and engineers. The materials will promote the use of non-structural BMPs and the benefits of stormwater management planning prior to land disturbance.

Year 3

Clay County will collaborate with MARC to develop educational materials (specifically bacteria) on stormwater BMPs for homeowners and distribute them to specific audiences. MARC may provide workshops for these specific audiences, as necessary. Examples of specific audiences include homeowners and homeowner associations.

Year 4

Clay County will continue with furtherance of year 2 and 3 goals.

Year 5

Clay County will review post construction stormwater BMP selection and pollutant removal performance with regard to water quality impairments, specifically bacteria.

CHAPTER 8 Pollution Prevention/Good Housekeeping for Municipal Operations (MCM 6)

A. MS4 Permit Requirements

Section 4.2.6.1 of the general MS4 permit requires the permittee to develop and implement an operations and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

The program is required to specifically address the following areas:

- ***Maintenance BMPs, maintenance schedules and long term inspection procedures for controls to reduce floatables and other pollutants to the permittee's MS4;***
- ***Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas and salt/sand storage locations and snow disposal areas the permittee operates;***
- ***Good housekeeping practices to keep solid waste from entry into waters of the state to the maximum extent practicable;***
- ***Adhere to all applicable federal and state regulations concerning underground storage, aboveground storage, and dispensers, including spill prevention, control, and counter measures at all fueling facilities;***
- ***Manage RCRA and CERCLA regulated substances according to RCRA and CERCLA regulations when transported, stored, or used for maintenance, cleaning, or repair; Procedures for the proper storage of all paints, solvents, petroleum products and petroleum waste products (except fuels) so they are not exposed to storm water;***
- ***Procedures for the proper disposal of waste removed from the permittee's MS4 and area of jurisdiction, including dredged materials, accumulated sediments, floatables and other debris; and***
- ***Procedures to ensure that new flood management projects are assessed for incorporation of additional water quality protection devices or practices.***

Section 4.2.6.1.1 of the general MS4 permit requires the permittee to specifically list all of its municipal operations which are impacted by the above listed requirements.

Facility Name	Address
Administration Building	1 Courthouse Square Liberty 64068
Clay County Detention Center	14 S. Water Liberty 64068
Public Safety Building	12 S. Water Liberty 64068
James S. Rooney Justice Center	11 S. Water Liberty 64068
R. Kenneth Elliott Children's Justice Ctr.	351 Kansas St. Liberty 64068
Girl's & Boy's Group Home	Undisclosed Address
Shrader Building	234 Shrader Liberty 64068
Facilities Management Building	115 S. Main St. Liberty 64068
Facilities Storage Building	201 Mill Street Liberty 64068
West Side Annex	1901 North East 48 th St. Kansas City, MO
Highway Department	16616 NE 116 th St. Kearney 64060
Midwest National Air Center (Permit # MO-R80F045)	13106 Rhodus Rd. Excelsior Springs 64024
Smithville Park (Permit #'s MO-R80C555 & MO-R80C556)	17201 Paradesian Smithville 64089
Paradise Point Golf Complex	18212 Golf Course Rd. Smithville 64089
Mount Gilead (Historic Site)	Plattsburg Rd. Kearney 64068
Pharis Farm	E Highway Liberty 64068
Jesse James Farm	21216 Jesse James Farm Rd. Kearney 64060
Claybrook House site	Plattsburg Rd. Kearney 64060
Park Staff Housing	2203 NE 188 th St 2619 NE 188 th St 17924 Collins Rd 7001 W Hwy 4619 Paradise Rd Smithville 64089 15918 Plattsburg Rd 21216 Jesse James Farm Rd Kearney 64060
Tryst Falls	25609 Hwy 92 Kearney 64060

Section 4.2.6.1.7 of the general MS4 permit requires the permittee, using training materials that are available from EPA, State, or other organizations, to develop employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances and stormwater system maintenance.

B. Stormwater Discharges Associated with Industrial Activity

Section (2)(B)3.F of the Missouri Stormwater Regulations (10 CSR 20-6.200) requires that municipalities obtain separate state NPDES permits for stormwater discharges from certain “industrial” facilities that are municipally owned or operated if the stormwater discharges from those facilities are not already covered under other NPDES permits.

Section (1)(B)16 of the regulations provides for a certification of “no exposure” in lieu of a permit if the “industrial” activities are protected from rain, snow, snowmelt and/or runoff and the operator meets certain other requirements. Section 4.2.6.1.1 of the MS4 permit requires the permittee to include a list of such “industrial” facilities, along with the NPDES stormwater permit number for each facility or a copy of the current NPDES stormwater permit application. The regulations contain an extensive listing of “industrial” facilities subject to this requirement. From that extensive listing, only the following few are typically under municipal ownership and/or operation:

- Transportation, including Airports
- Solid Waste Transfer Facilities
- Landfills
- Wastewater Treatment Facilities
- Hazardous Waste Treatment/Storage/Disposal
- Recycling Facilities
- Vehicle Maintenance Facilities
- Yard Waste Compost/Mulch Facilities
- Vehicle Washing Facilities
- Warehousing and Storage Facilities

A separate municipal stormwater permit is only required if stormwater from any of these “industrial” facilities discharges directly to waters of the state and the stormwater discharge is not already covered under another NPDES permit.

The Midwest National Air Center is operating under the MDNR Missouri State Operating Permit – General Permit, MOR80F000, for Airports, under specifically Permit Number MO-R80F045.

The Parks Department is operating under MDNR Missouri State Operating Permit – General Permit, MO-R80C555 for the Camp Branch Marina site and MO-R80C556 for the Paradise Pointe Marina site.

C. Stormwater Conveyance Construction and Operations & Maintenance (O&M)

The County Commission authorizes the Highway Department to construct or reconstruct (by contracts or otherwise) any improvements, extensions or additions to provide adequate stormwater drainage. Capital improvements are the structural solutions to alleviate specific drainage problems or to prevent them from occurring in the first place. A typical example would be replacing an undersized culvert to pass greater flows. Presently, the County undertakes a very limited amount of stormwater capital improvement projects that fall into the following three categories:

- Operation, Maintenance and Construction Improvement (OMCI)
- Replacement Projects
- Emergency Projects

1. Operation, Maintenance and Construction Improvement (OMCI)

The Highway Department is the operation, maintenance and construction improvement branch of the county regarding the stormwater drainage systems in unincorporated portion of the county as given authority by the County Commission. Operations and maintenance includes the following: emergency response to major rainfall or flooding events, inlet cleaning, debris and silt removal from culverts, ditches and open channels and complaint response. Storm sewers, inlets catch basins, ditches, gutters and swales are maintained within the right-of-way. Roadway bridges crossing open channels are constructed and maintained.

2. Replacement Projects

Drainage infrastructure may become degraded to the point of needing replacement or substantial repair. Typical Replacement activities include: routine inlet repair and culvert improvements.

3. Emergency Projects

The County Commission explicitly gives the Highway Department maintenance authority over all drainage systems. Operations and Maintenance (O&M) includes those activities required to keep the drainage system functioning properly, which includes the following services: emergency response to major rainfall or flooding events, inlet cleaning, debris and silt removal from culverts, ditches and open channels and complaint response.

4. Detention Basins and Post-construction BMPs

The responsibility for maintenance of detention basins and BMPs is currently placed on the property owner or homeowner associations.

5. Roadway Culverts

Roadway culverts are currently maintained by the Highway Department and emergency services are provided to remove significant blockages.

6. Storm Sewers, Inlets, and Catch Basins

Storm sewers are maintained by the Highway Department within the right-of-way, and the property owners or the homeowners association maintains that which is on their property. The Highway Department will only provide emergency service, and the routine maintenance within the area of the right-of-way. The County does not maintain Missouri Department of Transportation storm sewers, inlets or catch basins.

7. Natural Channels

Natural Channels are not routinely maintained by the property owner or home association. The Highway Department would remove significant obstructions to the flow. Priority is given to blockages that cause major flooding. The Highway Department will also undertake emergency control measures when there is a significant threat from flooding or erosion.

8. Swales, Roadside Ditches, and Gutters

The County does maintain roadside ditches, gutters and swales within the maintained right-of-way as drainage components.

MoDOT has received a statewide MS4 permit, and will be solely responsible for meeting all of the requirements of MCM 6 for its facilities and activities within the unincorporated portion of the County. These facilities include state and federal roads and highways, including stormwater conveyances located on the right of ways, parking and maintenance facilities for vehicles and equipment, and storage facilities for salt and other materials.

D. Operation and Maintenance (O&M) Program

The scope of county operations varies widely among the five (5) branches of the county primarily involved in this Plan. County operations range from the Facilities, Parks, Highway, the Midwest National Air Center and the Planning and Zoning Departments which involves having responsibility for streets and highways, parks, county buildings maintenance operations, major construction activities, airport and all the other various and sundry operations of a major county government. Because of this broad variation in activities, selection of appropriate BMPs to satisfy the permit requirements to the maximum extent practicable will vary considerably. Training programs will be similarly varied.

Figure 11 below lists a summary of the commonly implemented BMPs applicable to the county's pollution prevention/good housekeeping.

Figure 11

BEST MANAGEMENT PRACTICES
Pet Waste Controls
Provide pet waste signs and stations in public parks.
Equipment Repair, Maintenance & Parking
Minimize solvent use
Use safer alternatives & recycled products
Clean up spills promptly & w/minimal use of water
Practice good housekeeping
Properly store & dispose of hazardous wastes
Properly store & dispose of hazardous wastes
Recycle used oil, batteries, solvents, etc.
Provide & maintain traps for drips from parked equipment
Vehicle Maintenance and Washing
These BMPs are performed by other commercial facilities regulated by another entity.
Illegal Dumping Control
Public Education Programs
Ordinance & enforcement against illegal dumping
Recycling Program
State and County employees participate in paper recycling
Properly maintained/controlled until picked up by recycling company
Practice good housekeeping
Landscaping & Lawn Care
Planning & design using natural property features
Select plants appropriate to the region
Irrigate efficiently
Use mulches & compost effectively
Minimize use of fertilizers, herbicides & pesticides
Pest Control
This BMP is performed by a contracted agency.
Perform Street/Parking Lot Cleaning/Road Maintenance
Parking lot sweeping is performed by a contracted agency.
Calibrated deicer applicators are used to prevent over application.
Minimize maintenance activities during wet weather
Perform storm drain system maintenance and cleaning
Materials Management
Use Alternatives to Toxic Substance
Properly Store Hazardous Substances
Safely Store Road Salt & Other Deicing Materials
Maintain Regular Material Inventories
Identify hazardous & non-hazardous substances
Properly label all containers
Note materials requiring special handling/storage/disposal
Employee Education/Training
Provide education and training in pollution prevention/good housekeeping

1. General Housekeeping and Operation and Maintenance

This is the largest category of county operations since it incorporates general practices that can apply to most operations, from custodial activities in offices to operation and maintenance activities at satellite facilities. BMPs, under this category include those dealing with materials management and storage, e.g. salt, compost, etc., safe material substitutions, and spill plans, establishment of standard O&M procedures, regulations, record keeping and housekeeping practices in general.

2. Equipment Repair, Maintenance and Parking Operations

In addition to the applicable practices from general category #1, BMPs under this category address such things as maintenance and drainage from parking areas, and equipment repair and maintenance, but does not apply to vehicles. This would pertain to such equipment as that used for landscape maintenance, and products used for the care, maintenance and the equipment and parking operations.

3. Vehicle Maintenance and Washing

These BMPs are performed by other commercial facilities regulated by another entity.

4. Facility Repair, Remodeling and Construction

Repair, remodeling, and construction activities at county maintained facilities can generate wastes similar to those identified in MCM 4 for construction and land disturbance activities. BMPs under this category address erosion and sediment control, minimization of impervious areas and the applicable general practices from housekeeping and O&M practices.

5. Cleaning and Maintenance of Roadways and Parking Facilities

BMPs under this category address such things as pavement cleaning, deicing material storage and use, erosion, and sediment control and capture of pollutants during maintenance work.

6. Maintenance of Parks, Green Spaces, Trails, and Landscaping

These responsibilities vary greatly from maintaining only a small green space around the county courthouse to maintenance of Smithville Lake Park and other recreation areas. BMPs under this category address such things as good planning and design, integrated pest management, the use of mulches and compost effectively, selection of the appropriate plants, effective irrigation and smart usage of fertilizers, herbicides and pesticides.

7. Cleaning and Maintenance of Open Channels, Storm Sewers, and Inlet Structures.

The Highway Department has the major responsibility for this activity within the unincorporated portion of the county. Many of the county facilities are located within the limits of various cities, so the cities would be responsible for the cleaning and maintenance of storm sewers, open channels and inlet structures.

8. Recycling Program

The County has in the past worked with Mid-America Regional Council (MARC) for the unincorporated citizens to be able to drop off recyclable materials such as glass, plastic, paper and similar items at the Smithville Lake Park site. During the holiday season, Christmas trees are recycled at Smithville Lake Park by being used for the Smithville Lake Fish Habitat Project. The Parks Department implemented a recycling program for plastic and aluminum cans and bottles at the park facilities. State and County employees participate in a paper recycling program which is maintained and controlled by the Facilities Management Department until at such time it is picked up by the recycling company.

9. Water Quality Impact Assessment of Flood Management Projects

Responsibilities for this activity fall most heavily upon municipalities bordering the major rivers or located in the lower reaches of major watersheds. However, all MS4 permittees can be involved in managing localized flooding situations when using their funds for stormwater projects. BMPs under this category address procedures to review new and existing flood management programs/facilities to minimize impacts on water quality.

E. County Employee Training Program

The MS4 permit requires that the operation and maintenance program include a training component. The education and training of county employees is necessary to effectively implement this program. The training of county employees has been employed in the Phase II process under the first term Plan to accomplish immediate benefits through county good housekeeping. The county continues to provide annual training on BMPs for the operation and maintenance program. Training addresses specific issues as needed. For example, some of the training topics which have been reviewed by Highway, Facilities and Park Departments are regarding "Stormwater Pollution Prevention for Construction Sites: Ground Control", "Septic Systems Revealed: Guide to Operation Care and Maintenance" and "Road Salt Pollution" BMPs were a focus, but brochures were available for employees summarizing the BMPs implemented under the program. Materials produced for distribution to the public under MCM 1 are also provided to county employees engaged in the types of activities to which those materials apply.

F. Rationale for New Goals

Clay County will be implementing a comprehensive operation and maintenance ("O&M") manual and program that will implement applicable elements of the pre-existing plans and manuals to further address water quality issues. The use of more green stormwater management BMPs and infrastructure will be addressed in the comprehensive O&M manual and program.

The Missouri Department of Natural Resources (“MDNR”) recently published and promoted the *Missouri Guide to Green Infrastructure*, which will assist Clay County in providing green infrastructure implementation guidance and sustainable benefits of green infrastructure.

Specific goals for each year of the permit are presented as follows:

Annually

Training in BMPs will continue as refresher seminars and workshops, and as BMP introduction for new employees implement ongoing employee training programs.

Year 1

No new goals planned.

Year 2

A work group will be organized to implement the creation and development of a more detailed O&M manual and program.

Year 3

Review of O&M manual and program by the County Commission.

Expansion of recycling facilities for unincorporated citizens of Clay County.

Year 4

Implementation of reviewed O&M manual and program by the County Commission, and consider updates to improve water quality.

Year 5

Update and possible revisions to the employee stormwater training program.

CHAPTER 9

Record Keeping and Reporting

A. MS4 Permit Requirements

Several sections of the general MS4 permit contain requirements pertaining to permittee record keeping and reporting.

Section 4.1 requires the permittee to designate individuals responsible for the stormwater management program. This section also requires the permittee to inspect any structures that function to prevent pollution of stormwater or to remove pollutants from stormwater and of the permittee's area of jurisdiction in general to ensure that any BMPs are continually implemented and effective.

Section 4.4 requires the permittee to do an annual review of the permittee's stormwater management program in conjunction with preparation of the annual report required under section 5.3. The permittee may update the program subject to the following procedures as specified in the permit:

Changes adding (but not subtracting or replacing) components, controls or requirements to the Plan may be made at any time upon written notification to the MDNR.

Changes replacing an ineffective or infeasible BMP specifically identified in the Plan with an alternate BMP may be requested at any time with the following information to be supplied to the MDNR:

1. An analysis of why the BMP is ineffective or infeasible (including cost prohibitive),
2. Expectations on the effectiveness of the replacement BMP, and
3. An analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced.

Section 5.1.1 requires the permittee to evaluate program compliance, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals.

Section 5.2 requires the permittee to retain records of all activities requiring record keeping by this Plan.

Section 5.3 requires the permittee to submit annual reports to the MDNR by July 28 of each year of the permit term. The reports must include:

- The status of the permittee's compliance with permit conditions, an assessment of the appropriateness of the identified BMPs, progress towards achieving the statutory goal of reducing the discharge of pollutants to the maximum extent practicable and the measurable goals for each of the MCMs;
- Results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the maximum extent practicable;
- A summary of the stormwater activities the permittee plans to undertake during the next reporting cycle (including an implementation schedule); Proposed changes to the permittee's Plan, including changes to any BMPs or any identified measurable goals that apply to the program elements; and
- Notice that the permittee is relying on another government entity to satisfy some of the permittee's permit obligations (if applicable).

A. Record Keeping

The County Commission has designated the Director of the Planning and Zoning Department as the individual in overall charge of stormwater management activities. That individual will be responsible for ensuring that:

- All elements of this Plan are effectively implemented;
- Required inspections are made;
- Required records are kept; and
- Information required for inclusion in reports to MDNR is provided upon request or as scheduled.

The permit specifies certain actions, such as inspections, which must be performed. Measurable goals and time frames for achieving those goals have been established. Accurate and timely record keeping is essential in order to document the timeliness and effectiveness of committed actions, to demonstrate compliance with the permit requirements and to provide the basis for the annual reports. Records are required to be maintained for a minimum of three years.

Following are examples of the types of actions for which records should be kept. This listing is not all inclusive:

- Inspections as required by Section 4.1.10 of the permit (Record dates, areas inspected, personnel involved, findings, follow-up actions, etc.). Each co-permittee must conduct inspections within its area of jurisdiction for the activities for which it is responsible under this Plan.

- Annual program evaluations as required by Section 4.4 of the permit (Record evaluation method and results. If changes are proposed in the Plan, record the reasoning behind the changes).
- Public information efforts under MCM 1 (Record dates, activity such as brochure distribution, speaking event, etc.; type and number of people reached, milestones in web site development, web site hits, results of public knowledge surveys; etc.).
- Public involvement efforts under MCM 2 (Record milestones in public involvement activity dates, nature of activities; applicable statistics such as numbers of volunteers, numbers of people reached, quantities of waste collected or removed, miles of stream or road cleaned, number of inlets marked; etc.).
- Illicit discharge detection and elimination efforts under MCM 3 (Record statistics such as miles of streams surveyed, number of illicit discharge investigations initiated, number of stream problems identified; results of investigations and problem identification; etc.)
- Construction site stormwater control efforts under MCM 4 (Record milestones in program development, program modifications/adoptions; statistics such as the number of permits issued; etc.).
- Post-construction stormwater management in new development and redevelopment efforts under MCM 5 (Record milestones in review and modification of existing regulations, ensuring the operation and maintenance responsibilities for residential structural BMPs; etc.).
- Pollution prevention/good housekeeping for municipal operations efforts under MCM 6 (Record milestones in review and modification of existing ordinances, training dates, locations and subject matter of training sessions; statistics such as numbers of training sessions held, numbers of employees trained/refreshed; etc.).

B. Reporting

As the coordinating authority for this Plan, the Planning & Zoning Department will compile the information to satisfy the permit's annual review, program evaluation, and annual report requirements. In addition, the Planning & Zoning Department will also prepare and submit the reports to MDNR.

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