

Presented By:

City of Raymore, Missouri JULY 2014

NPDES PHASE II STORMWATER ANNUAL REPORT



Municipal Separate Sewer System

Permit MO-R040029

Minimum Control Measure # 1 – Public Education

Summary: Raymore is striving to develop a public education program through distribution of educational materials and conducting outreach activities. The focus of these efforts is to educate the public with activities discussing the impact of storm water discharges on water bodies and the steps the public can take to reduce pollutants in storm water runoff.

Public Education Efforts

- Maintained an educational kiosk with brochures and informational material in the lobby of City Hall and Parks and Operations Building, including the following publications:

If it's on the ground...it's in our water

Pick up after your pet (MARC)

2014 Regional Household Hazardous waste Collection Program (MARC)

How to Plant a tree

Protect our Streams

Disconnect your Downspout

- Held Public Meetings for City projects.

- Staff distributed brochures and 60 pet waste bag dispensers to participants at the annual "Jog with your Dog" event on 4/26/14.

- The city provides links on its website to EPA for Kids, Stormwater:Frequently asked questions and Best Management Practices.

- Public Works Staff presented a Stormwater BMP power point presentation to the Planning Commission in spring 2014.

- The City continues to have a staff member dedicated to MARC's Water Quality Education Committee (WQEC) and its Outreach and Education sub-committee.

- Included curbside yard waste disposal service information inserts in March 6-14 water billing.



Minimum Control Measure # 1 – Public Education

- The City continues to use its CivicPlus Request Tracker system in which residents can voice stormwater or erosion concerns or report possible illicit discharge.
- Advertised household hazardous waste and prescription drug drop-off events.
- Staff attended StormCon 2013 and achieved certification as a Certified MS4 Specialist.
- Installed placards on 20 curb inlets “No Dumping, Drains to Stream”.
- Public works presented a stormwater/public works presentation at 5th/6th grade assembly at two (2) area middle schools this spring.
- Published articles in the Raymore Review, a quarterly publication distributed (mailed)to all Raymore residents and displayed in kiosk.



Fall 2013

- “ Electronics recycling event helps divert toxic e-waste from landfills”
- “ Household Hazardous waste disposal event returns”
- “City’s web site resources available to smart phones”

Winter 2014

- “ Project aims to reduce sewer inflow and infiltration”

Spring 2014

- “City hopes to curb illegal dumping in storm drains with placards”
- “ Raymore PD installs drug collection unit”

Summer 2014

- “Ripple Effect: What you do in your yard impacts area streams”

RIPPLE EFFECT

Summertime is here and along with it comes plenty of outdoor chores and activities. While maybe not be at the forefront of your mind, many of these yard-based activities – depending on how they're approached – can negatively affect our streams and drinking water.

By following these helpful tips, you'll get the most out of your time outdoors this summer while still protecting our water supply.

Watering the Lawn

During the summer months, it's estimated that nearly 40% of household water is used for lawn and garden maintenance. With a little effort, you can cut your water bill and protect our streams and rivers through reduced usage.

Picking Up After Your Pet

Warm summer nights are perfect for taking Fido for a stroll around the block but be mindful to pick up pet waste as it's not a fertilizer. Carry disposable bags while walking your dog to pick up and dispose of waste properly – which doesn't include tossing the bagged waste into storm drains.

This "stormwater runoff" picks up pollutants along the way from motor oil, lawn chemicals, and pet waste before entering lakes and streams untreated. The large amount of untreated water entering the storm sewer system – and eventually our streams and lakes – has lasting health, safety, environmental and economic impacts on communities.

Fortunately, there are things that homeowners can do to put rainwater to good use while reducing the amount of stormwater runoff that ends up in local waterways.

Redirect downspout water flow away from paved surfaces whenever possible. Paved surfaces increase the speed and amount of water that rushes into

and night, 365 days a year. Whenever McCrary's willingness to give of her Peculiar Police Chief Harry Gurin.

City hopes to curb illegal dumping in storm drains with placards

In a continuing effort to educate the public about storm drains and where they lead, Raymore Public Works staff applied anti-dumping placards to the surface of 10 storm drains in the area of Canter and Lucy Webb Road last September in a trial run to see how the adhesive would hold up in the elements.

These 4-inch blue and silver medallions are embossed with an image of a fish encircled with messages of "No Dumping" and "Drains to Stream."

Many people incorrectly assume that these roadside drains are routed to a water treatment facility for processing, just like residential and commercial water and sewer drains. In actuality, storm water drains, like the name indicates, are intended only for collecting rainwater and redirecting it unfiltered to the area's rivers and streams.

Since this water is returned untreated to our natural water-

ways, illicit discharges – anything placed into a municipal storm sewer system that's not entirely composed of storm water – can result in serious water quality and health problems for humans and wildlife alike when carried through the system by wind or rain.

Some common illegally dumped pollutants of storm sewers include gasoline and motor oil, household cleaners, paint, pesticides and solvents. Natural items such as leaves, grass clippings, soil and pet waste can also lead to water pollution.

It's important to remember that what we do on land affects our water quality, in both our rivers and drinking water supply.

With the initial test placards holding strong through exposure to rain, snow and freezing temperatures, staff intends to affix more "No Dumping" medallions to hundreds of storm drains throughout the city later this spring.





Minimum Control Measure # 1 – Public Education

Status of measurable goals :

“The measurable goal is to install six (6) waste stations (either signage or the actual waste station) each year, starting in 2013 until all the current sign locations have been completed. This program will continue as additional trails are added and requests are received.”

- The City has purchased 6 pet waste bag dispensers and signage and is in the process of placing them along a city trail. This will be completed in 2014.

“The measurable goal is to install a minimum of four (4) Stream Buffer/Riparian Zone signs each year, starting in 2014 until all the current sign locations have been completed. This program will continue as requests are received.”

- The signs will be installed Fall 2014 as part of the Eagle Glen Trail Project.

“The measurable goal is to stencil/label a minimum of ten (10) inlet tops each year, starting in 2013 until all the unlabeled inlets have been marked. This will extend into the next permit cycle. This program will continue annually as previously stenciled inlet tops will need to be re-stenciled as needed.”

- The City stenciled 20 inlet tops in the last reporting period.

Evaluation of effectiveness of Public Education and Outreach Program :

- Conduct an annual assessment of Education and Outreach to determine if goals have been met and are reaching the targeted audience. Make recommendations for corrective actions or strategies for improvement.



Minimum Control Measure # 1 – Public Education

Summary of Public Education Activities planned for the next reporting cycle :

- City has purchased 6 pet waste bag dispensers and signage and is in the process of placing them along a city trail in early Fall 2014.
- City staff met the storm inlet stenciling goal in the last reporting cycle but plans to involve a community group or educational organization in the upcoming year.
- Update the web page as necessary.
- Restock MARC brochures at City Hall and Public Works Operations/Parks and Recreation Building.
- Issue press releases and articles highlighting stormwater issues.
- Advertise household hazardous waste and prescription drug drop-off events.
- Continue participating in MARC water quality program and continue partnership with MARC for assistance and information. The City of Raymore utilizes the Environmental Programs from the Mid-America Regional Council (MARC) for much of our public information and outreach. MARC is a regional planning organization for the Greater Kansas City Region and has programs for local governments dedicated to Water Quality. Programs are located at – www.marc.org/Environment/Water/local_gov.htm and the information provided to the public includes the steps they can take to reduce the pollutants in storm water runoff. MARC uses a number of methods to inform the public including public service announcements, brochures, posters, etc. In addition, city staff meets with interested groups including Home Schooling organizations to help disseminate the information. The city will continue to use MARC through the permit period.
- The City plans to man a stormwater booth at the annual Raymore Festival in the Park held September 18th –20th, 2014 with educational displays, giveaway items, a rain barrel raffle and staff on hand to field stormwater related questions and concerns.




Minimum Control Measure # 2 – Public Participation/Involvement

Summary: The City of Raymore is striving to actively involve the public in the development and implementation of its stormwater program.

Public Involvement Efforts

- Followed standard notice requirements for public meetings.
- Allowed for public input on stormwater issues at Planning and Zoning and City Council meetings as applicable.
- Continued Adopt-a-Trail clean-up program.
- Included links on the website where residents can voice their concerns or report an illicit discharge or stormwater concern.
- Adopt-a-Street clean-up projects were held on 6/20/13, 11/02/13, 11/04/13, 11/09/13, 5/10/14, and 6/07/14.
- Staff partnered with MDC and Bridging the Gap to plant 2 re-forestation projects. MDC donated 1,750 seedlings and between the 2 projects approximately 35 volunteers participated in the planting.
- Staff distributed educational materials at the annual “Jog with your Dog” event. Approximately 60 residents participated.
- The mobile Household Hazardous Waste (HHW) event held on September 28, 2013 attracted 317 cars and collected 38,288 lbs of HHW.
- The “National Prescription Drug Take-Back Day” event on October 26, 2013 netted approximately 100 lbs of drugs and the April 27, 2014 event collected 150lbs. In addition, the Raymore Police Department added a drug collection receptacle in its lobby in December that allows anyone to safely dispose of unwanted medications throughout the year.
- Three groups of Boy and Girl Scouts participated in a trash pick up day around the lakes at Hawk Ridge and Recreation Parks. Native plants were planted in the islands at Recreation Park as part of an Eagle Scout project.





Minimum Control Measure # 2 – Public Participation/Involvement

Status of measurable goals :

“The measurable goal is to continue the attitude survey approximately every two-years and monitor the percentage of residents that respond both positively and negatively to the storm water questions.”

- The last citizen survey was conducted in 2012. The next is scheduled for September 2014.

“The measurable goal is to publish, at a minimum, two (2) informative storm water articles each year in the Raymore Review. This will extend through the permit cycle.”

- The City published seven (7) Stormwater and illicit discharge related articles in the Raymore Review during the reporting period.

Evaluation of effectiveness of Public Education and Outreach Program :

- Conduct an annual review of Public Involvement and Outreach activities and events that have occurred during the reporting year (including participator’s comments). Summarize findings, recommended corrective actions, and opportunities for improvement.

Minimum Control Measure # 2 – Public Participation/Involvement

Summary of Public Participation /Involvement Activities planned for the next reporting cycle:

- Continue to utilize the Request Tracker system to gather information from the public regarding illicit discharges and construction site runoff issues.
- Work with volunteers and staff to stencil or attach placards to storm drains.
- Host a booth at the Raymore’s Farmers Market distributing education material and information on volunteering for water quality related events.
- Continue to hold street and trail clean-up events.
- Develop a community group contact list for clean-up and educational activities.
- Continue to advertise Household Hazardous Waste and Prescription Drug Drop Off events.
- Meet with local HOA groups as requested to provide information and guidance on private property stormwater issues.
- Continue City of Raymore’s Facebook page.
- Utilize the MARC Water Quality Program for assistance with opportunities for citizens to become involved in regional water quality activities.



HHW Drop-off Event



Minimum Control Measure # 3 – Illicit Discharge Detection and Elimination

Summary: Raymore is striving to develop, implement and enforce a program to detect and eliminate discharges into the MS4

Illicit Discharge Detection and Elimination Efforts:

- Cleaned 864 storm inlet boxes and approximately 250 feet of pipe.
- Investigated three (3) illicit discharge call-in complaints from citizens. All were resolved without formal enforcement actions and the responsible individuals were educated as to proper disposal options and procedures



- Spill kits were purchased and placed in all Engineering vehicles.
- Staff created and implemented Standard Operating Procedures for IDDE:
 - SOP IDDE 3.1 Call-in Inspections
 - SOP IDDE 3.2 Opportunistic Illicit Discharge Observation
 - SOP IDDE 3.3 Outfall Inspections
 - SOP IDDE 3.4 Tracing Illicit Discharges
 - SOP IDDE 3.5 Illicit Discharge Elimination and Enforcement
- CCTV inspected 25 percent of the City's sanitary sewer lines to identify any points for ex-filtration or direct connect to the City's Storm water collection system.
- Added a direct link for IDDE concerns from the public on the City's website.





Minimum Control Measure # 3 – Illicit Discharge Detection and Elimination

- Swept 690 lane miles of street.
- Performed dry weather inspections of all 45 of the Priority Areas outlined in the permit. These are businesses that have the potential to create an illicit discharge. No illicit discharges found. Completed forms and pictures on file.





Minimum Control Measure # 3 – Illicit Discharge Detection and Elimination

Status of measurable goals :

“The number of households that participate in our annual Household Hazardous Waste Collection will be tracked and additional advertisements/notifications will be posted/mailed to increase participation in the program. The measureable goal is to record the number of households that participate each year and identify methods to increase participation.”

- The September 28, 2013 HHW Collection attracted 317 cars and 38,288 lbs of hazardous waste. Typical media outlets (City website, Facebook, utility bill inserts) were utilized for notification. No additional method was identified as we generally meet our cap for these events.

“The city will respond to public complaints regarding possible illicit discharges within 24 hours. Response time will be tracked. The measureable goal is to identify the number of complaints and the response time.”

- The City has updated links within its request tracker system to better respond to concerns and drafted Standard Operating Procedures for response, tracking and enforcement.

“The Public Works Department vehicles will contain spill kits to help in the cleanup of illicit discharges. The number of times spill kits are used will be tracked. The measureable goal is to record the number of times spill kits are used.”

- All Public Works crew leaders and Engineering vehicles are equipped with spill kits.

“The city will begin inspections of the identified outfalls starting in 2014. The number of outfalls inspected and frequency will be tracked. Our measureable goal is to inspect each outfall twice/year – once in the summer and once in the late fall.”

- Outfall inspections will commence in Fall 2014.

“The city will begin periodic visual inspection of the areas around the businesses identified on our illicit discharge map starting in 2014. As of 2013 there are 45 businesses that may create an illicit discharge. The measureable goal is to inspect 25% (12) of the businesses each year.”

- City staff has inspected all 45 priority businesses during the reporting period.





Minimum Control Measure # 3 – Illicit Discharge Detection and Elimination

Status of measurable goals continued:

- No evidence of Illicit Discharge was observed.

“The city will inspect and clean a minimum of 25% of the storm sewer inlets each year. As of 2013 there are approximately 2600 inlets in the city – 25% equals to 650 inlets. The measurable goal is to inspect 25% (650) inlets each year.”

- The City inspected and cleaned 864 storm inlet boxes during the reporting year

Evaluation of effectiveness of Illicit Discharge Detection and Elimination Program:

- Conduct an annual review of the IDDE Program to include dry weather screenings, illicit discharge investigations and obtain feedback from staff during training regarding the effectiveness of drafted standard operating procedures. Summarize findings to include recommended corrective actions and areas for improvement.
- As previously stated, in response to complaints received, City Staff responded to and abated three (3) illicit discharges. In addition, the inspection of the priority areas did not show any evidence of recent or chronic illicit discharges. In view of this, it is the opinion of the City of Raymore that the current measures being employed are effective and no modifications to this program area are needed.





Minimum Control Measure # 3 – Illicit Discharge Detection and Elimination

Summary of Illicit Discharge Detection and Elimination Activities planned for the next reporting cycle:

- Continue storm inlet cleaning throughout the City.
- Continue Priority Area Inspections (25% a year).
- Update GIS Mapping for Priority Areas as needed.
- Continue targeting portions of the outreach and education/public participation efforts toward IDDE.
- Update Priority Areas and mapping by using data collected during this reporting cycle and new businesses added within the City limits.
- Create and distribute an IDDE pamphlet to area businesses.
- Complete field screening and testing of major outfalls.
- Continue CCTV of wastewater system. Inspect 25% of sanitary lines.
- Add information for businesses and residents to City's website. Advertise HHW events.
- Train staff on new SOPs.
- In 2015, begin tracking number of times vehicle spill kits are used.





Minimum Control Measure # 4 – Construction Site Stormwater Runoff Control

Summary: The City of Raymore is striving to develop, implement and enforce a program to reduce pollutants in stormwater runoff from construction activities.

Construction Site Runoff Control Efforts:

- Engineering staff reviewed 106 residential plot plans. Sites were inspected prior to issuing building permits to insure erosion control measures were in place.
- Staff implemented SOP “Erosion Control Checklist for Large Scale Developments– Residential and Commercial > 5 Acres”



- Staff reviewed all commercial and development plans and inspected them prior and during construction for compliance
- Engineering staff attended erosion control and construction site runoff training
- Staff reviewed plans for all public capital projects for erosion control and SWPPP compliance. Perimeter erosion control BMP's inspected prior to the onset of construction, ongoing and after significant rain events.

- Staff issued 185 warnings and 2 stop work orders (for 68 permits issued) for erosion control repair and material tracked into the street.(2.7 warnings per building permit on average). The previous reporting year, 280 warnings were given along with 6 stop work orders (2.5 per permit). Responsible parties responded with appropriate corrective measures. No tickets to appear in court were issued this period.





Minimum Control Measure # 4 – Construction Site Stormwater Runoff Control

Status of measurable goals:

“Review 100% of the plot plans received to verify erosion control measures are included. The number of plot plans received by the city versus the number reviewed for erosion control measures will be documented.”

- Staff reviewed 106 (100%) plot plans submitted during this reporting period. All plot plans are required to show erosion control measures.

“Review 100% of the site plans received to verify erosion control measures are included. The number of site plans received by the city versus the number reviewed for erosion control measures will be documented”

- The City reviewed 100% of all site plans for erosion control compliance.

“Maintain a list of all enforcement action taken for failure to comply with the adopted erosion control ordinance.”

- All enforcement actions were recorded.

“Conduct one presentation per year, starting in 2014, to inform the licensed home builders in the City of Raymore of the proper installation and maintenance procedures for erosion control measures.”

- This presentation will take place in December 2014.

“Have all engineering technicians receive training on a yearly basis on erosion control inspection”

- All technicians have received annual erosion control training.





Minimum Control Measure # 4 – Construction Site Stormwater Runoff Control

Evaluation of effectiveness of Construction Site Runoff Control Program:

- Conduct an annual review of the Construction Site Runoff Control Program to include: inspection procedures and results, enforcement actions, tracking violations per permit and training effectiveness. Summarize findings to include recommended corrective actions and areas for improvement.
- Although the average of 2.5 correction notices per permit for single family home construction seems relatively small, the total number of 185 is considered to be unacceptable to the City of Raymore. In response to this, staff will be increasing enforcement and education measures for the next program year. Specific details are provided under the “Activities Planned for the next reporting cycle” section of this chapter.





Minimum Control Measure # 4 – Construction Site Stormwater Runoff Control

Summary of Construction Site Stormwater Runoff Control Activities planned for the next reporting cycle :

- Continue review of residential plot plans, commercial and residential development plans and CIP plans for SWPPP compliance.
- Continue routine inspections and those in response to call-in reports, rain events and construction phasing.
- Update website to include construction site runoff in the “Report a Concern” link for the Public.
- Educate employees to spot construction site runoff and incorporate Standard Operating Procedures for reporting, enforcement and follow-up.
- Host two (2) mandatory seminars for the building and construction community to educate and outline enforcement control measures.
- Review and update checklists to reflect information gathered in the last reporting period as needed.
- Document all inspections and enforcement actions.
- Increase site inspections (weekly and after significant rain event).
- Explore charging re-inspection fees for deficient erosion control measures.
- Explore use of on-call erosion control services for non-response to correction notices.





Minimum Control Measure # 5 – Post Construction Runoff Control

Summary: The City of Raymore is striving to develop, implement and enforce a program to address stormwater runoff from development and re-development projects that disturb greater than one acre

Post-Construction Runoff Control Efforts:

- Drafted an ordinance to present to the Planning Commission to implement Post-Construction Stormwater treatment requirements
- Drafted a modification ordinance to add an additional 1700 acres to the Stream Buffer Ordinance.
- Staff completed Post-Construction BMP Program training.
- Staff completed permeable pavement training and certification.



Status of measurable goals:

“Present the October 2012 – Manual of Best Management Practices for Stormwater Quality, published by MARC and APWA to the Planning Commission and City Council for adoption in late 2013 or early 2014. This manual contains both non-structural and structural BMPs for storm water quality.”

- This Ordinance was presented to the Planning Commission on August 19, 2014 and was forwarded to City Council with recommendation for approval.

“Develop a detailed list of the existing BMPs, identify the responsible party for each BMP, and verify that all existing BMPs are inspected by the appropriate party each year. This will start by 2014.”

- Inventory will begin in September 2014.





Minimum Control Measure # 5 – Post Construction Runoff Control

Evaluation of effectiveness of Post Construction Runoff Control Program:

- Conduct an annual review of the Construction Site Runoff Control Program to include: inspection procedures and results, enforcement actions and training effectiveness. Summarize findings to include recommended corrective actions and areas for improvement.
- No new development projects requiring the installation of post-construction BMP's were constructed during this reporting period.

Summary of Post-Construction Runoff Control Activities planned for the next reporting cycle:

- Complete an inventory of public and private BMP's.
- Draft a maintenance inspection program and schedule.
- Begin inspection of publically held BMP's.
- Present Post Construction Stormwater Treatment Requirement and Stream Buffer modification ordinances to the Planning Commission.
- Construct 2 rain gardens as part of the Eagle Glen Trail Reconstruction Project .This project was undertaken in connection with the settlement of an enforcement action taken by the United States Environmental Protection Agency.





Minimum Control Measure # 6 – Pollution Prevention/Good House-keeping for Municipal Operations

Summary: The City of Raymore is striving to develop and implement an operation, maintenance, and training program aimed at preventing or reducing pollutant runoff from municipal operations and facilities.

- Swept 690 lane miles of street.
- Continued vehicle maintenance BMP's– (maintenance under cover, washing water discharged into sanitary sewer).
- Continued salt storage in dome.



Status of measurable goals:

“Sweep all paved streets and parking lots within the city at a minimum of twice/year.”

- Streets are swept a minimum of twice per year. Last reporting period 690 lane miles of street were swept.

“Provide annual storm water training for each PW employee.”

- Training is provided during Public Works Week activities.





Minimum Control Measure # 6 – Pollution Prevention/Good Housekeeping for Municipal Operations

Status of measurable goals continued:

“Conduct training for other city employees (Parks and Police) on storm water issues. Training to occur at a minimum of every 2 years.”

- This measurable goal has not been met. Training will be conducted in early 2015 and then at a minimum every 2 years.

“Prepare a SWMP (Storm Water Management Plan) for the following City owned facilities during the year shown:”

Public Works/Operations Facility – 2014/15

City of Raymore Animal Control Facility – 2014/15

Raymore Parks Maintenance Facility – 2015/16

Raymore City Hall – 2016/17

- The SWMP for the Public Works/Operation Facility and the City of Raymore Animal Control Facility will be prepared in 2015.

Evaluation of effectiveness of the Pollution Prevention/Good Housekeeping for Municipal Operations Program:

- Conduct an annual review of the Pollution Prevention/Good Housekeeping Program to include: Operation and Maintenance Program, inspection and training effectiveness. Summarize findings to include recommended corrective actions and opportunities for improvement.
- Review of containment measures were found to be adequate. No new measures are needed.

Summary of Good Housekeeping Activities planned for the next reporting cycle :

- Implement SOP's for Good Housekeeping (Drafts Complete).
- Continue Vehicle Maintenance BMP's.
- Continue street sweeping program.
- Include annual training in Public Works Week activities.

